# 2021 ANNUAL REPORT

Mosaic®

MOSAIC'S 2021

# PERFORMANCE HIGHLIGHTS

| CONSOLIDATED REVENUES | OPERATING EARNINGS | NET EARNINGS | ADJUSTED EBITDA[1] |
|---|---|---|---|
| **$12.4B** | **$2.5B** | **$1.6B** | **$3.6B** |
| +42% Y/Y | +498% Y/Y | +145% Y/Y | +129% Y/Y |

| | PHOSPHATE | | | POTASH | | | MOSAIC FERTILIZANTES | | |
|---|---|---|---|---|---|---|---|---|---|
| | Net Revenues | Operating Earnings | Adjusted EBITDA[1] | Net Revenues | Operating Earnings | Adjusted EBITDA[1] | Net Revenues | Operating Earnings | Adjusted EBITDA[1] |
| 2021 | **$4.9B** | **$1.2B** | **$1.7B** | **$2.6B** | **$837M** | **$1.3B** | **$5.1B** | **$745M** | **$821M** |
| 2020 | $3.1B | $(147)M | $536M | $2.0B | $402M | $722M | 3.5B | $347M | $473M |

[1]See "Non-GAAP Financial Measures" for additional information and reconciliation.

# OUR RESPONSIBILITY

For additional information visit www.Mosaicco.com/Our-Responsibility

DRIVING PERFORMANCE **IN 12 ESG** PRIORITY AREAS

WITH **13** BOLD TARGETS

NET **0** GREENHOUSE GAS EMISSIONS IN MOSAIC'S FLORIDA OPERATIONS **2030**

NET ZERO **2040** COMPANYWIDE

**BY 2030 30%**

- Women in the workplace
- Growth in underrepresented groups in the workplace
- Growth in leadership diversity
- Community giving D&I focused

ON-GOING
Build a more inclusive culture

**138%** RISK REDUCTION TARGET REACHED

**25%+** FOCUSED ON ENVIRONMENT OR SUSTAINABILITY

# The Mosaic Company

Calendar Year 2021 Financial Review

## Financial Table of Contents

*Management's Discussion and Analysis of Financial Condition and Results of Operations*

## Introduction

The Mosaic Company (before or after the Cargill Transaction, as defined below, "***Mosaic,***" and with its consolidated subsidiaries, "***we,***" "***us,***" "***our***" or the "***Company***") is the parent company of the business that was formed through the business combination ("***Combination***") of IMC Global Inc. and the Cargill Crop Nutrition fertilizer businesses of Cargill, Incorporated and its subsidiaries (collectively, "***Cargill***") on October 22, 2004. In May 2011, Cargill divested its approximately 64% equity interest in us in a split-off to its stockholders and a debt exchange with certain Cargill debt holders.

We produce and market concentrated phosphate and potash crop nutrients. We conduct our business through wholly and majority owned subsidiaries as well as businesses in which we own less than a majority or a non-controlling interest, including consolidated variable interest entities and investments accounted for by the equity method.

We are organized into the following business segments:

- Our **Phosphates** business segment owns and operates mines and production facilities in Florida, which produce concentrated phosphate crop nutrients and phosphate-based animal feed ingredients, and processing plants in Louisiana, which produce concentrated phosphate crop nutrients for sale domestically and internationally. We have a 75% economic interest in the Miski Mayo Phosphate Mine ("***Miski Mayo Mine***") in Peru. These results are consolidated in the Phosphates segment. The Phosphates segment also includes our 25% interest in the Ma'aden Wa'ad Al Shamal Phosphate Company ("***MWSPC***"), a joint venture to develop, own and operate integrated phosphate production facilities in the Kingdom of Saudi Arabia. We market approximately 25% of the MWSPC phosphate production. We recognize our equity in the net earnings or losses relating to MWSPC on a one-quarter reporting lag in our Consolidated Statements of Earnings (Loss).

- Our **Potash** business segment owns and operates potash mines and production facilities in Canada and the U.S. which produce potash-based crop nutrients, animal feed ingredients and industrial products. Potash sales include domestic and international sales. We are a member of Canpotex, Limited ("***Canpotex***"), an export association of Canadian potash producers through which we sell our Canadian potash outside the U.S. and Canada.

- Our **Mosaic Fertilizantes** business segment includes five phosphate rock mines, four phosphate chemical plants and a potash mine in Brazil. The segment also includes our distribution business in South America, which consists of sales offices, crop nutrient blending and bagging facilities, port terminals and warehouses in Brazil and Paraguay. We also have a majority interest in Fospar S.A., which owns and operates a single superphosphate granulation plant and a deep-water port and throughput warehouse terminal facility in Brazil.

Intersegment eliminations, unrealized mark-to-market gains/losses on derivatives, debt expenses, Streamsong Resort® results of operations, and the results of the China and India distribution businesses are included within Corporate, Eliminations and Other. See Note 24 of the Consolidated Financial Statements in this report for segment results.

## Key Factors that can Affect Results of Operations and Financial Condition

Our primary products, phosphate and potash crop nutrients, are, to a large extent, global commodities that are also available from a number of domestic and international competitors, and are sold by negotiated contracts or by reference to published market prices. The markets for our products are highly competitive, and the most important competitive factor for our products is delivered price. Business and economic conditions and governmental policies affecting the agricultural industry and customer sentiment are the most significant factors affecting worldwide demand for crop nutrients. The profitability of our businesses is heavily influenced by worldwide supply and demand for our products, which affects our sales prices and volumes. Our costs per tonne to produce our products are also heavily influenced by fixed costs associated with owning and operating our major facilities, significant raw material costs in our Phosphates and Mosaic Fertilizantes businesses, and fluctuations in currency exchange rates.

Our products are generally sold based on the market prices prevailing at the time the sales contract is signed or through contracts which are priced at the time of shipment. Additionally, in certain circumstances the final price of our products is determined after shipment based on the current market at the time the price is agreed to with the customer. Forward sales programs at fixed prices increase the lag between prevailing market prices and our average realized selling prices. The mix

and parameters of these sales programs vary over time based on our marketing strategy, which considers factors that include, among others, optimizing our production and operating efficiency within warehouse limitations, as well as customer requirements. The use of forward sales programs and the level of customer prepayments may vary from period to period due to changing supply and demand environments, seasonality, and market sentiments.

World prices for the key raw material inputs for concentrated phosphate products, including ammonia, sulfur and phosphate rock, have an effect on industry-wide phosphate prices and production costs. The primary feedstock for producing ammonia is natural gas, and costs for ammonia are generally highly dependent on the supply and demand balance for ammonia. In North America, we purchase approximately one-third of our ammonia from various suppliers in the spot market, with the remaining two-thirds either purchased through a long-term ammonia supply agreement (the "***CF Ammonia Supply Agreement***") with an affiliate of CF Industries, Inc. ("***CF***") or produced internally at our Faustina, Louisiana location. The CF Ammonia Supply Agreement provides for U.S. natural gas-based pricing that is intended to lessen pricing volatility. We entered into the agreement in late 2013, and we began purchasing under it in the second half of 2017. If the price of natural gas rises or the market price for ammonia falls outside of the range anticipated at execution of the agreement, we may not realize a cost benefit from the natural gas-based pricing over the term of the agreement, or the cost of our ammonia under the agreement could be a competitive disadvantage. During 2021, the contract has provided an advantage over pricing in the spot market. At times, we have paid more or less for ammonia under the agreement than in the spot market. We expect the agreement will provide us a competitive advantage over its term, including by providing a reliable long-term ammonia supply. In Brazil, we purchase all of our ammonia from a single supplier.

Sulfur is a global commodity that is primarily produced as a by-product of oil refining. The market price is based primarily on the supply and demand balance for sulfur. There is currently tightness in the sulfur market which we are monitoring. At this time, we do not expect this to have a material impact on our business. We believe our current and future investments in sulfur transformation and transportation assets will enhance our competitive advantage. We produce and procure most of our phosphate rock requirements through either wholly or partly owned mines. In addition to producing phosphate rock, Mosaic Fertilizantes purchases phosphates, potash and nitrogen products which are either used to produce blended crop nutrients ("***Blends***") or for resale.

Our per tonne selling prices for potash are affected by shifts in the product mix, geography and customer mix. Our Potash business is significantly affected by Canadian resource taxes and royalties that we pay to the Province of Saskatchewan in order for us to mine and sell our potash products. In addition, cost of goods sold is affected by a number of factors, including: fluctuations in the Canadian dollar; the level of periodic inflationary pressures on resources in western Canada, where we produce most of our potash; and natural gas costs for operating our potash solution mine at Belle Plaine, Saskatchewan. In the past, we have also incurred operating costs to manage salt saturated brine inflows at our Esterhazy, Saskatchewan K1 and K2 mine shafts which we closed in June 2021 due to an acceleration of brine inflows. Mining has now transitioned to the K3 mine shaft which is expected to be in full production in the first quarter of 2022.

Our results of operations are also affected by changes in currency exchange rates due to our international footprint. The most significant currency impacts are generally from the Canadian dollar and the Brazilian real.

A discussion of these and other factors that affected our results of operations and financial condition for the periods covered by this Management's Discussion and Analysis of Financial Condition and Results of Operations is set forth in further detail below. This Management's Discussion and Analysis of Financial Condition and Results of Operations should also be read in conjunction with the narrative description of our business in Item 1, and the risk factors described in Item 1A, of Part I of this annual report on Form 10-K, and our Consolidated Financial Statements, accompanying notes and other information listed in the accompanying Financial Table of Contents.

This section of this Form 10-K discusses 2021 and 2020 items and year-to-year comparisons between 2021 and 2020. Discussions of 2019 items and year-to-year comparisons between 2020 and 2019 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's annual report on Form 10-K for the year ended December 31, 2020 and are incorporated by reference herein.

Throughout the discussion below, we measure units of production, sales and raw materials in metric tonnes which are the equivalent of 2,205 pounds, unless we specifically state that we mean short or long ton(s), which are the equivalent of 2,000 pounds and 2,240 pounds, respectively. In addition, we measure natural gas, a raw material used in the production of our products, in MM Btu, which stands for one million British Thermal Units ("***BTU***"). One BTU is equivalent to 1.06 Joules.

In the following table, there are certain percentages that are not considered to be meaningful and are represented by "NM".

**Results of Operations**

The following table shows the results of operations for the years ended December 31, 2021, 2020, and 2019:

| | Years Ended December 31, | | | 2021-2020 | | 2020-2019 | |
|---|---|---|---|---|---|---|---|
| *(in millions, except per share data)* | **2021** | **2020** | **2019** | **Change** | **Percent** | **Change** | **Percent** |
| Net sales | $12,357.4 | $ 8,681.7 | $ 8,906.3 | $ 3,675.7 | 42 % | $ (224.6) | (3)% |
| Cost of goods sold | 9,157.1 | 7,616.8 | 8,009.0 | 1,540.3 | 20 % | (392.2) | (5)% |
| Gross margin | 3,200.3 | 1,064.9 | 897.3 | 2,135.4 | NM | 167.6 | 19 % |
| Gross margin percentage | 25.9 % | 12.3 % | 10.1 % | 13.6 % | | 2.2 % | |
| Selling, general and administrative expenses | 430.5 | 371.5 | 354.1 | 59.0 | 16 % | 17.4 | 5 % |
| Impairment, restructuring and other expenses | 158.1 | — | 1,462.1 | 158.1 | NM | (1,462.1) | (100)% |
| Other operating expenses | 143.2 | 280.5 | 176.0 | (137.3) | (49)% | 104.5 | 59 % |
| Operating earnings (loss) | 2,468.5 | 412.9 | (1,094.9) | 2,055.6 | NM | 1,507.8 | (138) |
| Interest expense, net | (169.1) | (180.6) | (182.9) | 11.5 | (6)% | 2.3 | (1)% |
| Foreign currency transaction (loss) gain | (78.5) | (64.3) | 20.2 | (14.2) | 22 % | (84.5) | NM |
| Other income | 3.9 | 12.9 | 1.5 | (9.0) | (70)% | 11.4 | NM |
| Earnings (loss) from consolidated companies before income taxes | 2,224.8 | 180.9 | (1,256.1) | 2,043.9 | NM | 1,437.0 | (114) |
| Provision for (benefit from) income taxes | 597.7 | (578.5) | (224.7) | 1,176.2 | NM | (353.8) | 157 |
| Earnings (loss) from consolidated companies | 1,627.1 | 759.4 | (1,031.4) | 867.7 | 114 % | 1,790.8 | (174) |
| Equity in net earnings (loss) of nonconsolidated companies | 7.8 | (93.8) | (59.4) | 101.6 | (108)% | (34.4) | 58 |
| Net earnings (loss) including noncontrolling interests | 1,634.9 | 665.6 | (1,090.8) | 969.3 | 146 % | 1,756.4 | (161) |
| Less: Net earnings (loss) attributable to noncontrolling interests | 4.3 | (0.5) | (23.4) | 4.8 | NM | 22.9 | (98) |
| Net earnings (loss) attributable to Mosaic | $ 1,630.6 | $ 666.1 | $ (1,067.4) | $ 964.5 | 145 % | $ 1,733.5 | (162) |
| Diluted net earnings (loss) per share attributable to Mosaic | $ 4.27 | $ 1.75 | $ (2.78) | $ 2.52 | 144 % | $ 4.53 | (163) |
| Diluted weighted average number of shares outstanding | 381.6 | 381.3 | 383.8 | | | | |

***Overview of the Years ended December 31, 2021 and 2020***

Net earnings attributable to Mosaic for the year ended December 31, 2021 was $1.6 billion, or $4.27 per diluted share, compared to $0.7 billion, or $1.75 per diluted share for 2020.

In 2021, net earnings were negatively impacted by $291 million, net of tax, or $(0.76) per diluted share, related to notable items as follows (noted on a pre-tax basis, with the exception of discrete income tax):

- Expense related to the closure of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan potash mine of $158 million, or $(0.30) per diluted share
- Foreign currency transaction loss of $79 million, or ($0.16) per diluted share
- Discrete income tax provision of $43 million, or $(0.11) per diluted share
- Other operating expenses of $50 million, or $(0.10) per diluted share, related to maintaining closed and indefinitely idled facilities
- Depreciation expense of $37 million, or $(0.08) per diluted share, related to the acceleration of the closure of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan mine
- Expense related to the impact of Hurricane Ida on our Louisiana operations of $27 million, or $(0.05) per diluted share
- Asset retirement obligation costs of $25 million, or $(0.05) per diluted share, related to revisions in the estimated costs of our asset retirement obligations
- Unrealized loss on derivatives of $14 million, or $(0.02) per diluted share
- Other operating income of $20 million, or $0.04 per diluted share, related to the sale of our warehouse in Houston, Texas
- Functional currency impact in cost of goods sold of $20 million, or $0.04 per diluted share
- Other operating income of $13 million, or $0.02 per share, related to a decrease in reserves for legal contingencies that were part of our acquisition (the "***Acquisition***") of Vale Fertilizantes S.A. (now known as Mosaic Fetilizantes P&K S.A. or the "***Acquired Business***")
- Other non-operating income of $2 million, or $0.01 per diluted share, related to a realized gain on RCRA trust securities

Net earnings for 2020 included the following notable items that positively impacted net earnings by $341 million, net of tax, or $0.88 per diluted share:

- Discrete income tax benefit of $609 million, or $1.60 per diluted share, which included the reversal of a tax valuation reserve established with the Acquisition
- Asset retirement obligation costs of $134 million, or $(0.21) per diluted share, related to revisions in the estimated costs of our asset retirement obligations
- Depreciation expense of $79 million, or $(0.12) per diluted share, related to the acceleration of the closure of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan mine as we ramped up K3
- Other operating expenses of $69 million, or $(0.14) per diluted share, related to maintaining closed and indefinitely idled facilities
- Foreign currency transaction loss of $64 million, or $(0.10) per diluted share
- A change in the effective annual tax rate, creating a negative impact of $41 million, or $(0.11) per diluted share
- Other operating expenses of $35 million, or $(0.05) per diluted share, related to an increase in an environmental remediation reserve at our New Wales, FL facility
- Other operating expenses of $20 million, or $(0.03) per share, related to an increase in reserves for legal contingencies of the Acquired Business, integration costs of our North American business operations and a write-down of assets in our Mosaic Fertilizantes segment
- Idle plant costs of $13 million, or $(0.02) per diluted share, related to the government-mandated shutdown on March 16, 2020, of the Miski Mayo Mine due to the Covid-19 outbreak, which reopened on May 13, 2020
- Unrealized gain on derivatives of $22 million, or $0.03 per diluted share

- Other non-operating income of $14 million, or $0.02 per diluted share, related to a realized gain on RCRA trust securities
- Other operating income of $7 million, or $0.01 per diluted share, related to a legal settlement

Additional significant factors that affected our results of operations and financial condition in 2021 and 2020 are listed below. These factors are discussed in more detail in the following sections of this Management's Discussion and Analysis of Financial Condition and Results of Operations.

Year ended December 31, 2021

Phosphates operating results for the year ended December 31, 2021 were favorably impacted by higher phosphate average selling prices compared to the prior year period. After reaching a low in the first quarter of 2020, sales prices continued to rise in 2021, driven by tightness in global supply and demand, strong farmer economics and improved grain prices, and continue to remain strong into the first quarter of 2022. Operating results in 2021 were unfavorably impacted by lower finished product sales volumes, and higher raw material costs, primarily sulfur and ammonia. The purchase prices of these raw materials are driven by global supply and demand. In addition, during the first half of 2021, availability of molten sulfur was impacted by refinery closures in 2020 and 2021, due to lower fuel demand and extreme cold weather in the first quarter of 2021 in the southern U.S., where several refineries are located. The low sulfur availability constrained our production in the first half of 2021. Operating results in 2021 were also unfavorably impacted by higher idle plant and maintenance turnaround costs compared to the prior year, mainly driven by the impacts of Hurricane Ida on our Louisiana operations.

Potash operating results were favorably impacted in our Potash segment in 2021 by higher average sales prices compared to the prior year. Prices began to strengthen in North America and Brazil in the fourth quarter of 2020, due to increased demand, tight supply and improved farmer economics. Prices continued to increase through the end of 2021 and into the first quarter of 2022. The global potash market is expected to remain tight throughout 2022 given recent sanctions against Belarus which could impact global supply. Operating results in 2021 were unfavorably impacted by lower sales volumes caused by decreased production volumes associated with the closure of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan potash mine. We reopened our previously idled Colonsay, Saskatchewan potash mine during the third quarter of 2021, and ramped up production at our K3 mine shaft which partially replaced this lost production.

Mosaic Fertilizantes operating results in 2021 were favorably impacted by increased sales prices compared to the prior year, due to tight global supply and demand. The favorable results were partially offset by lower sales volumes due to lower product availability and production challenges, low inventory levels and increased raw materials costs, as global prices of sulfur and ammonia were higher in 2021 compared to the prior year.

Other highlights in 2021:

- During the second quarter of 2021, due to increased brine inflows, we made the decision to accelerate the timing of the shutdown of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan potash mine. Closing the K1 and K2 shafts are key pieces of the transition to the K3 shaft, but the timeline for the closure was accelerated by approximately nine months. We recognized pre-tax costs of $158.1 million related to the permanent closure of these facilities. In the third quarter of 2021, we resumed production at our previously idled Colonsay potash mine to offset a portion of the production lost by the early closure of the K1 and K2 shafts at Esterhazy. In December 2021, the K3 shaft became fully operational and is expected to reach full operating capacity in the first quarter of 2022. The closure of the K1 and K2 shafts will eliminate future brine management expenses at these sites.

- In August 2021 we entered into a new, unsecured five-year credit facility of up to $2.5 billion, with a maturity date of August 19, 2026, which replaces our prior $2.2 billion line of credit. This increase in size provides additional security and flexibility and reflects the growth in our business.

- In August 2021 we prepaid the outstanding balance of $450 million on our 3.75% senior notes, due November 15, 2021, without premium or penalty.

- During the third quarter of 2021, our Board of Directors approved a new $1 billion share repurchase authorization (the "***2021 Repurchase Program***"), replacing our previous $1.5 billion authorization (the "***2015 Repurchase Program***") that had $700 million remaining. This new, expanded authorization reflects our unchanged commitment to a balanced deployment of excess capital that includes returning capital to stockholders. During 2021, we repurchased 11,200,371 shares of Common Stock, including 8,544,144 shares that we purchased in an underwritten secondary offering by Vale S.A., at an average price of $36.69, for a total of approximately $410.9 million.

- In November 2021, Vale S.A. sold its 34,176,574 shares of common stock of Mosaic in an underwritten secondary offering. Vale S.A. no longer holds any shares of Mosaic common stock.

- In the fourth quarter of 2021, our Board of Directors approved a 50% increase in our annual dividend, to $0.45 per share, beginning in 2022.

- In 2020, we filed petitions with the U.S. Department of Commerce *("**DOC**")* and the U.S. International Trade Commission *("**ITC**")* that requested the initiation of countervailing duty investigations into imports of phosphate fertilizers from Morocco and Russia. The purpose of the petitions was to remedy the distortions that we believe foreign subsidies have caused or are causing in the U.S. market for phosphate fertilizers, and thereby restore fair competition. During the first quarter of 2021, the DOC made final affirmative determinations that countervailable subsidies were being provided by those governments and the ITC made final affirmative determinations that the U.S. phosphate fertilizer industry is materially injured by reason of subsidized phosphate fertilizer imports from Morocco and Russia. As a result of these determinations, the DOC issued countervailing duty orders on phosphate fertilizer imports from Russia and Morocco, which are scheduled to remain in place for at least five years. Currently, the cash deposit rates for such imports are approximately 20 percent for Moroccan producer OCP, 9 percent and 47 percent for Russian producers PhosAgro and Eurochem, respectively, and 17 percent for all other Russian producers. The final determinations in the DOC and ITC investigations are subject to possible challenges before U.S. federal courts and the World Trade Organization, and Mosaic has initiated actions at the U.S. Court of International Trade contesting certain aspects of the DOC's final determinations that, we believe, failed to capture the full extent of Moroccan and Russian phosphate fertilizer subsidies. Moroccan and Russian producers have also initiated U.S. Court of International Trade actions, seeking lower cash deposit rates and revocation of the countervailing duty orders. Further, the cash deposit rates and the amount of countervailing duties owed by importers on such imports could change based on the results of the DOC's annual administrative review proceedings.

- In response to Covid-19, we continued to implement measures in 2021 that were intended to provide for the immediate health and safety of our employees, including working remotely and alternating work schedules, in order to minimize the number of employees at a single location. Businesses have been impacted by short-term labor shortages due to illness, transportation issues such as trucking delays and port congestion which are slowing delivery of inputs to facilities and products to end customers. At this time, we have experienced limited adverse financial or operational impacts related to Covid-19.

Subsequent to December 31, 2021, we expect to enter into an accelerated share repurchase ("***ASR***") of $400 million, which would be initiated in February 2022. This ASR will exhaust most of the remaining share repurchase authorization established in the 2021 Repurchase Program. Following the completion of the current authorization, our Board of Directors has approved the establishment of a new $1 billion share repurchase authorization, which will go into effect following completion of this ASR. The Board of Directors has also approved a regular dividend increase to $0.60 per share annually from $0.45, beginning with the second quarter 2022 payment.

Year ended December 31, 2020:

Phosphates operating results for the year ended December 31, 2020 were favorably impacted by an increase in sales volumes compared to 2019. Increased sales volumes were driven by strong spring and fall application seasons, as well as decreased competitor shipments into North America. Competitor shipments were impacted by anticipation of potential import duties against producers in Morocco and Russia resulting from the countervailing duty investigations, instituted by us in the U.S., into imports of phosphate fertilizers. The benefit of increased sales volumes was partially offset by a decrease in phosphates average selling prices in 2020 compared to 2019. Although selling prices were higher than the low levels seen at the end of 2019, the average selling price was still below that of the 2019 average. Prices rose throughout 2020 due to tightness in global supply and demand. The increase in demand was partially mitigated by suppliers, including Mosaic, increasing

production in the second half of 2020 and carrying into the first quarter of 2021. Operating earnings in 2020 also benefited from lower raw material costs, primarily sulfur and ammonia, which are driven by global supply and demand.

Potash operating results were unfavorably impacted by decreases in the average selling price in 2020 compared to 2019, partially offset by higher sales volumes. Selling prices began declining in the first half of 2019 due to adverse weather conditions in North America. They continued to decline in the first half of 2020, due to lower export prices, as China and India contract prices set a floor for the market, and to new suppliers entering the marketplace. Prices began to strengthen in North America and Brazil in the fourth quarter of 2020, due to increased demand and tight supply; however, prices were still below levels seen in 2019. Operating results were favorably impacted by higher potash sales volumes in 2020 compared to 2019. In 2019, sales volumes were impacted by low demand due to adequate inventories, delayed contract settlements, and adverse weather conditions throughout North America.

Mosaic Fertilizantes operating results in 2020 were favorably impacted by increased sales volumes. Sales volumes increased compared to 2019, due to strong market demand and efforts to grow our market share in 2020. Operating results were also favorably impacted by lower raw material costs in 2020 compared to the prior year, driven by global supply and demand and the impact of foreign currency changes. In 2020 results were also favorably impacted by lower production costs as 2019 was impacted by new tailings dam legislation, which resulted in higher idle and turnaround costs. Lower average selling prices, driven by international pricing trends, unfavorably impacted operating earnings in 2020 compared to 2019.

***Phosphates Net Sales and Gross Margin***

The following table summarizes the Phosphates segment's net sales, gross margin, sales volume, selling prices and raw material prices:

| | Years Ended December 31, | | | 2021-2020 | | 2020-2019 | |
|---|---|---|---|---|---|---|---|
| **(in millions, except price per tonne or unit)** | **2021** | **2020** | **2019** | **Change** | **Percent** | **Change** | **Percent** |
| Net sales: | | | | | | | |
| North America | $3,251.4 | $1,953.1 | $1,816.6 | $ 1,298.3 | 66 % | $ 136.5 | 8 % |
| International | 1,671.5 | 1,163.3 | 1,424.7 | 508.2 | 44 % | (261.4) | (18)% |
| Total | 4,922.9 | 3,116.4 | 3,241.3 | 1,806.5 | 58 % | (124.9) | (4)% |
| Cost of goods sold | 3,617.5 | 2,990.9 | 3,323.6 | 626.6 | 21 % | (332.7) | (10)% |
| Gross margin | $1,305.4 | $ 125.5 | $ (82.3) | $ 1,179.9 | NM | $ 207.8 | NM |
| Gross margin as a percentage of net sales | 26.5 % | 4.0 % | (2.5)% | | | | |
| Sales volumes[a] (in thousands of metric tonnes) | | | | | | | |
| DAP/MAP | 3,904 | 4,936 | 5,003 | (1,032) | (21)% | (67) | (1)% |
| Performance and Other[b] | 3,789 | 3,598 | 3,177 | 191 | 5 % | 421 | 13 % |
| Total finished product tonnes | 7,693 | 8,534 | 8,180 | (841) | (10)% | 354 | 4 % |
| Rock[c] | 1,772 | 739 | 1,934 | 1,033 | 140 % | (1,195) | (62)% |
| Total Phosphates Segment Tonnes[a] | 9,465 | 9,273 | 10,114 | 192 | 2 % | (841) | (8)% |
| Realized prices ($/tonne) | | | | | | | |
| Average finished product selling price (destination)[d] | $ 618 | $ 360 | $ 379 | $ 258 | 72 % | $ (19) | (5)% |
| DAP selling price (fob mine) | $ 564 | $ 310 | $ 325 | $ 254 | 82 % | $ (15) | (5)% |
| Average cost per unit consumed in cost of goods sold: | | | | | | | |
| Ammonia (metric tonne) | $ 396 | $ 287 | $ 324 | $ 109 | 38 % | $ (37) | (11)% |
| Sulfur (long ton) | $ 181 | $ 83 | $ 128 | $ 98 | 118 % | $ (45) | (35)% |
| Blended rock (metric tonne) | $ 60 | $ 61 | $ 62 | $ (1) | (2)% | $ (1) | (2)% |
| Production volume (in thousands of metric tonnes) - North America | 7,331 | 8,160 | 8,077 | (829) | (10)% | 83 | 1 % |

(a) Includes intersegment sales volumes.
(b) Includes sales volumes of MicroEssentials® and animal feed ingredients.
(c) Sales volumes of rock are presented on a wet tonne basis based on average moisture levels of 3.5% to 4.5% as it exits the drying process and is prepared for shipping.
(d) Excludes sales revenue and tonnes associated with rock sales.

Year Ended December 31, 2021 compared to Year Ended December 31, 2020

The Phosphates segment's net sales were $4.9 billion for the year ended December 31, 2021, compared to $3.1 billion for the same period a year ago. The increase in net sales was primarily due to higher average finished goods selling prices, which resulted in an increase in net sales of approximately $1.82 billion. Net sales was also positively impacted by increased sulfur and ammonia sales, which resulted in an increase in net sales of approximately $100 million. Higher prices and sales volumes at the Miski Mayo Mine contributed approximately $70 million to the current year increase. These increases were partially offset by lower sales volumes, which decreased net sales by approximately $200 million.

Our average finished product selling price increased 72%, to $618 per tonne for the year ended December 31, 2021, compared to $360 per tonne for the same period a year ago, due to the factors discussed in the Overview.

The Phosphates segment's sales volumes of finished products decreased to 7.7 million tonnes for the year ended December 31, 2021, compared to 8.5 million tonnes in 2020, due to low inventory levels impacted by availability of molten sulfur in the first half of 2021 and production impacts related to Hurricane Ida in the second half of 2021. The increase in the sales volumes of rock, shown in the table above, was due to the Miski Mayo Mine being temporarily idled for a portion of the prior year due to a government mandated shutdown related to Covid-19.

Gross margin for the Phosphates segment increased to $1.3 billion in the current year compared with $0.1 billion for the prior year. The increase was primarily driven by higher sales prices, which impacted gross margin by approximately $1.8 billion. This was partially offset by higher raw material prices (primarily sulfur and ammonia) of approximately $440 million compared to the prior-year period. Gross margin was also unfavorably impacted in the current year by higher idle plant and maintenance turnaround costs of approximately $90 million and higher conversion costs of approximately $40 million. Lower sales volumes unfavorably impacted gross margin by approximately $70 million.

Our average consumed price for ammonia in our North American operations increased to $396 per tonne in 2021 from $287 a year ago. The average consumed price for sulfur for our North American operations increased to $181 per long ton for the year ended December 31, 2021 from $83 in the prior-year period. The purchase price of these raw materials is driven by global supply and demand. The consumed ammonia and sulfur prices also include transportation, transformation, and storage costs. The average consumed cost of purchased and produced rock decreased slightly to $60 per tonne in the current year, from $61 a year ago.

For the year ended December 31, 2021, our North American phosphate rock production decreased to 11.1 million tonnes from 12.8 million tonnes for the prior year, due to geology of rock and operational challenges as we transition into new mining areas.

The Phosphates segment's production of crop nutrient dry concentrates and animal feed ingredients decreased to 7.3 million tonnes for the year ended December 31, 2021, compared to 8.2 million in 2020. Current year production was negatively impacted by sulfur availability issues, downtime at our New Wales, Florida site due to equipment damage, and downtime at our Louisiana location related to Hurricane Ida. For the year ended December 31, 2021, our operating rate for processed phosphate production decreased to 74%, compared to 82% in the same period of the prior year.

***Potash Net Sales and Gross Margin***

The following table summarizes the Potash segment's net sales, gross margin, sales volume and selling price:

| | Years Ended December 31, | | | 2021-2020 | | 2020-2019 | |
|---|---|---|---|---|---|---|---|
| **(in millions, except price per tonne or unit)** | **2021** | **2020** | **2019** | **Change** | **Percent** | **Change** | **Percent** |
| Net sales: | | | | | | | |
| North America | $1,456.8 | $1,147.2 | $1,096.4 | $ 309.6 | 27 % | $ 50.8 | 5 % |
| International | 1,170.0 | 872.1 | 1,017.4 | 297.9 | 34 % | (145.3) | (14)% |
| Total | 2,626.8 | 2,019.3 | 2,113.8 | 607.5 | 30 % | (94.5) | (4)% |
| Cost of goods sold | 1,569.3 | 1,551.0 | 1,497.0 | 18.3 | 1 % | 54.0 | 4 % |
| Gross margin | $1,057.5 | $ 468.3 | $ 616.8 | $ 589.2 | 126 % | $ (148.5) | (24)% |
| Gross margin as a percentage of net sales | 40.3 % | 23.2 % | 29.2 % | | | | |
| Sales volume[(a)] (in thousands of metric tonnes) | | | | | | | |
| MOP | 7,277 | 8,456 | 7,059 | (1,179) | (14)% | 1,397 | 20 % |
| Performance and Other[(b)] | 909 | 941 | 784 | (32) | (3)% | 157 | 20 % |
| Total Potash Segment Tonnes | 8,186 | 9,397 | 7,843 | (1,211) | (13)% | 1,554 | 20 % |
| Realized prices ($/tonne) | | | | | | | |
| Average finished product selling price (destination) | $ 321 | $ 215 | $ 270 | $ 106 | 49 % | $ (55) | (20)% |
| MOP selling price (fob mine) | $ 285 | $ 181 | $ 237 | $ 104 | 57 % | $ (56) | (24)% |
| Production volume (in thousands of metric tonnes) | 8,204 | 8,433 | 7,868 | (229) | (3)% | 565 | 7 % |

(a) Includes intersegment sales volumes.
(b) Includes sales volumes of K-Mag®, Aspire and animal feed ingredients.

Year Ended December 31, 2021 compared to Year Ended December 31, 2020

The Potash segment's net sales increased to $2.6 billion for the year ended December 31, 2021, compared to $2.0 billion in the prior year. The increase in net sales was driven by a favorable impact from higher sales prices of approximately $840 million, partially offset by unfavorable sales volumes of approximately $230 million.

Our average finished product selling price was $321 per tonne for the year ended December 31, 2021, an increase of $106 per tonne compared with the prior year period, due to the factors discussed in the Overview.

The Potash segment's sales volumes decreased to 8.2 million tonnes for the year ended December 31, 2021, compared to 9.4 million tonnes in the same period a year ago, due to the factor discussed in the Overview.

Gross margin for the Potash segment increased to $1.1 billion in the current year, from $0.5 billion in the prior year period. Gross margin was positively impacted by $840 million related to the increase in selling prices, partially offset by approximately $80 million due to lower sales volumes. The increase in gross margin was also partially offset by increased Canadian resource taxes of approximately $100 million, unfavorable foreign currency impacts of approximately $50 million. and higher idle costs of approximately $30 million. Canadian resource taxes and other costs affecting gross margin are discussed in more detail below.

We had expense of $259.5 million from Canadian resource taxes for the year ended December 31, 2021, compared to $146.1 million in the prior year. Royalty expense increased to $42.0 million for the year ended December 31, 2021, from $30.0 million in the prior year. The fluctuations in Canadian resource taxes and royalties are due to higher average selling prices and margins in the current year, compared to the prior year.

On June 4, 2021, due to increased brine inflows, we made the decision to immediately close the K1 and K2 shafts at our Esterhazy mine, which eliminated future brine inflow management expenses. Therefore, brine inflow management expense, including depreciation, decreased to $46.0 million in the current year, from $108.0 million in the prior year. We remain on

track in our development of the K3 shaft at our Esterhazy mine, which became fully operational in December 2021 and is expected to reach full operational capacity in the first quarter of 2022.

For the year ended December 31, 2021, potash production decreased to 8.2 million tonnes, compared to 8.4 million tonnes in the prior year period, resulting in an operating rate of 75% for 2021, compared to 87% for 2020. Decreased production in 2021 is primarily due to the shutdown of our K1 and K2 shafts at our Esterhazy mine, partially offset by the restart of our Colonsay mine during the third quarter of 2021.

***Mosaic Fertilizantes Net Sales and Gross Margin***

The following table summarizes the Mosaic Fertilizantes segment's net sales, gross margin, sales volume and selling price.

| | Years Ended December 31, | | | 2021-2020 | | 2020-2019 | |
|---|---|---|---|---|---|---|---|
| (in millions, except price per tonne or unit) | 2021 | 2020 | 2019 | Change | Percent | Change | Percent |
| Net Sales | $5,088.5 | $3,481.6 | $3,782.8 | $ 1,606.9 | 46 % | $ (301.2) | (8)% |
| Cost of goods sold | 4,245.8 | 3,062.0 | 3,492.7 | 1,183.8 | 39 % | (430.7) | (12)% |
| Gross margin | $ 842.7 | $ 419.6 | $ 290.1 | $ 423.1 | 101 % | $ 129.5 | 45 % |
| Gross margin as a percent of net sales | 16.6 % | 12.1 % | 7.7 % | | | | |
| Sales volume (in thousands of metric tonnes) | | | | | | | |
| Phosphate produced in Brazil | 2,543 | 3,813 | 2,605 | (1,270) | (33)% | 1,208 | 46 % |
| Potash produced in Brazil | 240 | 305 | 327 | (65) | (21)% | (22) | (7)% |
| Purchased nutrients | 7,319 | 6,446 | 6,312 | 873 | 14 % | 134 | 2 % |
| Total Mosaic Fertilizantes Segment Tonnes | 10,102 | 10,564 | 9,244 | (462) | (4)% | 1,320 | 14 % |
| Realized prices ($/tonne) | | | | | | | |
| Average finished product selling price (destination) | $ 504 | $ 330 | $ 409 | $ 174 | 53 % | $ (79) | (19)% |
| Brazil MAP price (delivered price to third party) | $ 597 | $ 333 | $ 402 | $ 264 | 79 % | $ (69) | (17)% |
| Purchases ('000 tonnes) | | | | | | | |
| DAP/MAP from Mosaic | 311 | 597 | 839 | (286) | (48)% | (242) | (29)% |
| MicroEssentials® from Mosaic | 1,226 | 1,108 | 935 | 118 | 11 % | 173 | 19 % |
| Potash from Mosaic/Canpotex | 2,510 | 2,081 | 2,071 | 429 | 21 % | 10 | — % |
| Average cost per unit consumed in cost of goods sold: | | | | | | | |
| Ammonia (metric tonne) | $ 580 | $ 336 | $ 369 | $ 244 | 73 % | $ (33) | (9)% |
| Sulfur (long ton) | $ 194 | $ 108 | $ 181 | $ 86 | 80 % | $ (73) | (40)% |
| Blended rock (metric tonne) | $ 80 | $ 69 | $ 104 | $ 11 | 16 % | $ (35) | (34)% |
| Production volume (in thousands of metric tonnes) | 3,725 | 3,918 | 3,327 | (193) | (5)% | 591 | 18 % |

Year Ended December 31, 2021 compared to Year Ended December 31, 2020

The Mosaic Fertilizantes segment's net sales were $5.1 billion for the year ended December 31, 2021, compared to $3.5 billion for 2020. The increase in net sales was due to higher sales prices, which favorably impacted net sales by approximately $1.43 billion. Net sales also increased due to higher prices and volumes of other products, primarily gypsum, magnetite and sulfuric acid, which favorably impacted net sales by approximately $290 million. This was partially offset by a decrease in sales volumes which impacted net sales by approximately $110 million.

The overall average finished product selling price increased $174 per tonne to $504 per tonne for 2021 due to the increase in global prices referenced in the Overview.

The Mosaic Fertilizantes segment's sales volume decreased to 10.1 million tonnes for the year ended December 31, 2021, compared to 10.6 million tonnes for the prior year period, due to the factors discussed in the Overview.

Gross margin for the Mosaic Fertilizantes segment increased to $842.7 million for the year ended December 31, 2021, from $419.6 million in the prior year. The increase was driven by higher sales prices, which favorably impacted gross margin by approximately $1.47 billion. Gross margin was also favorably impacted by $110 million related to other product sales and by favorable foreign currency and hedging impacts of approximately $50 million. This was partially offset by approximately $1.16 billion of higher raw material and production costs, negatively impacted by inflation pressures, and the impact of lower sales volumes of approximately $30 million compared to the prior year. Gross margin was unfavorably impacted by approximately $20 million due to higher idle and maintenance turnaround costs in the current year as we experienced unplanned maintenance stoppages.

The average consumed price for ammonia for our Brazilian operations was $580 per tonne for the year ended December 31, 2021, compared to $336 per ton in the prior year. The average consumed sulfur price for our Brazilian operations was $194 per long ton for the year ended December 31, 2021, compared to $108 in the prior year. The purchase price of these raw materials is driven by global supply and demand, and also includes transportation, transformation, and storage costs.

The Mosaic Fertilizantes segment's production of crop nutrient dry concentrates and animal feed ingredients decreased 5% to 3.7 million tonnes for the year ended December 31, 2021, compared to 3.9 million tonnes in the prior year. The lower production in the current year was due to unplanned maintenance down time and lower quality ore compared to the prior year period. For the year ended December 31, 2021, our phosphate operating rate was 86%, compared to 89% in the prior year.

Our Brazilian phosphate rock production decreased to 4.0 million tonnes for the year ended December 31, 2021, from 4.3 million tonnes in the prior year.

***Corporate, Eliminations and Other***

In addition to our three operating segments, we assign certain costs to Corporate, Eliminations and Other, which is presented separately in Note 24 of our Notes to Consolidated Financial Statements. The Corporate, Eliminations and Other category includes intersegment eliminations, including profit on intersegment sales, unrealized mark-to-market gains and losses on derivatives, debt expenses, Streamsong Resort® results of operations, and the results of the China and India distribution businesses.

Gross margin for Corporate, Eliminations and Other was a loss of $5.3 million for the year ended December 31, 2021, compared to a gain of $51.5 million in the same period a year ago. The change was driven by an unfavorable impact of $131.0 million related to the elimination of intersegment sales in the current year period, compared to an unfavorable impact of $3.4 million in the prior year period. Contributing to the change was a net unrealized loss of $13.6 million in the current year period, primarily on foreign currency derivatives, compared to a net unrealized gain of $22.0 million in the prior year period. Distribution operations in India and China had revenues and gross margin of $730.1 million and $141.6 million, respectively, for the year ended December 31, 2021, compared to revenues and gross margin of $639.4 million and $58.7 million, respectively, for the year ended December 31, 2020. The increase was primarily due to increased sales prices in the current year compared to the prior year period. This was partially offset by lower sales volumes in the current year, and higher product cost due to tighter global supply and demand. Sales volumes of finished products were 1.6 million tonnes and 2.0 million tonnes for the years ended December 31, 2021 and 2020, respectively.

***Other Income Statement Items***

| (in millions) | Years Ended December 31, 2021 | 2020 | 2019 | 2021-2020 Change | Percent | 2020-2019 Change | Percent |
|---|---|---|---|---|---|---|---|
| Selling, general and administrative expenses | $ 430.5 | $ 371.5 | $ 354.1 | $ 59.0 | 16 % | $ 17.4 | 5 % |
| Impairment, restructuring and other expenses | 158.1 | — | 1,462.1 | 158.1 | NM | (1,462.1) | (100)% |
| Other operating expenses | 143.2 | 280.5 | 176.0 | (137.3) | (49)% | 104.5 | 59 % |
| Interest (expense) | (194.3) | (214.1) | (216.0) | 19.8 | (9)% | 1.9 | (1)% |
| Interest income | 25.2 | 33.5 | 33.1 | (8.3) | (25)% | 0.4 | 1 % |
| Interest expense, net | (169.1) | (180.6) | (182.9) | 11.5 | (6)% | 2.3 | (1)% |
| Foreign currency transaction (loss) gain | (78.5) | (64.3) | 20.2 | (14.2) | 22 % | (84.5) | NM |
| Other income | 3.9 | 12.9 | 1.5 | (9.0) | (70)% | 11.4 | NM |
| Provision for (benefit from) income taxes | 597.7 | (578.5) | (224.7) | 1,176.2 | NM | (353.8) | 157 |
| Equity in net earnings (loss) of nonconsolidated companies | 7.8 | (93.8) | (59.4) | 101.6 | (108)% | (34.4) | 58 |

***Selling, General and Administrative Expenses***

Selling, general and administrative expenses were $430.5 million for the year ended December 31, 2021, compared to $371.5 million for the same period a year ago. The increase was due to approximately $50 million of higher incentive compensation expense in the current year and approximately $5 million of higher consulting and professional service expenses related to executing on our strategic priorities.

***Impairment, Restructuring and Other Expenses***

Impairment, restructuring and other expenses include costs associated with asset impairments, employee severance and pension expense, and other exit costs to close or indefinitely idle facilities. Due to increased brine inflows, on June 4, 2021, we made the decision to accelerate the timing of the shutdown of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan potash mine. We recognized pre-tax costs of $158.1 million related to the permanent closure of these facilities in 2021. These costs consisted of $110.0 million related to the write-off of fixed assets, $37.1 million related to asset retirement obligation ("***AROs***"), and $11.0 million related to inventory and other reserves.

***Other Operating Expenses***

Other operating expenses were $143.2 million for the year ended December 31, 2021, compared to $280.5 million for the prior year period. Other operating expenses typically relate to five major categories: (1) AROs, (2) environmental and legal reserves, (3) idle facility costs, (4) insurance reimbursements and (5) gain/loss on sale or disposal of fixed assets. The current year includes approximately $25 million of ARO expenses and adjustments, approximately $65 million related to environmental and legal expenses and approximately $50 million related to closed and indefinitely idled facility costs. The current year includes income of approximately $20 million related to a gain on selling a warehouse and approximately $13 million related to the recovery of a reserve for the Acquired Business.

***Interest Expense, Net***

Net interest expense decreased to $169.1 million for the year ended December 31, 2021, compared to $180.6 million in 2020, due to lower debt levels and lower interest rates in the current year.

***Foreign Currency Transaction (Loss) Gain***

In 2021, we recorded a foreign currency transaction loss of $78.5 million, compared to a loss of $64.3 million in 2020. The loss was primarily the result of the effect of the strengthening of the U.S. dollar relative to the Brazilian real on significant U.S. dollar-denominated payables held by our Brazilian subsidiaries.

***Other Income***

For the year ended December 31, 2021, we had other income of $3.9 million compared to expense of $12.9 million in the prior year. Current year income is primarily related to a realized gain of $2 million on investments held in two financial assurance trust funds created in 2016 to provide additional financial assurance for the estimated costs of closure and long-term care of our Florida and Louisiana phosphogypsum management systems (the "***RCRA Trusts***").

***Equity in Net Earnings (Loss) of Nonconsolidated Companies***

For the year ended December 31, 2021, we had a gain from equity of nonconsolidated companies of $7.8 million, net of tax, compared to a loss of $93.8 million, net of tax, for the prior year. The current year gain was primarily related to the operations of MWSPC, which was favorably impacted by higher phosphate selling prices, and the continued ramp-up of its operations.

***Provision for (Benefit from) Income Taxes***

| | Effective Tax Rate | Provision for Income Taxes |
|---|---|---|
| Year Ended December 31, 2021 | 26.9 % | $ 597.7 |
| Year Ended December 31, 2020 | (319.8)% | (578.5) |
| Year Ended December 31, 2019 | 17.9 % | (224.7) |

For all years, our income tax is impacted by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

For the year ended December 31, 2021, tax expense specific to the period included a net expense of $0.6 million. The net expense relates to the following: $23.9 related to true-up of estimates primarily related to our U.S. tax return and $20.3 million related to an increase in non-U.S. reserves. The tax expenses are partially offset by net tax benefits related to $43.7 million of Esterhazy mine closure costs and $1.1 million related to a benefit for withholding taxes related to undistributed earnings and other miscellaneous tax expenses.

**Critical Accounting Estimates**

We prepare our Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America which requires us to make various judgments, estimates and assumptions that could have a significant impact on our reported results and disclosures. We base these estimates on historical experience and other assumptions we believe to be reasonable at the time we prepare our financial statements. Changes in these estimates could have a material effect on our Consolidated Financial Statements.

Our significant accounting policies can be found in Note 2 of our Notes to Consolidated Financial Statements. We believe the following accounting policies include a higher degree of judgment and complexity in their application and are most critical to aid in fully understanding and evaluating our reported financial condition and results of operations.

***Recoverability of Goodwill***

Goodwill is the excess of the purchase price consideration over the estimated fair value of net assets of acquired businesses. The carrying value of goodwill in our reporting units is tested annually as of October 31 for possible impairment. We typically use an income approach valuation model, representing present value of future cash flows, to determine the fair value of a reporting unit. Growth rates for sales and profits are determined using inputs from our annual strategic and long range planning process. The rates used to discount projected future cash flows reflect a weighted average cost of capital based on the Company's industry, capital structure and risk premiums, including those reflected in the current market capitalization. When preparing these estimates, management considers each reporting unit's historical results, current operating trends, and specific plans in place. These estimates are impacted by various factors, including inflation, the general health of the economy and market competition. In addition, events and circumstances that might be indicators of possible impairment are assessed during other interim periods. As of October 31, 2021, the date of our annual impairment testing, the Company concluded that the fair values of the reporting units which included goodwill were in substantial excess of their respective carrying values and the goodwill for those units was not impaired.

See Note 9 of our Notes to Consolidated Financial Statements for additional information regarding the goodwill impairment analysis, including the methodologies and assumptions used in estimating the fair values of our reporting units. As of December 31, 2021, we had $1.2 billion of goodwill.

***Environmental Liabilities and Asset Retirement Obligations***

We record accrued liabilities for various environmental and reclamation matters including the demolition of former operating facilities, and AROs.

Contingent environmental liabilities are described in Note 22 of our Notes to Consolidated Financial Statements. Accruals for environmental matters are based primarily on third-party estimates for the cost of remediation at previously operated sites and estimates of legal costs for ongoing environmental litigation. We regularly assess the likelihood of material adverse judgments or outcomes, the effects of potential indemnification, as well as potential ranges or probability of losses. We determine the amount of accruals required, if any, for contingencies after carefully analyzing each individual matter. Estimating the ultimate settlement of environmental matters requires us to develop complex and interrelated assumptions based on experience with similar matters, our history, precedents, evidence, and facts specific to each matter. Actual costs incurred in future periods may vary from the estimates, given the inherent uncertainties in evaluating environmental exposures. As of December 31, 2021, and 2020, we had accrued $57.3 million and $61.4 million, respectively, for environmental matters.

As indicated in Note 13 of our Notes to Consolidated Financial Statements, we recognize AROs in the period in which we have an existing legal obligation, and the amount of the liability can be reasonably estimated. We utilize internal engineering experts as well as third-party consultants to assist in determining the costs of retiring certain of our long-term operating assets. Assumptions and estimates reflect our historical experience and our best judgments regarding future expenditures. The assumed costs are inflated based on an estimated inflation factor and discounted based on a credit-adjusted risk-free rate. For active facilities, fluctuations in the estimated costs (including those resulting from a change in environmental regulations), inflation rates and discount rates can have a significant impact on the corresponding assets and liabilities recorded in the Consolidated Balance Sheets. However, changes in the assumptions for our active facilities would not have a significant impact on the Consolidated Statements of Earnings in the year they are identified. For closed facilities, fluctuations in the estimated costs, inflation, and discount rates have an impact on the Consolidated Statements of Earnings in the year they are identified as there is no asset related to these items. Phosphate land reclamation activities in North America generally occur concurrently with mining operations; as such, we accrue and expense reclamation costs as we mine. As of December 31, 2021, and 2020, $1.7 billion and $1.4 billion, respectively, was accrued for AROs (current and noncurrent amounts) in North and South America. In August 2016, Mosaic deposited $630 million into two trust funds as financial assurance to support certain estimated future asset retirement obligations. See Note 13 of our Notes to Consolidated Financial Statements for additional information regarding the Environmental Protection Agency ("***EPA***") RCRA Initiative.

***Income Taxes***

We make estimates for income taxes in three major areas: uncertain tax positions, valuation allowances, and U.S. deferred income taxes on our non-U.S. subsidiaries' undistributed earnings.

A valuation allowance is provided for deferred tax assets for which it is more likely than not that the related tax benefits will not be realized. Significant judgment is required in evaluating the need for and magnitude of appropriate valuation allowances. The realization of the Company's deferred tax assets, specifically, the evaluation of net operating loss carryforwards and foreign tax credit carryforwards, is dependent on generating certain types of future taxable income, using both historical and projected future operating results, the source of future income, the reversal of existing taxable temporary differences, taxable income in prior carry-back years (if permitted) and the availability of tax planning strategies. As of December 31, 2021, and 2020, we had a valuation allowance of $774.7 million and $683.0 million, respectively. Changes in tax laws, assumptions with respect to future taxable income, tax planning strategies, resolution of matters under tax audit and foreign currency exchange rates could result in adjustment to these allowances.

Due to Mosaic's global operations, we assess uncertainties and judgments in the application of complex tax regulations in a multitude of jurisdictions. Future changes in judgment related to the expected ultimate resolution of uncertain tax positions will affect earnings in the quarter of such change. While it is often difficult to predict the final outcome or the timing of resolution of any particular uncertain tax position, our liabilities for income taxes reflect what we believe to be the more likely than not outcome. We adjust these liabilities, as well as the related interest, in light of changing facts and circumstances, including negotiations with taxing authorities in various jurisdictions, outcomes of tax litigation, and resolution of disputes arising from tax audits in the normal course of business. Settlement of any particular position may

require the use of cash. The Company is currently in negotiations with non-U.S. tax authorities where settlements could result in different tax outcomes than what is currently accounted for. Based upon an analysis of tax positions taken on prior year returns and expected positions to be taken on the current year return, management has identified gross uncertain income tax positions of $124.6 million as of December 31, 2021.

Any dividends from controlled foreign corporations are tax-free from a U.S. income tax perspective. Additionally, there will not be any foreign tax credits associated with foreign dividends. Therefore, there are no material federal U.S. implications of future repatriations on non-U.S. subsidiaries' undistributed earnings. However, since there are no U.S. foreign tax credits associated with foreign dividends, any foreign withholding tax associated with a future repatriation will need to be accrued if the earnings are not permanently reinvested.

We have included a further discussion of income taxes in Note 12 of our Notes to Consolidated Financial Statements.

**Liquidity and Capital Resources**

We define liquidity as the ability to generate or access adequate amounts of cash to meet current cash needs. We assess our liquidity in terms of our ability to fund working capital requirements, fund sustaining and opportunity capital projects, pursue strategic opportunities and make capital management decisions, which include making payments on and issuing indebtedness and making distributions to our stockholders, either in the form of share repurchases or dividends. Our liquidity is subject to general economic, financial, competitive and other factors that are beyond our control.

We have a target liquidity buffer of up to $3.0 billion, including cash and available credit facilities. We expect our liquidity to fluctuate from time to time, especially in the first quarter of each year, to manage through the seasonality of our business. We also target debt leverage ratios that are consistent with investment grade credit metrics. Our capital allocation priorities include maintaining our target investment grade metrics and financial strength, sustaining our assets, including ensuring the safety and reliability of our assets, investing to grow our business, either through organic growth or taking advantage of strategic opportunities, and returning excess cash to stockholders, including paying our dividend. During 2021, we returned capital to our stockholders through share repurchases of $0.4 billion and paid dividends of $0.1 billion. Our Board of Directors also approved a 50% increase to our annual dividend to $0.45 per share, beginning in the first quarter of 2022. Subsequent to year-end our Board of Directors approved the following:

- A regular dividend increase to $0.60 per share annually from $0.45, beginning with the second quarter 2022 payment.
- An ASR of $400 million, which is expected to be initiated in February 2022.
- Establishment of a new $1 billion share repurchase authorization, which will go into effect following completion of the ASR.

As of December 31, 2021, we had cash and cash equivalents of $0.8 billion, marketable securities held in trusts to fund future obligations of $0.7 billion, long-term debt including current maturities of $4.0 billion, short-term debt of $0.3 billion and stockholders' equity of $10.7 billion. In addition, we had $0.7 billion of commercial arrangements for certain customer purchases in Brazil through structured payable arrangements, as discussed in Note 10 of our Notes to Consolidated Financial Statements.

All of our cash and cash equivalents are diversified in highly rated investment vehicles. Our cash and cash equivalents are held either in the U.S. or held by non-U.S. subsidiaries and are not subject to significant foreign currency exposures, as the majority are held in investments denominated in U.S. dollars as of December 31, 2021. These funds may create foreign currency transaction gains or losses, however, depending on the functional currency of the entity holding the cash. In addition, there are no significant restrictions that would preclude us from bringing funds held by non-U.S. subsidiaries back to the U.S., aside from withholding taxes.

***Sources and Uses of Cash***

As of December 31, 2021, we had cash and cash equivalents and restricted cash of $0.8 billion. Funds generated by operating activities, available cash and cash equivalents and our revolving credit facility continue to be our most significant sources of liquidity. We believe funds generated from the expected results of operations and available cash, cash equivalents and borrowings either under our revolving credit facility or through long-term borrowings will be sufficient to finance our operations, including our expansion plans, existing strategic initiatives and expected dividend payments for the next 12

months. We expect our capital expenditures to be approximately $1.1 billion in 2022. There can be no assurance, however, that we will continue to generate cash flows at or above current levels. At December 31, 2021, we had $2.49 billion available under our $2.5 billion revolving credit facility. See Note 10 of our Notes to Consolidated Financial Statements for additional information relating to our financing arrangements, which is hereby incorporated by reference.

We have certain contractual obligations that require us to make cash payments on a scheduled basis. These include, among other things, long-term debt payments, interest payments, operating leases, unconditional purchase obligations and funding requirements of pension and postretirement obligations. Our long-term debt has maturities ranging from one year to 22 years. Unconditional purchase obligations are our largest contractual cash obligations. These include obligations for contracts to purchase raw materials such as sulfur, ammonia, phosphate rock and natural gas, obligations to purchase raw materials for our international distribution activities, and maintenance and services. Other large cash obligations are our AROs and other environmental obligations primarily related to our Phosphates and Mosaic Fertilizantes segments. We expect to fund our AROs, purchase obligations, long-term debt and capital expenditures with a combination of operating cash flows, cash and cash equivalents and borrowings.

The following is a summary of our material contractual cash obligations as of December 31, 2021:

| | | ***Payments by Calendar Year*** | | | |
|---|---|---|---|---|---|
| *(in millions)* | **Total** | **Less than 1 year** | **1 - 3 years** | **3 - 5 years** | **More than 5 years** |
| Long-term debt[(a)] | $ 3,978.8 | $ 596.6 | $ 1,099.3 | $ 31.4 | $ 2,251.5 |
| Estimated interest payments on long-term debt[(b)] | 1,701.5 | 177.9 | 273.7 | 234.4 | 1,015.5 |
| Operating leases | 139.5 | 63.3 | 48.3 | 10.2 | 17.7 |
| Purchase commitments[(c)] | 9,100.7 | 5,687.1 | 1,586.3 | 653.3 | 1,174.0 |
| Pension and postretirement liabilities[(d)] | 449.7 | 10.3 | 100.1 | 99.2 | 240.1 |
| Total contractual cash obligations | $ 15,370.2 | $ 6,535.2 | $ 3,107.7 | $ 1,028.5 | $ 4,698.8 |

(a) Long-term debt primarily consists of unsecured notes, finance leases, unsecured debentures and secured notes.
(b) Based on interest rates and debt balances as of December 31, 2021.
(c) Based on prevailing market prices as of December 31, 2021. The majority of value of items more than 5 years is related to our CF Ammonia Supply Agreement. For additional information related to our purchase commitments, see Note 21 of our Notes to Consolidated Financial Statements.
(d) The 2022 pension plan payments are based on minimum funding requirements. For years thereafter, pension plan payments are based on expected benefits paid. The postretirement plan payments are based on projected benefit payments. The above amounts include our North America and Brazil plans.

See Off-Balance Sheet Arrangements and Obligations below for more information on other environmental obligations.

In addition to various operational and environmental regulations primarily related to our Phosphates segment, we incur liabilities for reclamation activities under which we are subject to financial assurance requirements. In various jurisdictions in which we operate, particularly Florida and Louisiana, we are required to pass a financial strength test or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. See Other Commercial Commitments under Off-Balance Sheet Arrangements and Obligations and Note 21 of our Notes to Consolidated Financial Statements for additional information about these requirements.

***Summary of Cash Flows***

The following table represents a comparison of the net cash provided by operating activities, net cash used in investing activities and net cash used in financing activities for calendar years 2021, 2020 and 2019:

| *(in millions)* | Years Ended December 31, | | | 2021-2020 | | 2020-2019 | |
|---|---|---|---|---|---|---|---|
| **Cash Flow** | **2021** | **2020** | **2019** | **Change** | **Percent** | **Change** | **Percent** |
| Net cash provided by operating activities | $ 2,187.0 | $ 1,582.6 | $ 1,095.4 | $ 604.4 | 38 % | $ 487.2 | 44 % |
| Net cash used in investing activities | (1,322.3) | (1,189.5) | (1,360.9) | (132.8) | (11)% | 171.4 | 13 % |
| Net cash used in financing activities | (682.1) | (283.8) | (82.2) | (398.3) | (140)% | (201.6) | (245)% |

***Operating Activities***

Net cash flow from operating activities has provided us with a significant source of liquidity. For the year ended December 31, 2021, net cash provided by operating activities was $2.2 billion, compared to $1.6 billion in the prior year. Our results of operations, after non-cash adjustments to net earnings, contributed $2.8 billion to cash flows from operating activities during 2021, compared to $1.1 billion during 2020. During 2021, we had an unfavorable working capital change of $629.7 million, compared to a favorable change of $526.9 million during 2020.

The change in working capital for the year ended December 31, 2021 was primarily driven by unfavorable impacts from changes in accounts receivable of $683.6 million and inventories of $1.1 billion partially offset by favorable changes in accounts payable and accrued liabilities of $995.1 million. The unfavorable change in accounts receivable was primarily related to higher sales prices at the end of the current year compared to the prior year. The change in inventories was driven primarily by an increase in raw material prices and finished goods cost in Brazil and an increase in inventory volumes in our Potash and Mosaic Fertilizantes segments. These changes were partially offset by an increase accounts payable and accrued liabilities driven by an increase in material purchases in our international locations, the price of raw material purchases, an increase in customer prepayments in Brazil and an increase in taxes payable.

***Investing Activities***

Net cash used in investing activities for the year ended December 31, 2021 was $1.3 billion, compared to $1.2 billion in the same period a year ago, primarily driven by capital expenditures of $1.3 billion in 2021.

***Financing Activities***

Net cash used in financing activities was $682.1 million for the year ended December 31, 2021 compared to $283.8 million in the prior year. In 2021, we received net proceeds from short-term borrowings of $302.7 million, net proceeds from structured accounts payable of $94.3 million. We also had net collections on behalf of the bank under our Receivable Purchasing Agreement of $81.1 million, which had not yet been remitted to them as of December 31, 2021. Payments on our long-term debt, net of borrowings, were $608.3 million. In 2021 we made repurchases of our common stock of $410.9 million and paid dividends of $135.0 million.

***Debt Instruments, Guarantees and Related Covenants***

See Note 10 of our Notes to Consolidated Financial Statements for additional information relating to our financing arrangements, which is hereby incorporated by reference.

***Financial Assurance Requirements***

In addition to various operational and environmental regulations primarily related to our Phosphates segment, we incur liabilities for reclamation activities under which we are subject to financial assurance requirements. In various jurisdictions in which we operate, particularly Florida and Louisiana, we are required to pass a financial strength test or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. See Other Commercial Commitments under Off-Balance Sheet Arrangements and Obligations and Note 22 of our Notes to Consolidated Financial Statements for additional information about these requirements, which is hereby incorporated by reference.

## Off-Balance Sheet Arrangements and Obligations

### Off-Balance Sheet Arrangements

In accordance with the definition under rules of the Securities and Exchange Commission ("***SEC***"), the following qualify as off-balance sheet arrangements:

- certain obligations under guarantee contracts that have "any of the characteristics identified in Financial Accounting Standards Board ("***FASB***") Accounting Standards Codification ("***ASC***") paragraph ASC 460-10-15-4 (Guarantees Topic)";
- a retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement that serves as credit, liquidity or market risk support to that entity for such assets;
- any obligation, including a contingent obligation, under a contract that would be accounted for as derivative instruments except that it is both indexed to the registrant's own stock and classified as equity; and
- any obligation, arising out of a variable interest in an unconsolidated entity that is held by, and material to, the registrant, where such entity provides financing, liquidity, market risk or credit risk support to the registrant, or engages in leasing, hedging or research and development services with the registrant.

Information regarding guarantees that meet the above requirements is included in Note 16 of our Notes to Consolidated Financial Statements and is hereby incorporated by reference. We do not have any contingent interest in assets transferred, derivative instruments, or variable interest entities that qualify as off-balance sheet arrangements under SEC rules.

### Other Commercial Commitments

The following is a summary of our other commercial commitments as of December 31, 2021:

| | | *Commitment Expiration by Calendar Year* | | | |
|---|---|---|---|---|---|
| *(in millions)* | **Total** | **Less than 1 year** | **1 - 3 years** | **3 - 5 years** | **More than 5 years** |
| Letters of credit | $ 65.6 | $ 65.6 | $ — | $ — | $ — |
| Surety bonds | 645.7 | 645.4 | — | 0.3 | — |
| Total | $ 711.3 | $ 711.0 | $ — | $ 0.3 | $ — |

The surety bonds and letters of credit generally expire within one year or less but a substantial portion of these instruments provide financial assurance for continuing obligations and, therefore, in most cases, must be renewed on an annual basis. We issue letters of credit through our revolving credit facility and bilateral agreements. As of December 31, 2021, we had $10.9 million of outstanding letters of credit through our credit facility and $54.7 million outstanding through bilateral agreements. We primarily incur liabilities for reclamation activities in our Florida operations and for phosphogypsum management system ("***Gypstack***" or "***Gypstacks***") closure in our Florida and Louisiana operations where, for permitting purposes, we must either pass a test of financial strength or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. As of December 31, 2021, we had $356.1 million in surety bonds and a $50 million letter of credit included in the total amount above. These bonds and letters of credit are outstanding for reclamation obligations, primarily related to mining in Florida. Also, as of December 31, 2021, we had delivered a $249.7 million surety bond to EPA as a substitute for the financial assurance provided through the Plant City Trust. The surety bonds generally require us to obtain a discharge of the bonds or to post additional collateral (typically in the form of cash or letters of credit) at the request of the issuer of the bonds.

We are subject to financial assurance requirements related to the closure and post-closure care of our Gypstacks in Florida and Louisiana. These requirements include Florida and Louisiana state financial assurance regulations, and financial assurance requirements under the terms of consent decrees that we have entered into with respect to our facilities in Florida and Louisiana. These include a consent decree (the "***Plant City Consent Decree***") with EPA and the Florida Department of Environmental Protection ("***FDEP***") relating to the Plant City, Florida facility we acquired as part of the CF Phosphate Assets Acquisition (the "***Plant City Facility***") and two separate consent decrees (collectively, the "***2015 Consent Decrees***") with federal and state regulators that include financial assurance requirements for the closure and post-closure care of substantially all of our Gypstacks in Florida and Louisiana, other than those acquired as part of the CF Phosphate Assets Acquisition, which are discussed separately below.

See Note 13 of our Notes to Consolidated Financial Statements for additional information relating to our financial assurance obligations, including the Plant City Consent Decree and the 2015 Consent Decrees, which information is incorporated by reference.

Currently, state financial assurance requirements in Florida and Louisiana for the closure and post-closure care of Gypstacks are, in general terms, based upon the same assumptions and associated estimated values as the AROs recognized for financial reporting purposes. For financial reporting purposes, we recognize the AROs based on the estimated future closure and post-closure costs of Gypstacks, the undiscounted value of which is approximately $2.4 billion. The value of the AROs for closure and post-closure care of Mosaic's Gypstacks, discounted to the present value, based on a credit-adjusted, risk-free rate, is reflected on our Consolidated Balance Sheets in the amount of approximately $883.2 million as of December 31, 2021. Compliance with the financial assurance requirements in Florida and Louisiana is generally based on the undiscounted Gypstack closure estimates.

We satisfy substantially all of our Florida, Louisiana and federal financial assurance requirements through compliance with the financial assurance requirements under the 2015 Consent Decrees, by providing third-party credit support in the form of surety bonds (including under the Plant City Consent Decree), and a financial test mechanism supported by a corporate guarantee (*"**Bonnie Financial Test***") related to a closed Florida phosphate concentrates facility in Bartow, Florida (the "***Bonnie Facility***") as discussed below. We comply with our remaining state financial assurance requirements because our financial strength permits us to meet applicable financial strength tests. However, at various times we have not met the applicable financial strength tests and there can be no assurance that we will be able to meet the applicable financial strength tests in the future. In the event we do not meet either financial strength test, we could be required to seek an alternate financial strength test acceptable to state regulatory authorities or provide credit support, which may include surety bonds, letters of credit and cash escrows or trust funds. Cash escrows or trust funds would be classified as restricted cash on our Consolidated Balance Sheets. Assuming we maintain our current levels of liquidity and capital resources, we do not expect that these Florida and Louisiana requirements will have a material effect on our results of operations, liquidity or capital resources.

As part of the CF Phosphate Assets Acquisition, we assumed certain AROs related to the estimated costs (*"**Gypstack Closure Costs**"*) at both the Plant City Facility and the Bonnie Facility. Associated with these assets are two related financial assurance arrangements for which we became responsible and that provided sources of funds for the estimated Gypstack Closure Costs for these facilities, pursuant to federal or state law, which the government can draw against in the event we cannot perform such closure activities. One was initially a trust (the *"**Plant City Trust**"*) established to meet the requirements under a consent decree with EPA and the FDEP with respect to U.S. Resource Conservation and Recovery Act ("***RCRA***") compliance at Plant City that also satisfied Florida financial assurance requirements at that site. Beginning in September 2016, as a substitute for the financial assurance provided through the Plant City Trust, we have provided financial assurance for Plant City in the form of a surety bond delivered to EPA (the *"**Plant City Bond**"*). The amount of the Plant City Bond is $249.7 million, at December 31, 2021, which reflects our closure cost estimates at that date. The other was also a trust fund (the *"**Bonnie Facility Trust**"*) established to meet the requirements under Florida financial assurance regulations that apply to the Bonnie Facility. On July 27, 2018, we received $21.0 million from the Bonnie Facility Trust by substituting the trust fund for the Bonnie Financial Test supported by a corporate guarantee as allowed by state regulations. Both financial assurance funding obligations require estimates of future expenditures that could be impacted by refinements in scope, technological developments, new information, cost inflation, changes in regulations, discount rates and the timing of activities. Under our current approach to satisfying applicable requirements, additional financial assurance would be required in the future if increases in cost estimates exceed the face amount of the Plant City Bond or the amount supported by the Bonnie Financial Test.

**Other Long-Term Obligations**

The following is a summary of our other long-term obligations, including Gypstacks and land reclamation, as of December 31, 2021:

| | | *Payments by Calendar Year* | | | |
|---|---|---|---|---|---|
| *(in millions)* | **Total** | **Less than 1 year** | **1 - 3 years** | **3 - 5 years** | **More than 5 years** |
| ARO[(a)] | $ 3,801.8 | $ 234.4 | $ 279.4 | $ 204.7 | $ 3,083.3 |

(a) Represents the undiscounted estimated cash outflows required to settle the AROs. The corresponding present value of these future expenditures is $1.7 billion as of December 31, 2021 and is reflected in our accrued liabilities and other noncurrent liabilities in our Consolidated Balance Sheets.

Most of our export sales of potash crop nutrients are marketed through a North American export association, Canpotex, which funds its operations in part through third-party financing facilities. As a member, Mosaic or our subsidiaries are, subject to certain conditions and exceptions, contractually obligated to reimburse Canpotex for their pro rata share of any operating expenses or other liabilities incurred. The reimbursements are made through reductions to members' cash receipts from Canpotex.

Commitments are set forth in Note 21 of our Notes to Consolidated Financial Statements and are hereby incorporated by reference.

**Income Tax Obligations**

Gross uncertain tax positions as of December 31, 2021 of $124.6 million are not included in the other long-term obligations table presented above because the timing of the settlement of unrecognized tax benefits cannot be reasonably determined. For further discussion, refer to Note 12 of our Notes to Consolidated Financial Statements.

## Market Risk

We are exposed to the impact of fluctuations in the relative value of currencies, fluctuations in interest rates, fluctuations in the purchase prices of natural gas, nitrogen, ammonia and sulfur consumed in operations, and changes in freight costs, as well as changes in the market value of our financial instruments. We periodically enter into derivatives in order to mitigate our interest rate risks, foreign currency risks and the effects of changing commodity prices and freight prices, but not for speculative purposes. Unrealized mark-to-market gains and losses on derivatives are recorded in Corporate, Eliminations and Other. Once realized, they are recorded in the related business segment.

### *Foreign Currency Exchange Rates*

Due to the global nature of our operations, we are exposed to currency exchange rate changes, which may cause fluctuations in earnings and cash flows. Our primary foreign currency exposures are the Canadian dollar and Brazilian real. To reduce economic risk and volatility on expected cash flows that are denominated in the Canadian dollar and Brazilian real, we use financial instruments that may include forward contracts, zero-cost collars and/or futures.

The functional currency of several of our Canadian entities is the Canadian dollar. For those entities, sales are primarily denominated in U.S. dollars, but the costs are paid principally in Canadian dollars. We generally enter into derivative instruments for a portion of the currency risk exposure on anticipated cash inflows and outflows, including contractual outflows for our Potash segment expansion and other capital expenditures denominated in Canadian dollars. Mosaic hedges cash flows on a declining basis, up to 18 months for the Canadian dollar. We may also enter into hedges up to 36 months for expected Canadian dollar capital expenditures related to our Esterhazy K3 expansion program. A stronger Canadian dollar generally reduces these entities' operating earnings. A weaker Canadian dollar has the opposite effect. Depending on the underlying exposure, such derivatives can create additional earnings volatility because we do not apply hedge accounting. Gains or losses on these derivative contracts, both for open contracts at quarter-end (unrealized) and settled contracts (realized), are recorded in either cost of goods sold or foreign currency transaction gain (loss).

The functional currency for our Brazilian subsidiaries is the Brazilian real. We finance our Brazilian inventory purchases with U.S. dollar-denominated liabilities. We hedge cash flows on a declining basis, up to 12 months for the Brazilian real. A stronger Brazilian real relative to the U.S. dollar has the impact of reducing these liabilities on a functional currency basis. When this occurs, an associated foreign currency transaction gain is recorded as non-operating income. A weaker Brazilian real generally has the opposite effect. We also enter into derivative instruments for a portion of our currency risk exposure on anticipated Brazilian real cash flows and record an associated gain or loss in either cost of goods sold or foreign currency transaction gain (loss) line in the Consolidated Statements of Earnings. A stronger Brazilian real generally reduces our Brazilian subsidiaries operating earnings. A weaker Brazilian real has the opposite effect.

As discussed above, we have Canadian dollar, Brazilian real, and other foreign currency exchange contracts. As of December 31, 2021, and 2020, the fair value of our major foreign currency exchange contracts was ($18.6) million and $10.0 million, respectively. We recorded an unrealized loss of $26.7 million in cost of goods sold and recorded an unrealized loss of $1.4 million in foreign currency transaction gain (loss) in the Consolidated Statements of Earnings for 2021.

The table below provides information about Mosaic's significant foreign exchange derivatives.

| | As of December 31, 2021 | | | | As of December 31, 2020 | | | |
|---|---|---|---|---|---|---|---|---|
| | Expected Maturity Date Years ending December 31, | | | | Expected Maturity Date Years ending December 31, | | | |
| *(in millions)* | 2022 | 2023 | 2024 | Fair Value | 2021 | 2022 | 2023 | Fair Value |
| **Foreign Currency Exchange Forwards** | | | | | | | | |
| **Canadian Dollar** | | | | $ 3.8 | | | | $ 31.9 |
| Notional (million US$) - short Canadian dollars | $ 421.2 | $ 78.3 | $ 28.2 | | $ 170.0 | $ 48.4 | $ 6.0 | |
| Weighted Average Rate - Canadian dollar to U.S. dollar | 1.2731 | 1.2665 | 1.2874 | | 1.3089 | 1.3285 | 1.3304 | |
| Notional (million US$) - long Canadian dollars | $ 1,030.7 | $ 192.0 | $ 35.2 | | $ 670.5 | $ 196.5 | $ 59.4 | |
| Weighted Average Rate - Canadian dollar to U.S. dollar | 1.2708 | 1.2893 | 1.2346 | | 1.3291 | 1.3153 | 1.3299 | |
| **Foreign Currency Exchange Collars** | | | | | | | | |
| **Canadian Dollar** | | | | $ 0.4 | | | | $ 0.4 |
| Notional (million US$) - long Canadian dollars | $ 15.5 | $ — | $ — | | $ — | $ 30.3 | $ — | |
| Weighted Average Participation Rate - Canadian dollar to U.S. dollar | 1.3433 | — | — | | — | 1.3432 | — | |
| Weighted Average Protection Rate - Canadian dollar to U.S. dollar | 1.2875 | — | — | | — | 1.2874 | — | |
| **Foreign Currency Exchange Non-Deliverable Forwards** | | | | | | | | |
| **Brazilian Real** | | | | $ (20.8) | | | | $ (19.4) |
| Notional (million US$) - short Brazilian real | $ 531.5 | $ — | $ — | | $ 582.4 | $ — | $ — | |
| Weighted Average Rate - Brazilian real to U.S. dollar | 5.7121 | — | — | | 5.2160 | — | — | |
| Notional (million US$) - long Brazilian real | $ 679.2 | $ — | $ — | | $ 924.6 | $ — | $ — | |
| Weighted Average Rate - Brazilian real to U.S. dollar | 5.6748 | — | — | | 5.3068 | — | — | |
| **Indian Rupee** | | | | $ (1.5) | | | | $ (2.1) |
| Notional (million US$) - short Indian rupee | $ 125.0 | $ — | $ — | | $ 146.0 | $ — | $ — | |
| Weighted Average Rate - Indian rupee to U.S. dollar | 75.7627 | — | — | | 74.5083 | — | — | |
| **China Renminbi** | | | | $ (0.5) | | | | $ (0.8) |
| Notional (million US$) - short China renminbi | $ 68.0 | $ — | $ — | | $ 78.0 | $ — | $ — | |
| Weighted Average Rate - China renminbi to U.S. dollar | 6.4750 | — | — | | 6.6211 | — | — | |
| **Total Fair Value** | | | | $ (18.6) | | | | $ 10.0 |

***Commodities***

We use forward purchase contracts, swaps and occasionally three-way collars to reduce the risk related to significant price changes in our inputs and product prices. In addition, the natural gas-based pricing under the CF Ammonia Supply Agreement is intended to lessen ammonia pricing volatility.

All gains and losses on commodities contracts are recorded in cost of goods sold in the Consolidated Statements of Earnings.

As of December 31, 2021, and 2020, the fair value of our major commodities contracts was $18.8 million and $5.3 million, respectively. We recorded an unrealized gain of $13.1 million in cost of goods sold on the Consolidated Statements of Earnings for 2021.

Our primary commodities exposure relates to price changes in natural gas.

The table below provides information about Mosaic's natural gas derivatives which are used to manage the risk related to significant price changes in natural gas.

| | As of December 31, 2021 | | | | | As of December 31, 2020 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Expected Maturity Date Years ending December 31, | | | | | Expected Maturity Date Years ending December 31, | | | | |
| *(in millions)* | 2022 | 2023 | 2024 | 2025 | Fair Value | 2021 | 2022 | 2023 | 2024 | Fair Value |
| **Natural Gas Swaps** | | | | | $ 18.8 | | | | | $ 5.3 |
| Notional (million MM Btu) - long | 9.4 | 9.4 | 4.8 | — | | 17.7 | 8.5 | 1.2 | — | |
| Weighted Average Rate (US$/MM Btu) | $ 2.21 | $ 2.34 | $ 2.72 | $ — | | $ 1.93 | $ 2.16 | $ 2.88 | $ — | |
| **Total Fair Value** | | | | | $ 18.8 | | | | | $ 5.3 |

***Interest Rates***

From time to time, we enter into interest rate swap agreements to hedge our exposure to changes in future interest rates related to anticipated debt issuances. At December 31, 2021, we had no interest rate swap agreements in effect.

***Summary***

Overall, there have been no material changes in our primary market risk exposures since the prior year. In 2022, we do not expect any material changes in our primary risk exposures. Additional information about market risk associated with our investments held in the RCRA Trusts is provided in Note 11 of our Notes to Consolidated Financial Statements. For additional information related to derivatives, see Notes 14 and 15 of our Notes to Consolidated Financial Statements.

**Environmental, Health, Safety and Security Matters**

We are subject to complex and evolving international, federal, state, provincial and local environmental, health, safety and security ("***EHS***") laws that govern the production, distribution and use of crop nutrients and animal feed ingredients. These EHS laws regulate or propose to regulate: (i) conduct of mining, production and supply chain operations, including employee safety and facility security procedures; (ii) management or remediation of potential impacts to air, soil and water quality from our operations; (iii) disposal of waste materials; (iv) beneficial use of co-products and residuals; (v) reclamation of lands after mining; (vi) management and handling of raw materials; (vii) product content; and (viii) use of products by both us and our customers.

We have a comprehensive EHS management program that seeks to achieve sustainable, predictable and verifiable EHS performance. Key elements of our EHS program include: (i) identifying and managing EHS risk; (ii) complying with legal requirements; (iii) improving our EHS procedures and protocols; (iv) educating employees regarding EHS obligations; (v) retaining and developing professional qualified EHS staff; (vi) evaluating facility conditions; (vii) evaluating and enhancing safe workplace behaviors; (viii) performing audits; (ix) formulating EHS action plans; and (x) assuring accountability of all managers and other employees for EHS performance. Our business units are responsible for implementing day-to-day elements of our EHS program, assisted by an integrated staff of EHS professionals. We conduct

audits to verify that each facility has identified risks, achieved regulatory compliance, improved EHS performance, and incorporated EHS management systems into day-to-day business functions.

New or proposed regulatory programs can present significant challenges in ascertaining future compliance obligations, implementing compliance plans, and estimating future costs until implementing regulations have been finalized and definitive regulatory interpretations have been adopted. New or proposed regulatory requirements may require modifications to our facilities or to operating procedures and these modifications may involve significant capital costs or increases in operating costs.

We have expended, and anticipate that we will continue to expend, substantial financial and managerial resources to comply with EHS standards and to continue to improve our environmental stewardship. In 2022, excluding capital expenditures arising out of the consent decrees referred to under "EPA RCRA Initiative" in Note 13 of our Notes to Consolidated Financial Statements, we expect environmental capital expenditures to total approximately $300 million, primarily related to: (i) modification or construction of waste management infrastructure and water treatment systems; (ii) construction and modification projects associated with Gypstacks and clay settling ponds at our Phosphates facilities and tailings management areas for our Potash mining and processing facilities; (iii) upgrading or new construction of air pollution control equipment at some of the concentrates plants; and (iv) capital projects associated with remediation of contamination at current or former operations. Additional expenditures for land reclamation, Gypstack closure and water treatment activities are expected to total approximately $170 million in 2022. In 2023, we estimate environmental capital expenditures will be approximately $300 million and expenditures for land reclamation activities, Gypstack closure and water treatment activities are expected to be approximately $150 million. We spent approximately $410 million and $350 million for the years ended December 31, 2021 and 2020, respectively, for environmental capital expenditures, land reclamation activities, Gypstack closure and water treatment activities. No assurance can be given that greater-than-anticipated EHS capital expenditures or land reclamation, Gypstack closure or water treatment expenditures will not be required in 2022 or in the future.

***Operating Requirements and Impacts***

*Permitting.* We hold numerous environmental, mining and other permits and approvals authorizing operations at our facilities. Our ability to continue operations at a facility could be materially affected by a government agency decision to deny or delay issuing a new or renewed permit or approval, to revoke or substantially modify an existing permit or approval or to substantially change conditions applicable to a permit modification, or by legal actions that successfully challenge our permits.

Expanding our operations or extending operations into new areas is also predicated upon securing the necessary environmental or other permits or approvals. We have been engaged in, and over the next several years will be continuing, efforts to obtain permits in support of our anticipated Florida operations at certain of our properties. For years, we have successfully permitted properties and anticipate that we will be able to permit these properties as well.

A denial of our permits, the issuance of permits with cost-prohibitive conditions, substantial delays in issuing key permits, legal actions that prevent us from relying on permits or revocation of permits can prevent or delay our mining at the affected properties and thereby materially affect our business, results of operations, liquidity or financial condition.

In addition, in the U.S., local community involvement has become an increasingly important factor in the permitting process for companies like ours, and various counties and other parties, particularly in Florida, have in the past filed and continue to file lawsuits or administrative appeals challenging the issuance of some of the permits we require. These actions can significantly delay permit issuance. Additional information regarding certain potential or pending permit challenges is provided in Note 22 to our Consolidated Financial Statements and is incorporated herein by reference.

*Federal Initiatives to Define "Waters of the United States" ("**WOTUS**").* The 1972 amendments to the Clean Water Act ("***CWA***") established federal jurisdiction over "navigable waters," defined in the Act as the "waters of the United States" (CWA Section 502(7)). WOTUS is a threshold term in the CWA and establishes the scope of federal jurisdiction under the CWA Act. As it relates to Mosaic's operations and facilities, the scope of WOTUS dictates legal requirements for our National Pollutant Discharge Elimination System wastewater discharge permits and impacts to surface waters and wetlands associated with our phosphate mining operations. A broad definition of WOTUS, and thus the scope of federal jurisdiction, increases the time required to identify and delineate the boundaries of which wetlands and waterways are subject to federal requirements, and the mitigation required to compensate for any losses or impacts to jurisdictional WOTUS.

The current regulatory definition of WOTUS was promulgated jointly on April 21, 2020 (85 Fed.Reg. 22250), by the U.S. EPA and the U.S. Army Corps of Engineers ("***Corps***") as a regulation referred to as the "Navigable Waters Protection Rule" (the "***NWPR***"). The NWPR was intended to provide clarity, predictability and consistency so that the regulated community can better understand where the CWA applies and where it does not. The new NWPR revised the definition of WOTUS under the CWA to include: (i) territorial seas and traditional navigable waters; (ii) perennial and intermittent tributaries to those waters; (iii) certain lakes, ponds, and impoundments; and (iv) wetlands adjacent to jurisdictional waters. The final NWPR was challenged in a number of U.S. district courts.

On June 9, 2021, the EPA announced its plans to repeal and replace the NWPR based on its determination that the rule "… is leading to significant environmental degradation". On August 30, 2021, the U.S. District Court for Arizona vacated the NWPR and remanded the rule back to EPA and the Corps. On that same date, EPA announced that due to court's vacating of the NWPR, EPA and the Corps will halt implementation of the NWPR and are interpreting WOTUS consistent with U.S. Supreme Court precedent.

EPA and the Corps are moving forward with formal rulemaking to implement a new definition of WOTUS. On December 7, 2021, EPA and the Corps announced a proposed rule to re-establish the pre-2015 definition of WOTUS which had been in place for decades, updated to reflect consideration of U.S. Supreme Court decisions.

*Water Quality Regulations for Nutrient Discharges.* New nutrient regulatory initiatives could have a material effect on either us or our customers. For example, the Gulf Coast Ecosystem Restoration Task Force, established by executive order of the U.S. President and comprised of five gulf states and eleven federal agencies, has delivered a final strategy for long-term ecosystem restoration for the Gulf Coast. The strategy calls for, among other matters, reduction of the flow of excess nutrients into the Gulf of Mexico through state nutrient reduction frameworks, new nutrient reduction approaches and reduction of agricultural and urban sources of excess nutrients. Implementation of the strategy will require legislative or regulatory action at the state level. We cannot predict what the requirements of any such legislative or regulatory action could be or whether or how it would affect us or our customers.

*Reclamation Obligations.* During phosphate mining, we remove overburden in order to retrieve phosphate rock reserves. Once we have finished mining in an area, we use the overburden and sand tailings produced by the beneficiation process to reclaim the area in accordance with approved reclamation plans and applicable laws. We have incurred and will continue to incur significant costs to fulfill our reclamation obligations.

*Management of Residual Materials and Closure of Management Areas.* Mining and processing of potash and phosphate generate residual materials that must be managed both during the operation of the facility and upon and after facility closure. Potash tailings, consisting primarily of salt and clay, are stored in surface disposal sites. Phosphate clay residuals from mining are deposited in clay settling ponds. Processing of phosphate rock with sulfuric acid generates phosphogypsum that currently is stored in Gypstacks.

During the life of the tailings management areas, clay settling ponds and Gypstacks, we have incurred and will continue to incur significant costs to manage our potash and phosphate residual materials in accordance with environmental laws and regulations and with permit requirements. Additional legal and permit requirements will take effect when these facilities are closed. Our asset retirement obligations are further discussed in Note 13 of our Notes to Consolidated Financial Statements.

*New Wales Water Loss Incident.* In August 2016, a sinkhole developed under one of the two cells of the Phase II Gypstack at our New Wales facility in Polk County, Florida, resulting in process water from the stack draining into the sinkhole. The incident was reported to the FDEP and EPA and in connection with the incident, our subsidiary, Mosaic Fertilizer, LLC ("***Mosaic Fertilizer***"), entered into a consent order (the "***Order***") with the FDEP in October 2016 under which Mosaic Fertilizer agreed to, among other things, implement an approved remediation plan to close the sinkhole; perform additional water monitoring and if necessary, assessment and rehabilitation activities in the event of identified off-site impacts; provide financial assurance; and evaluate the risk of potential future sinkhole formation at our active Florida Gypstack operations. The incident and the Order are further discussed in Note 22 of our Notes to Consolidated Financial Statements.

*Financial Assurance.* Separate from our accounting treatment for reclamation and closure liabilities, some jurisdictions in which we operate have required us either to pass a test of financial strength or provide credit support, typically cash deposits, surety bonds, financial guarantees or letters of credit, to address phosphate mining reclamation liabilities and closure liabilities for clay settling areas and Gypstacks. See "Other Commercial Commitments" under "Off-Balance Sheet Arrangements and Obligations" above for additional information about these requirements. We also have obligations under

certain consent decrees and a separate financial assurance arrangement relating to our facilities in Florida and Louisiana. Two consent decrees that became effective in 2016 resolved claims under RCRA and state hazardous waste laws relating to our management of certain waste materials onsite at certain fertilizer manufacturing facilities in Florida and Louisiana. Under these consent decrees, in 2016 we deposited $630 million in cash into two trust funds to provide additional financial assurance for the estimated costs of closure and post-closure care of our phosphogypsum management systems. In addition, in 2017, we issued a letter of credit in the amount of $50 million to further support our financial assurance obligation under the Florida 2015 Consent Decree. While our actual Gypstack Closure Costs are generally expected to be paid by us in the normal course of our Phosphates business over a period that may not end until three decades or more after a Gypstack has been closed, the funds on deposit in the RCRA Trusts can be drawn by the applicable governmental authority in the event we cannot perform our closure and long-term care obligations. If and when our estimated Gypstack Closure Costs with respect to the facilities associated with a RCRA Trust are sufficiently lower than the amount on deposit in that RCRA Trust, we have the right to request that the excess funds be released to us. The same is true for the RCRA Trust balance remaining after the completion of our obligations, which will be performed over a period that may not end until three decades or more after a Gypstack has been closed. See the discussion under "EPA RCRA Initiative" in Note 13 of our Notes to Consolidated Financial Statements for additional information about these matters.

We have established a trust fund valued at $25 million (Canadian dollars) in satisfaction of financial assurance requirements for closure of our Saskatchewan Potash facilities. As of the end of 2021, Mosaic has completed all required cash contributions to the trust fund. Trust fund performance is subject to review by the Province of Saskatchewan every five years during its existence.

In 2020, we executed and thereafter have maintained surety bonds in the amount of approximately $82 million to establish financial assurance for closure of our Carlsbad, New Mexico potash facility with the U.S. Department of the Interior, Bureau of Land Management and the New Mexico Environment Department.

*Examination of Working Places in Metal and Nonmetal Mines*. The U.S. Mine Safety and Health Administration has reinstated the regulatory provisions for examinations of working places in metal and nonmetal mines that were originally published on January 23, 2017. The U.S. Court of Appeals for the District of Columbia Circuit issued an order on June 11, 2019, and a mandate on August 23, 2019, requiring this action. The reinstated final rule was effective on September 30, 2019, with implementation and compliance required by January 2020. In order to comply with these changes, we have adjusted our daily mine workplace examination procedures and added additional requirements for the documentation of adverse conditions when they are identified during the daily examinations.

***Climate Change***

We are committed to finding ways to meet the challenges of crop nutrient and animal feed ingredient production and distribution in the context of the need to reduce greenhouse gas emissions. While focused on helping the world grow the food it needs, we have proven our commitment to using our resources more efficiently and have implemented innovative energy recovery technologies that result in our generation of much of the energy we need, particularly in our U.S. Phosphates operations, from high efficiency heat recovery systems that result in lower greenhouse gas emissions. In 2021, we announced our goal to achieve net-zero greenhouse gas emissions in Florida, U.S. by 2030 and companywide by 2040.

*Climate Change Regulation.* Various governmental initiatives to limit greenhouse gas emissions are under way or under consideration around the world. These initiatives could restrict our operating activities, require us to make changes in our operating activities that would increase our operating costs, reduce our efficiency or limit our output, require us to make capital improvements to our facilities, increase our energy, raw material and transportation costs or limit their availability, or otherwise adversely affect our results of operations, liquidity or capital resources, and these effects could be material to us.

The direct greenhouse gas emissions from our operations result primarily from:

- Combustion of natural gas to produce steam and dry potash products at our Belle Plaine, Saskatchewan potash solution mine. To a lesser extent, at our potash shaft mines, natural gas is used as a fuel to heat fresh air supplied to the shaft mines and for drying potash products.
- The use of natural gas as a feedstock in the production of ammonia at our Faustina, Louisiana facility.
- Process reactions from naturally occurring carbonates in phosphate rock.
- Operation of transport trucks, mining and construction equipment, and other machinery powered by internal combustion engines utilizing fossil fuels.

In addition, the production of energy and raw materials that we purchase from unrelated parties for use in our business and energy used in the transportation of our products and raw materials are sources of greenhouse gas emissions.

Governmental greenhouse gas emission initiatives include, among others, the December 2015 agreement (the "***Paris Agreement***") which was the outcome of the 21st session of the Conference of the Parties under the United Nations Framework Convention on Climate Change. The Paris Agreement, which was signed by nearly 200 nations including the U.S. and Canada, entered into force in late 2016 and sets out a goal of limiting the average rise in temperatures for this century to below 2 degrees Celsius. Each signatory is expected to develop its own plan (referred to as a Nationally Determined Contribution, or "***NDC***") for reaching that goal.

On January 20, 2021 the U.S.rejoined the Paris Agreement, which was effective February 19, 2021. In 2015, prior to this announcement, the U.S. had submitted an NDC aiming to achieve, by 2025, an economy-wide target of reducing greenhouse gas emissions by 26-28% below its 2005 level. The NDC also aims to use best efforts to reduce emissions by 28%. The U.S. target covers all greenhouse gases that were a part of the 2014 Inventory of Greenhouse Gas Emissions and Sinks. While the future of the U.S.'s involvement in the Paris Agreement and the status of this NDC are unclear, various legislative or regulatory initiatives relating to greenhouse gases have been adopted or considered by the U.S. Congress, EPA or various states and those initiatives already adopted may be used to implement a U.S. NDC. Additionally, more stringent laws and regulations may be enacted to accomplish the goals set out in the NDC.

Brazil ratified the Paris Agreement on September 21, 2016, committing to an NDC that includes an economy-wide target of 1.3 GtCO2e by 2025 and 1.2 GtCO2e by 2030. In 2020, Brazil submitted a new NDC, which reaffirms the country's commitment to reducing total net greenhouse gas emissions by 37% in 2025 and by 43% in 2030. The NDC further commits to achieving climate neutrality in 2060. Since 2009, Brazil has a National Policy on Climate Change. This Policy is implemented by two instruments: the National Plan on Climate Change and the National Climate Change Fund. Additionally, Brazil has sector-specific policies, such as the National Plan for Low Carbon Emission in Agriculture. As part of its commitments in the Paris Agreement, Brazil enforced a Biofuels National Policy ("***RenovaBio***") program in 2020, which sets a carbon credit mechanism based on emission reductions from the use of biofuels. RenovaBio aims to increase biofuels rate in the country's energy matrix and reached 97% of its target on the first year. Under RenovaBio, fossil fuel distributor are required to compensate for the carbon emissions through the acquisition of CBIOS (decarbonization certificates), issued by biofuel producers (e.g., ethanol plants). Since 2020, the Brazilian Congress became active in proposing other climate-related legislation and could approve new instruments to combat climate change in this current legislature. We will continue to monitor developments relating to the anticipated legislation, as well as the potential future effect on our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources.

Canada's intended NDC aims to achieve, by 2030, an economy-wide target of reducing greenhouse gas emissions by 40-45% below 2005 levels. In late 2016, the Canadian federal government announced plans for a comprehensive tax on carbon emissions, under which provinces opting out of the tax would have the option of adopting a cap-and-trade system. In the plans, the federal government also committed to implementing a federal carbon pricing backstop system that will apply in any province or territory that does not have a carbon pricing system in place by 2018. As of January 1, 2022, a carbon tax of $50 per tonne now applies in Canada for any emitter not covered under the federal backstop program or approved provincial program. In December 2017, Saskatchewan announced a comprehensive plan to address climate change that does not include an economy-wide price on carbon but does include a system of tariffs and credits for large emitters. The plan was reviewed and approved, in part, by the federal government in October 2018. Our Saskatchewan Potash facilities are subject to the Saskatchewan climate change plan regarding emissions at our facilities; however, indirect costs from the carbon tax associated with electricity, natural gas consumption, and transportation are currently passed through to Mosaic. As implementation of the Paris Agreement proceeds, more stringent laws and regulations may be enacted to accomplish the goals set out in Canada's NDC. We will also continue to monitor developments relating to the anticipated legislation, as well as the potential future effect on our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources.

It is possible that future legislation or regulation addressing climate change, including in response to the Paris Agreement or any new international agreements, could adversely affect our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources, and these effects could be material or adversely impact our competitive advantage. In addition, to the extent climate change restrictions imposed in countries where our competitors operate, such as China, India, former Soviet Union countries or Morocco, are less stringent than in the U.S., Brazil or Canada, our competitors could gain cost or other competitive advantages over us.

*Operating Impacts Due to Climate Change.* The prospective impact of climate change on our operations and those of our customers and farmers remains uncertain. Scientists have hypothesized that the impacts of climate change could include changes in rainfall patterns, water shortages, changing sea levels, changing storm patterns and intensities, and changing temperature levels and that these changes could be severe. These impacts could vary by geographic location. Severe climate change could impact our costs and operating activities, the location and cost of global grain and oilseed production, and the supply and demand for grains and oilseeds. At the present time, we cannot predict the prospective impact of climate change on our results of operations, liquidity or capital resources, or whether any such effects could be material to us.

***Remedial Activities***

Comprehensive Environmental Response, Compensation and Liability Act ("***CERCLA***") (aka Superfund) and state analogues impose liability, without regard to fault or to the legality of a party's conduct, on certain categories of persons, including those who have disposed of "hazardous substances" at a location. Under Superfund, or its various state analogues, one party may be responsible for the entire site, regardless of fault or the locality of its disposal activity. We have contingent environmental remedial liabilities that arise principally from three sources which are further discussed below: (i) facilities currently or formerly owned by our subsidiaries or their predecessors; (ii) facilities adjacent to currently or formerly owned facilities; and (iii) third-party Superfund or state equivalent sites where we are alleged to have disposed of hazardous materials. Taking into consideration established accruals for environmental remedial matters of approximately $57.3 million as of December 31, 2021, expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material effect on our business or financial condition. However, material expenditures could be required in the future to remediate the contamination at known sites or at other current or former sites.

*Remediation at Our Facilities.* Many of our formerly owned or current facilities have been in operation for a number of years. The historical use and handling of regulated chemical substances, crop and animal nutrients and additives as well as by-product or process tailings at these facilities by us and predecessor operators have resulted in soil, surface water and groundwater impacts.

At many of these facilities, spills or other releases of regulated substances have occurred previously and potentially could occur in the future, possibly requiring us to undertake or fund cleanup efforts under Superfund or otherwise. In some instances, we have agreed, pursuant to consent orders or agreements with the appropriate governmental agencies, to undertake certain investigations, which currently are in progress, to determine whether remedial action may be required to address site impacts. At other locations, we have entered into consent orders or agreements with appropriate governmental agencies to perform required remedial activities that will address identified site conditions. Taking into account established accruals, future expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material adverse effect on our business or financial condition. However, material expenditures by us could be required in the future to remediate the environmental impacts at these or at other current or former sites.

*Remediation at Third-Party Facilities.* Various third parties have alleged that our historical operations have impacted neighboring off-site areas or nearby third-party facilities. In some instances, we have agreed, pursuant to orders from or agreements with appropriate governmental agencies or agreements with private parties, to undertake or fund investigations, some of which currently are in progress, to determine whether remedial action, under Superfund or otherwise, may be required to address off-site impacts. Our remedial liability at these sites, either alone or in the aggregate, taking into account established accruals, currently is not expected to have a material adverse effect on our business or financial condition. As more information is obtained regarding these sites, this expectation could change.

*Liability for Off-Site Disposal Locations.* Currently, we are involved or concluding involvement for off-site disposal at several Superfund or equivalent state sites. Moreover, we previously have entered into settlements to resolve liability with regard to Superfund or equivalent state sites. In some cases, such settlements have included "reopeners," which could result in additional liability at such sites in the event of newly discovered contamination or other circumstances. Our remedial liability at such disposal sites, either alone or in the aggregate, currently is not expected to have a material adverse effect on our business or financial condition. As more information is obtained regarding these sites and the potentially responsible parties involved, this expectation could change.

***Product Requirements and Impacts***

International, federal, state and provincial standards require us to register many of our products before these products can be sold. The standards also impose labeling requirements on these products and require us to manufacture the products to

formulations set forth on the labels. We believe that, when handled and used as intended, based on the available data, crop nutrient materials do not pose harm to human health or the environment and that any additional standards or regulatory requirements relating to product requirements and impacts will not have a material adverse effect on our business or financial condition.

***Additional Information***

For additional information about phosphate mine permitting in Florida, our environmental liabilities, the environmental proceedings in which we are involved, our asset retirement obligations related to environmental matters, and our related accounting policies, see Environmental Liabilities and AROs under Critical Accounting Estimates above and Notes 2, 13, and 22 of our Notes to Consolidated Financial Statements.

***Sustainability***

We are committed to making informed choices that improve our corporate governance, financial strength, operational efficiency, environmental stewardship, community engagement and resource management. Through these efforts, we intend to sustain our business and experience lasting success.

We have included, or incorporate by reference, throughout this annual report on Form 10-K discussions of various matters relating to our sustainability, in its broadest sense, that we believe may be material to our investors. These matters include, but are not limited to, discussions about: corporate governance, including the leadership and respective roles of our Board of Directors and its committees, and management; recent and prospective developments in our business; product development; risk, enterprise risk management and risk oversight; the regulatory and permitting environment for our business and ongoing regulatory and permitting initiatives; executive compensation practices; employee and contractor safety; human capital matters and other EHS matters, including climate change, water management, energy and other operational efficiency initiatives, reclamation and asset retirement obligations. Other matters relating to sustainability are included in our sustainability reports that are available on our website at www.mosaicco.com/ourresponsibility. Our sustainability reports are not incorporated by reference in this annual report on Form 10-K.

**Contingencies**

Information regarding contingencies in Note 22 of our Notes to Consolidated Financial Statements is incorporated herein by reference.

**Related Parties**

Information regarding related party transactions is set forth in Note 23 of our Notes to Consolidated Financial Statements and is incorporated herein by reference.

**Recently Issued Accounting Guidance**

None.

**Cautionary Statement Regarding Forward Looking Information**

All statements, other than statements of historical fact, appearing in this report constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These forward looking statements include, among other things, statements about our expectations, beliefs, intentions or strategies for the future, including statements about proposed or pending future transactions or strategic plans, statements concerning our future operations, financial condition and prospects, statements regarding our expectations for capital expenditures, statements concerning our level of indebtedness and other information, and any statements of assumptions regarding any of the foregoing. In particular, forward-looking statements may include words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “potential,” “predict,” “project” or “should”. These statements involve certain risks and uncertainties that may cause actual results to differ materially from expectations as of the date of this filing.

Factors that could cause reported results to differ materially from those expressed or implied by the forward-looking statements include, but are not limited to, the following:

- the impact of the novel coronavirus Covid-19 pandemic on the global economy and our business, suppliers, customers, employees and the communities in which we operate, as further described in Part I, Item 1A of this 10-K Report;
- business and economic conditions and governmental policies affecting the agricultural industry where we or our customers operate, including price and demand volatility resulting from periodic imbalances of supply and demand;
- the potential drop in oil demand, which could lead to a significant decline in production, and its impact on the availability and price of sulfur, a key raw material input for our Phosphates, segment operations;
- because of political and economic instability, civil unrest or changes in government policies in Brazil, Saudi Arabia, Peru or other countries in which we do business, our operations could be disrupted as higher costs of doing business could result, including those associated with implementation of new freight tables and new mining legislation;
- changes in farmers' application rates for crop nutrients;
- changes in the operation of world phosphate or potash markets, including consolidation in the crop nutrient industry, particularly if we do not participate in the consolidation;
- the expansion or contraction of production capacity or selling efforts by competitors or new entrants in the industries in which we operate, including the effects of actions by members of Canpotex to prove the production capacity of potash expansion projects, through proving runs or otherwise;
- the effect of future product innovations or development of new technologies on demand for our products;
- seasonality in our business that results in the need to carry significant amounts of inventory and seasonal peaks in working capital requirements, which may result in excess inventory or product shortages;
- changes in the costs, or constraints on supplies, of raw materials or energy used in manufacturing our products, or in the costs or availability of transportation for our products;
- declines in our selling prices or significant increases in costs that can require us to write down our inventories to the lower of cost or market, or require us to impair goodwill or other long-lived assets, or establish a valuation allowance against deferred tax assets;
- the lag in realizing the benefit of falling market prices for the raw materials we use to produce our products that can occur while we consume raw materials that we purchased or committed to purchase in the past at higher prices;
- disruptions of our operations at any of our key production, distribution, transportation or terminaling facilities, including those of Canpotex or any joint venture in which we participate;
- shortages or other unavailability of railcars, tugs, barges and ships for carrying our products and raw materials;
- the effects of and change in trade, monetary, environmental, tax and fiscal policies, laws and regulations;
- foreign exchange rates and fluctuations in those rates;
- tax regulations, currency exchange controls and other restrictions that may affect our ability to optimize the use of our liquidity;
- risks associated with our international operations, including any potential and actual adverse effects related to the Miski Mayo Mine;
- adverse weather conditions affecting our operations, including the impact of potential hurricanes, excessive heat, cold, snow, rainfall or drought;
- difficulties or delays in receiving, challenges to, increased costs of obtaining or satisfying conditions of, or revocation or withdrawal of required governmental and regulatory approvals, including permitting activities;
- changes in the environmental and other governmental regulation that applies to our operations, including federal legislation or regulatory action expanding the types and extent of water resources regulated under federal law and the possibility of further federal or state legislation or regulatory action affecting or related to greenhouse gas emissions, including carbon taxes or other measures that may be implemented in Canada or other jurisdictions in

which we operate, or of restrictions or liabilities related to elevated levels of naturally-occurring radiation that arise from disturbing the ground in the course of mining activities or possible efforts to reduce the flow of nutrients into the Gulf of Mexico, the Mississippi River basin or elsewhere;

- the potential costs and effects of implementation of federal or state water quality standards for the discharge of nitrogen and/or phosphorus into Florida waterways;
- the financial resources of our competitors, including state-owned and government-subsidized entities in other countries;
- the possibility of defaults by our customers on trade credit that we extend to them or on indebtedness that they incur to purchase our products and that we guarantee;
- any significant reduction in customers' liquidity or access to credit that they need to purchase our products;
- the effectiveness of the processes we put in place to manage our significant strategic priorities, including the expansion of our Potash business and our investment in MWSPC, and to successfully integrate and grow acquired businesses;
- actual costs of various items differing from management's current estimates, including, among others, asset retirement, environmental remediation, reclamation or other environmental obligations and Canadian resource taxes and royalties, or the costs of MWSPC or its existing or future funding;
- the costs and effects of legal and administrative proceedings and regulatory matters affecting us, including environmental, tax or administrative proceedings, complaints that our operations are adversely impacting nearby farms, businesses, other property uses or properties, settlements thereof and actions taken by courts with respect to approvals of settlements, costs related to defending and resolving global audit, appeal or court activity, and other, and other further developments in legal proceedings and regulatory matters;
- the success of our efforts to attract and retain highly qualified and motivated employees;
- strikes, labor stoppages or slowdowns by our work force or increased costs resulting from unsuccessful labor contract negotiations, and the potential costs and effects of compliance with new regulations affecting our workforce, which increasingly focus on wages and hours, healthcare, retirement and other employee benefits;
- brine inflows at our potash mines;
- accidents or other incidents involving our properties or operations, including potential fires, explosions, seismic events, sinkholes, unsuccessful tailings management, ineffective mine safety procedures, or releases of hazardous or volatile chemicals;
- terrorism, armed conflict or other malicious intentional acts, including cybersecurity risks such as attempts to gain unauthorized access to, or disable, our information technology systems, or our costs of addressing malicious intentional acts;
- actions by the holders of controlling equity interests in businesses in which we hold a noncontrolling interest;
- changes in our relationships with other members of Canpotex or any joint venture in which we participate or their or our exit from participation in Canpotex or any such export association or joint venture, and other changes in our commercial arrangements with unrelated third parties;
- difficulties in realizing benefits under our long-term natural gas based pricing ammonia supply agreement with CF Industries, Inc., including the risks that the cost savings initially anticipated from the agreement may not be fully realized over the term of the agreement or that the price of natural gas or the market price for ammonia during the agreement's term are at levels at which the agreement's natural gas based pricing is disadvantageous to us, compared with purchases in the spot market; and
- other risk factors reported from time to time in our SEC reports.

Material uncertainties and other factors known to us are discussed in Item 1A, "Risk Factors," of our annual report on Form 10-K for the year ended December 31, 2021 and incorporated by reference herein as if fully stated herein.

We base our forward-looking statements on information currently available to us, and we undertake no obligation to update or revise any of these statements, whether as a result of changes in underlying factors, new information, future events or other developments.

## Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
The Mosaic Company:

*Opinion on the Consolidated Financial Statements*

We have audited the accompanying consolidated balance sheets of The Mosaic Company and subsidiaries (the Company) as of December 31, 2021 and 2020, the related consolidated statements of earnings (loss), comprehensive income (loss), equity, and cash flows for each of the years in the three-year period ended December 31, 2021, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, 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 22, 2022 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

*Basis for Opinion*

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.
We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

*Critical Audit Matters*

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

*Evaluation of asset retirement obligations for water treatment costs*

As discussed in Note 13 to the consolidated financial statements, the Company has recorded asset retirement obligations (AROs) of $1,749.3 million as of December 31, 2021. The ARO includes the planned treatment of contaminated water ("water treatment costs") and other asset retirement activities at the Company's Florida and Louisiana facilities.

We identified the evaluation of asset retirement obligations for water treatment costs as a critical audit matter. Specialized skills and knowledge were required to evaluate the Company's selection of planned water treatment activities to satisfy their legal obligation. In addition, there was a high degree of subjective auditor judgment due to the sensitivity of the AROs to minor changes to significant assumptions, such as the volume of contaminated water and the forecasted level of contamination used to estimate the water treatment costs per thousand gallons ("unit costs").

The following are the primary procedures performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's ARO process. This included controls related to the knowledge, skill, and ability of third-party specialists and their relationship to the Company, determination of necessary activities required to treat contaminated water, and the development of the significant assumptions utilized in the process. We compared water treatment unit cost estimates to actual spending and water quality measurements. We evaluated the Company's ability to accurately estimate water treatment costs by comparing the Company's prior year estimates to the actual water treatment costs incurred. We performed sensitivity analyses over the volume of contaminated water and the unit costs assumptions to assess their impact on the water treatment costs estimate. Due to the specialized skills and knowledge used by the Company to select water treatment activities, we involved an environmental engineering professional with specialized skills and knowledge. This professional assisted in assessing the professional qualifications of the Company's environmental engineers and engineering firm, including the knowledge, skill, and ability of the engineers, and the relationship of the engineers and engineering firm to the Company. In addition, the environmental engineering professional evaluated the Company's planned asset retirement activities by analyzing the Company's specialist's reports. This professional evaluated significant engineering assumptions listed above and compared the planned activities per the specialist's reports to other information obtained during the audit, such as:

- permits obtained which specify the Company's legal obligations
- reports to state regulators on the level of contamination in water balances.

We evaluated the Company's changes in assumptions for the volume of contaminated water and the forecasted level of contamination by comparing them to actual results from the prior year, as well as assessing operational changes that could impact estimated water volumes, contamination levels, or necessary treatment activities.

*Evaluation of the realizability of certain deferred tax assets*

As discussed in Note 12 of the consolidated financial statements, the Company recognizes deferred income tax assets and liabilities attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases in each jurisdiction. A valuation allowance is recorded in each jurisdiction in which a deferred income tax asset is recorded when it is more likely than not that the deferred income tax asset will not be realized. As of December 31, 2021, the Company had gross deferred tax assets of $1,747.3 million and a related valuation allowance of $774.7 million.

We identified the evaluation of the realizability of certain deferred tax assets as a critical audit matter. Specifically, the evaluation of foreign tax credit carryforwards, required subjective auditor judgment to assess certain forecasted revenue and cost assumptions used to estimate forecasted future taxable income over the periods in which those temporary differences become deductible. Changes to these assumptions could have an effect on the Company's evaluation of the realizability of the deferred tax assets. In addition, there is complexity in the application of the relevant tax regulations to the Company's forecasted future taxable income.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's deferred tax asset valuation process. This included controls related to the Company's development of assumptions listed above and application of the relevant tax regulations in estimating forecasted future taxable income. We analyzed certain forecasted revenue and cost assumptions by comparing to external forecasts from industry publications and performed sensitivity analyses to assess the impact of changes in those assumptions on the Company's determination of the ability to utilize certain deferred tax assets. To assess the Company's ability to forecast, we compared the Company's historical revenue and cost forecasts to actual results. We involved federal and international tax professionals with specialized skills and knowledge, who assisted in assessing the Company's application of the relevant tax regulations and evaluating the realizability of certain deferred tax assets.

/s/ KPMG LLP

We have served as the Company's auditor since 2004.

Tampa, Florida
February 23, 2022

## Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
The Mosaic Company:

*Opinion on Internal Control Over Financial Reporting*

We have audited The Mosaic Company and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.
We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2021 and 2020, the related consolidated statements of earnings (loss), comprehensive income (loss), equity, and cash flows for each of the years in the three-year period ended December 31, 2021, and the related notes (collectively, the consolidated financial statements), and our report dated February 22, 2022 expressed an unqualified opinion on those consolidated 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 of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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/ KPMG LLP

Tampa, Florida
February 23, 2022

***Consolidated Statements of Earnings (Loss)***
**In millions, except per share amounts**

| | Years Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2020 | 2019 |
| Net sales | $ 12,357.4 | $ 8,681.7 | $ 8,906.3 |
| Cost of goods sold | 9,157.1 | 7,616.8 | 8,009.0 |
| Gross margin | 3,200.3 | 1,064.9 | 897.3 |
| Selling, general and administrative expenses | 430.5 | 371.5 | 354.1 |
| Impairment, restructuring and other expenses | 158.1 | — | 1,462.1 |
| Other operating expenses | 143.2 | 280.5 | 176.0 |
| Operating earnings (loss) | 2,468.5 | 412.9 | (1,094.9) |
| Interest expense, net | (169.1) | (180.6) | (182.9) |
| Foreign currency transaction (loss) gain | (78.5) | (64.3) | 20.2 |
| Other income | 3.9 | 12.9 | 1.5 |
| Earnings (loss) from consolidated companies before income taxes | 2,224.8 | 180.9 | (1,256.1) |
| Provision for (benefit from) income taxes | 597.7 | (578.5) | (224.7) |
| Earnings (loss) from consolidated companies | 1,627.1 | 759.4 | (1,031.4) |
| Equity in net earnings (loss) of nonconsolidated companies | 7.8 | (93.8) | (59.4) |
| Net earnings (loss) including noncontrolling interests | 1,634.9 | 665.6 | (1,090.8) |
| Less: Net earnings (loss) attributable to noncontrolling interests | 4.3 | (0.5) | (23.4) |
| Net earnings (loss) attributable to Mosaic | $ 1,630.6 | $ 666.1 | $ (1,067.4) |
| Basic net earnings (loss) per share attributable to Mosaic | $ 4.31 | $ 1.76 | $ (2.78) |
| Basic weighted average number of shares outstanding | 378.1 | 379.0 | 383.8 |
| Diluted net earnings (loss) per share attributable to Mosaic | $ 4.27 | $ 1.75 | $ (2.78) |
| Diluted weighted average number of shares outstanding | 381.6 | 381.3 | 383.8 |

**See Accompanying Notes to Consolidated Financial Statements**

***Consolidated Statements of Comprehensive Income (Loss)***
**In millions**

| | Years Ended December 31, | | |
|---|---|---|---|
| | **2021** | **2020** | **2019** |
| Net earnings (loss) including noncontrolling interest | $ 1,634.9 | $ 665.6 | $ (1,090.8) |
| Other comprehensive income (loss), net of tax | | | |
| Foreign currency translation (loss) gain | (108.2) | (249.5) | 69.4 |
| Net actuarial gain (loss) and prior service cost | 36.9 | 19.9 | (24.3) |
| Realized gain on interest rate swap | 1.5 | 1.6 | 1.7 |
| Net (loss) gain on marketable securities held in trust fund | (17.6) | 12.8 | 10.9 |
| Other comprehensive (loss) income | (87.4) | (215.2) | 57.7 |
| Comprehensive income (loss) | 1,547.5 | 450.4 | (1,033.1) |
| Less: Comprehensive income (loss) attributable to noncontrolling interest | 2.5 | (7.7) | (24.6) |
| Comprehensive income (loss) attributable to Mosaic | $ 1,545.0 | $ 458.1 | $ (1,008.5) |

**See Accompanying Notes to Consolidated Financial Statements**

***Consolidated Balance Sheets***
**In millions, except per share amounts**

| | December 31, | |
|---|---|---|
| | **2021** | **2020** |
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 769.5 | $ 574.0 |
| Receivables, net | 1,531.9 | 881.1 |
| Inventories | 2,741.4 | 1,739.2 |
| Other current assets | 282.5 | 326.9 |
| Total current assets | 5,325.3 | 3,521.2 |
| Property, plant and equipment, net | 12,475.3 | 11,854.3 |
| Investments in nonconsolidated companies | 691.8 | 673.1 |
| Goodwill | 1,172.2 | 1,173.0 |
| Deferred income taxes | 997.1 | 1,179.4 |
| Other assets | 1,374.7 | 1,388.8 |
| Total assets | $ 22,036.4 | $ 19,789.8 |
| **Liabilities and Equity** | | |
| Current liabilities: | | |
| Short-term debt | $ 302.8 | $ 0.1 |
| Current maturities of long-term debt | 596.6 | 504.2 |
| Structured accounts payable arrangements | 743.7 | 640.0 |
| Accounts payable | 1,260.7 | 769.1 |
| Accrued liabilities | 1,883.6 | 1,233.1 |
| Total current liabilities | 4,787.4 | 3,146.5 |
| Long-term debt, less current maturities | 3,382.2 | 4,073.8 |
| Deferred income taxes | 1,016.2 | 1,060.8 |
| Other noncurrent liabilities | 2,102.1 | 1,753.5 |
| Equity: | | |
| Preferred stock, $0.01 par value, 15,000,000 shares authorized, none issued and outstanding as of December 31, 2021 and 2020 | — | — |
| Common stock, $0.01 par value, 1,000,000,000 shares authorized, 390,815,099 shares issued and 368,732,231 shares outstanding as of December 31, 2021, 389,974,041 shares issued and 379,091,544 shares outstanding as of December 31, 2020 | 3.7 | 3.8 |
| Capital in excess of par value | 478.0 | 872.8 |
| Retained earnings | 12,014.2 | 10,511.0 |
| Accumulated other comprehensive loss | (1,891.8) | (1,806.2) |
| Total Mosaic stockholders' equity | 10,604.1 | 9,581.4 |
| Non-controlling interests | 144.4 | 173.8 |
| Total equity | 10,748.5 | 9,755.2 |
| Total liabilities and equity | $ 22,036.4 | $ 19,789.8 |

**See Accompanying Notes to Consolidated Financial Statements**

## *Consolidated Statements of Cash Flows*
## In millions, except per share amounts

| | Years Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2020 | 2019 |
| **Cash Flows from Operating Activities** | | | |
| Net earnings (loss) including noncontrolling interests | $ 1,634.9 | $ 665.6 | $ (1,090.8) |
| Adjustments to reconcile net earnings including noncontrolling interests to net cash provided by operating activities: | | | |
| Depreciation, depletion and amortization | 812.9 | 847.6 | 882.7 |
| Amortization of acquired inventory | — | — | (5.5) |
| Deferred and other income taxes | 98.8 | (684.0) | (261.3) |
| Equity in net (earnings) loss of nonconsolidated companies, net of dividends | (2.1) | 97.1 | 64.6 |
| Accretion expense for asset retirement obligations | 71.9 | 68.0 | 62.4 |
| Accretion expense for leases | 13.4 | 24.2 | 18.6 |
| Share-based compensation expense | 29.5 | 17.8 | 27.9 |
| Impairment of goodwill | — | — | 588.6 |
| Unrealized (gain) loss on derivatives | 7.2 | (26.6) | (59.2) |
| Foreign currency adjustments | (2.6) | 14.1 | 50.1 |
| Net proceeds from settlement of interest rate swaps | — | 34.7 | — |
| Mine closure costs | 158.1 | — | 871.0 |
| (Gain) loss on disposal of fixed assets | (5.3) | 16.3 | 18.7 |
| Other | — | (19.1) | (3.2) |
| Changes in assets and liabilities: | | | |
| Receivables, net | (683.6) | (153.6) | 34.6 |
| Inventories, net | (1,067.9) | 191.4 | 128.1 |
| Other current assets and noncurrent assets | (18.0) | 66.1 | (36.0) |
| Accounts payable and accrued liabilities | 995.1 | 333.3 | (175.2) |
| Other noncurrent liabilities | 144.7 | 89.7 | (20.7) |
| Net cash provided by operating activities | 2,187.0 | 1,582.6 | 1,095.4 |
| **Cash Flows from Investing Activities** | | | |
| Capital expenditures | (1,288.6) | (1,170.6) | (1,272.2) |
| Purchases of available-for-sale securities - restricted | (433.6) | (618.7) | (557.6) |
| Proceeds from sale of available-for-sale securities - restricted | 410.1 | 607.2 | 533.2 |
| Proceeds from sale of assets | 28.1 | — | 4.0 |
| Acquisition, net of cash acquired | (24.1) | — | (55.1) |
| Purchases of held-to-maturity securities | (3.2) | (6.1) | (15.4) |
| Proceeds from sale of held-to-maturity securities | 0.8 | 1.7 | 2.3 |
| Other | (11.8) | (3.0) | (0.1) |
| Net cash used in investing activities | (1,322.3) | (1,189.5) | (1,360.9) |
| **Cash Flows from Financing Activities** | | | |
| Payments of short-term debt | (726.6) | (1,542.5) | (554.2) |
| Proceeds from issuance of short-term debt | 1,029.3 | 1,521.1 | 591.0 |
| Payments of structured accounts payable arrangements | (1,028.4) | (1,156.2) | (977.1) |
| Proceeds from structured accounts payable arrangements | 1,122.7 | 1,037.4 | 1,124.2 |
| Collections of transferred receivables | 445.0 | — | — |
| Payments of transferred receivables | (363.9) | — | — |
| Payments of long-term debt | (608.3) | (66.9) | (48.3) |
| Proceeds from issuance of long-term debt | — | 4.7 | — |
| Repurchases of stock | (410.9) | — | (149.9) |
| Cash dividends paid | (103.7) | (75.8) | (67.2) |
| Dividends paid to non-controlling interest | (31.3) | (0.6) | (0.7) |
| Other | (6.0) | (5.0) | — |
| Net cash used in financing activities | (682.1) | (283.8) | (82.2) |
| Effect of exchange rate changes on cash | 9.3 | (47.2) | 9.0 |
| Net change in cash, cash equivalents and restricted cash | 191.9 | 62.1 | (338.7) |
| Cash, cash equivalents and restricted cash—beginning of year | 594.4 | 532.3 | 871.0 |
| Cash, cash equivalents and restricted cash—end of year | $ 786.3 | $ 594.4 | $ 532.3 |

**See Accompanying Notes to Consolidated Financial Statements**

**THE MOSAIC COMPANY**
**CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)**
(In millions)

| | Years Ended December 31, | | |
|---|---|---|---|
| | **2021** | **2020** | **2019** |
| **Reconciliation of cash, cash equivalents and restricted cash reported within the consolidated balance sheets to the consolidated statements of cash flows:** | | | |
| Cash and cash equivalents | $ 769.5 | $ 574.0 | $ 519.1 |
| Restricted cash in other current assets | 8.3 | 8.1 | 7.8 |
| Restricted cash in other assets | 8.5 | 12.3 | 5.4 |
| Total cash, cash equivalents and restricted cash shown in the statement of cash flows | $ 786.3 | $ 594.4 | $ 532.3 |

**See Accompanying Notes to Consolidated Financial Statements**

***Consolidated Statements of Equity***
**In millions, except per share data**

| | Shares | Dollars | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mosaic Shareholders | | | | | |
| | Common Stock | Common Stock | Capital in Excess of Par Value | Retained Earnings | Accumulated Other Comprehensive Loss | Non-Controlling Interests | Total Equity |
| **Balance as of December 31, 2018** | 385.5 | $ 3.8 | $ 985.9 | $ 11,064.7 | $ (1,657.1) | $ 207.4 | $ 10,604.7 |
| Adoption of ASC Topic 842 | — | — | — | 0.6 | — | — | 0.6 |
| Total comprehensive income (loss) | — | — | — | (1,067.4) | 58.9 | (24.6) | (1,033.1) |
| Vesting of restricted stock units | 0.4 | — | (5.6) | — | — | — | (5.6) |
| Stock based compensation | — | — | 27.9 | — | — | — | 27.9 |
| Repurchases of stock | (7.1) | — | (149.8) | — | — | — | (149.8) |
| Dividends ($0.20 per share) | — | — | — | (76.4) | — | — | (76.4) |
| Dividends for noncontrolling interests | — | — | — | — | — | (0.7) | (0.7) |
| **Balance as of December 31, 2019** | 378.8 | 3.8 | 858.4 | 9,921.5 | (1,598.2) | 182.1 | 9,367.6 |
| Total comprehensive income (loss) | — | — | — | 666.1 | (208.0) | (7.7) | 450.4 |
| Vesting of restricted stock units | 0.3 | — | (2.7) | — | — | — | (2.7) |
| Stock based compensation | — | — | 17.1 | — | — | — | 17.1 |
| Dividends ($0.20 per share) | — | — | — | (76.6) | — | — | (76.6) |
| Dividends for noncontrolling interests | — | — | — | — | — | (0.6) | (0.6) |
| **Balance as of December 31, 2020** | 379.1 | 3.8 | 872.8 | 10,511.0 | (1,806.2) | 173.8 | 9,755.2 |
| Total comprehensive income (loss) | — | — | — | 1,630.6 | (85.6) | 2.5 | 1,547.5 |
| Vesting of restricted stock units | 0.8 | — | (11.3) | — | — | — | (11.3) |
| Stock based compensation | — | — | 26.4 | — | — | — | 26.4 |
| Stock option exercises | — | — | 3.2 | — | — | — | 3.2 |
| Repurchases of stock | (11.2) | (0.1) | (410.8) | — | — | — | (410.9) |
| Dividends ($0.30 per share) | — | — | — | (127.4) | — | — | (127.4) |
| Dividends for noncontrolling interests | — | — | — | — | — | (31.3) | (31.3) |
| Purchase of noncontrolling interests | — | — | (2.3) | — | — | (0.6) | (2.9) |
| **Balance as of December 31, 2021** | 368.7 | $ 3.7 | $ 478.0 | $ 12,014.2 | $ (1,891.8) | $ 144.4 | $ 10,748.5 |

**See Accompanying Notes to Consolidated Financial Statements**

## 1. ORGANIZATION AND NATURE OF BUSINESS

The Mosaic Company ("***Mosaic***," and, with its consolidated subsidiaries, "***we***," "***us***," "***our***," or the "***Company***") produces and markets concentrated phosphate and potash crop nutrients. We conduct our business through wholly and majority owned subsidiaries and businesses in which we own less than a majority or a noncontrolling interest, including consolidated variable interest entities and investments accounted for by the equity method.

We are organized into the following business segments:

- Our **Phosphates** business segment owns and operates mines and production facilities in Florida which produce concentrated phosphate crop nutrients and phosphate-based animal feed ingredients, and processing plants in Louisiana which produce concentrated phosphate crop nutrients. We have a 75% economic interest in the Miski Mayo Phosphate Mine in Peru. These results are consolidated in the Phosphates segment. The Phosphates segment also includes our 25% interest in the Ma'aden Wa'ad Al Shamal Phosphate Company (the "***MWSPC***"), a joint venture to develop, own and operate integrated phosphate production facilities in the Kingdom of Saudi Arabia. We market approximately 25% of the MWSPC phosphate production. We recognize our equity in the net earnings or losses relating to MWSPC on a one-quarter lag in our Consolidated Statements of Earnings.
- Our **Potash** business segment owns and operates potash mines and production facilities in Canada and the U.S. which produce potash-based crop nutrients, animal feed ingredients and industrial products. Potash sales include domestic and international sales. We are a member of Canpotex, Limited ("***Canpotex***"), an export association of Canadian potash producers through which we sell our Canadian potash outside the U.S. and Canada.
- Our **Mosaic Fertilizantes** business segment includes five Brazilian phosphate rock mines, four phosphate chemical plants and a potash mine in Brazil. The segment also includes our distribution business in South America, which consists of sales offices, crop nutrient blending and bagging facilities, port terminals and warehouses in Brazil and Paraguay. We also have a majority interest in Fospar S.A., which owns and operates a single superphosphate granulation plant and a deep-water crop nutrition port and throughput warehouse terminal facility in Brazil.

Intersegment eliminations, unrealized mark-to-market gains/losses on derivatives, debt expenses, Streamsong Resort® results of operations, and the results of the China and India distribution businesses are included within Corporate, Eliminations and Other.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### *Statement Presentation and Basis of Consolidation*

The accompanying Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("***U.S. GAAP***"). Throughout the Notes to Consolidated Financial Statements, amounts in tables are in millions of dollars except for per share data and as otherwise designated.

The accompanying Consolidated Financial Statements include the accounts of Mosaic and its majority owned subsidiaries. Certain investments in companies in which we do not have control but have the ability to exercise significant influence are accounted for by the equity method.

### *Accounting Estimates*

Preparation of the Consolidated Financial Statements in conformity with GAAP 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 net sales and expenses during the reporting periods. The most significant estimates made by management relate to the estimates of fair value of acquired assets and liabilities, the recoverability of non-current assets including goodwill, the useful lives and net realizable values of long-lived assets, environmental and reclamation liabilities, including asset retirement obligations ("***ARO***"), and income tax-related accounts, including the valuation allowance against deferred income tax assets. Actual results could differ from these estimates.

***Revenue Recognition***

We generate revenues primarily by producing and marketing phosphate and potash crop nutrients. Revenue is recognized when control of the product is transferred to the customer, which is generally upon transfer of title to the customer based on the contractual terms of each arrangement. Title is typically transferred to the customer upon shipment of the product. In certain circumstances, which are referred to as final price deferred arrangements, we ship product prior to the establishment of a valid sales contract. In such cases, we retain control of the product and do not recognize revenue until a sales contract has been agreed to with the customer.

Revenue is measured as the amount of consideration we expect to receive in exchange for the transfer of our goods. Our products are generally sold based on market prices prevailing at the time the sales contract is signed or through contracts which are priced at the time of shipment, except for the final priced deferred arrangements discussed above. Sales incentives are recorded as a reduction of revenue at the time of initial sale. We estimate the variable consideration related to our sales incentive programs based on the sales terms with customers and historical experience. Shipping and handling costs are included as a component of cost of goods sold.

We generally expense sales commissions when incurred because the amortization period would have been one year or less. These costs are recorded within sales and marketing expenses.

We have elected to recognize the cost for freight and shipping as an expense in cost of sales, when control over the product has passed to the customer.

For information regarding sales by product type and by geographic area, see Note 24 of our Notes to Consolidated Financial Statements.

***Non-Income Taxes***

We pay Canadian resource taxes consisting of the Potash Production Tax and resource surcharge. The Potash Production Tax is a Saskatchewan provincial tax on potash production and consists of a base payment and a profits tax. In addition to the Canadian resource taxes, royalties are payable to the mineral owners with respect to potash reserves or production of potash. These resource taxes and royalties are recorded in our cost of goods sold. Our Canadian resource tax and royalty expenses were $301.5 million, $176.1 million and $211.9 million during 2021, 2020 and 2019, respectively.

We have approximately $112.5 million of assets recorded as of December 31, 2021 related to PIS and Cofins, which is a Brazilian federal value-added tax, mostly earned in 2008 through 2021 that we believe will be realized through offsetting income tax payments or other federal taxes or receiving cash refunds. Should the Brazilian government determine that these are not valid credits upon audit, this could impact our results in such period. We have recorded the PIS and Cofins credits at amounts which we believe are probable of collection. Information regarding PIS and Cofins taxes already audited is included in Note 22 of our Notes to Consolidated Financial Statements.

***Foreign Currency Translation***

The Company's reporting currency is the U.S. dollar; however, for operations located in Canada and Brazil, the functional currency is the local currency. Assets and liabilities of these foreign operations are translated to U.S. dollars at exchange rates in effect at the balance sheet date, while income statement accounts and cash flows are translated to U.S. dollars at the average exchange rates for the period. For these operations, translation gains and losses are recorded as a component of accumulated other comprehensive income in equity until the foreign entity is sold or liquidated. Transaction gains and losses result from transactions that are denominated in a currency other than the functional currency of the operation, primarily accounts receivable and intercompany loans in our Canadian entities denominated in U.S. dollars, intercompany loans receivable in our U.S. entities denominated in Brazilian real, and accounts payable in Brazil denominated in U.S. dollars. These foreign currency transaction gains and losses are presented separately in the Consolidated Statement of Earnings.

***Cash and Cash Equivalents***

Cash and cash equivalents include short-term, highly liquid investments with original maturities of 90 days or less and other highly liquid investments that are payable on demand such as money market accounts, certain certificates of deposit and repurchase agreements. The carrying amount of such cash equivalents approximates their fair value due to the short-term and highly liquid nature of these instruments.

***Concentration of Credit Risk***

In the U.S., we sell our products to manufacturers, distributors and retailers, primarily in the Midwest and Southeast. Internationally, our potash products are sold primarily through Canpotex, an export association. A concentration of credit risk arises from our sales and accounts receivable associated with the international sales of potash product through Canpotex. We consider our concentration risk related to the Canpotex receivable to be mitigated by their credit policy, which requires the underlying receivables to be substantially insured or secured by letters of credit. As of December 31, 2021, and 2020, there were $382.5 million and $89.4 million, respectively, of trade accounts receivable due from Canpotex. During 2021, 2020 and 2019, sales to Canpotex were $1.1 billion, $795.2 million and $952.5 million, respectively.

***Inventories***

Inventories of raw materials, work-in-process products, finished goods and operating materials and supplies are stated at the lower of cost or net realizable value. Costs for substantially all inventories are determined using the weighted average cost basis. To determine the cost of inventory, we allocate fixed expense to the costs of production based on the normal capacity, which refers to a range of production levels and is considered the production expected to be achieved over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance. Fixed overhead costs allocated to each unit of production should not increase due to abnormally low production. Those excess costs are recognized as a current period expense. When a production facility is completely shut down temporarily, it is considered "idle", and all related expenses are charged to cost of goods sold.

Net realizable value of our inventory is defined as forecasted selling prices less reasonably predictable selling costs. Significant management judgment is involved in estimating forecasted selling prices including various demand and supply variables. Examples of demand variables include grain and oilseed prices, stock-to-use ratios and changes in inventories in the crop nutrients distribution channels. Examples of supply variables include forecasted prices of raw materials, such as phosphate rock, sulfur, ammonia and natural gas, estimated operating rates and industry crop nutrient inventory levels. Results could differ materially if actual selling prices differ materially from forecasted selling prices. Charges for lower of cost or market are recognized in our Consolidated Statements of Earnings in the period when there is evidence of a decline of market value below cost.

***Property, Plant and Equipment and Recoverability of Long-Lived Assets***

Property, plant and equipment are stated at cost. Costs of significant assets include capitalized interest incurred during the construction and development period. Repairs and maintenance, including planned major maintenance and plant turnaround costs, are expensed when incurred.

Depletion expenses for mining operations, including mineral reserves, are generally determined using the units-of-production method based on estimates of recoverable reserves. Depreciation is computed principally using the straight-line method and units-of-production method over the following useful lives: machinery and equipment three to 25 years, and buildings and leasehold improvements three to 40 years.

We estimate initial useful lives based on experience and current technology. These estimates may be extended through sustaining capital programs. Factors affecting the fair value of our assets or periods of expected use may also affect the estimated useful lives of our assets and these factors can change. Therefore, we periodically review the estimated remaining lives of our facilities and other significant assets and adjust our depreciation rates prospectively where appropriate.

Long-lived assets, including fixed assets and right-of-use assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment assessment involves management judgment and estimates of factors such as industry and market conditions, the economic life of the asset, sales volume and prices, inflation, raw materials costs, cost of capital, tax rates and capital spending. The carrying amount of a long-lived asset group is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset group. If it is determined that an impairment loss has occurred, the loss is measured as the amount by which the carrying amount of the long-lived asset group exceeds its fair value.

***Leases***

Right of use ("***ROU***") assets represent our right to use an underlying asset for the lease term. Lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the

commencement date of the lease, based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The Company's incremental borrowing rate for a lease is the rate of interest it would have to pay on a collateralized basis to borrow an amount equal to the lease payments under similar terms. For both operating and finance leases, the initial ROU asset equals the lease liability, plus initial direct costs, less lease incentives received. Our lease agreements may include options to extend or terminate the lease, which are included in the lease term at the commencement date when it is reasonably certain that we will exercise that option. In general, we do not consider optional periods included in our lease agreements as reasonably certain of exercise at inception.

At inception, we determine whether an arrangement is a lease and the appropriate lease classification. Operating leases with terms greater than twelve months are included as operating lease ROU assets within other assets and the associated lease liabilities within accrued liabilities and other noncurrent liabilities on our consolidated balance sheets. Finance leases with terms greater than twelve months are included as finance ROU assets within property and equipment and the associated finance lease liabilities within current maturities of long-term debt and long-term debt on our consolidated balance sheets.

Leases with terms of less than twelve months, referred to as short-term leases, do not create a ROU asset or lease liability on the balance sheet.

We have lease agreements with lease and non-lease components, which are generally accounted for separately. For full-service railcar leases, we account for the lease and non-lease components as a single lease component. Additionally, for certain equipment leases, we apply assumptions using a portfolio approach, given the generally consistent terms of the agreements. Lease payments based on usage (for example, per-mile or per-hour charges), referred to as variable lease costs, are recorded separately from the determination of the ROU asset and lease liability.

***Contingencies***

Accruals for environmental remediation efforts are recorded when costs are probable and can be reasonably estimated. In determining these accruals, we use the most current information available, including similar past experiences, available technology, consultant evaluations, regulations in effect, the timing of remediation and cost-sharing arrangements. Adjustments to accruals, recorded as needed in our Consolidated Statement of Earnings each quarter, are made to reflect changes in and current status of these factors.

We are involved from time to time in claims and legal actions incidental to our operations, both as plaintiff and defendant. We have established what we currently believe to be adequate accruals for pending legal matters. These accruals are established as part of an ongoing worldwide assessment of claims and legal actions that takes into consideration such items as advice of legal counsel, individual developments in court proceedings, changes in the law, changes in business focus, changes in the litigation environment, changes in opponent strategy and tactics, new developments as a result of ongoing discovery and our experience in defending and settling similar claims. The litigation accruals at any time reflect updated assessments of the then-existing claims and legal actions. The final outcome or potential settlement of litigation matters could differ materially from the accruals which we have established. Legal costs are expensed as incurred.

***Pension and Other Postretirement Benefits***

Mosaic offers a number of benefit plans that provide pension and other benefits to qualified employees. These plans include defined benefit pension plans, supplemental pension plans, defined contribution plans and other postretirement benefit plans.

We accrue the funded status of our plans, which is representative of our obligations under employee benefit plans and the related costs, net of plan assets measured at fair value. The cost of pensions and other retirement benefits earned by employees is generally determined with the assistance of an actuary using the projected benefit method prorated on service and management's best estimate of expected plan investment performance, salary escalation, retirement ages of employees and expected healthcare costs.

***Additional Accounting Policies***

To facilitate a better understanding of our consolidated financial statements we have disclosed the following significant accounting policies (with the exception of those identified above) throughout the following notes, with the related financial

disclosures by major caption:

## 3. LEASES

***Leasing Activity***

We have operating and finance leases for heavy mobile equipment, railcars, fleet vehicles, field and plant equipment, river and cross-gulf vessels, corporate offices, land, and computer equipment. Our leases have remaining lease terms of 1 year to 29 years, some of which include options to extend the lease for up to 10 years and some of which include options to terminate the lease within 1 year.

Supplemental balance sheet information related to leases as of December 31, 2021 and December 31, 2020 is as follows:

| | December 31, | | |
|---|---|---|---|
| **Type of Lease Asset or Liability** | **2021** | **2020** | **Balance Sheet Classification** |
| | *(in millions)* | | |
| *Operating Leases* | | | |
| Right-of-use assets | $ 120.2 | $ 173.1 | Other assets |
| Lease liabilities: | | | |
| Short-term | 59.7 | 64.0 | Accrued liabilities |
| Long-term | 64.3 | 109.6 | Other noncurrent liabilities |
| Total | $ 124.0 | $ 173.6 | |
| *Finance Leases* | | | |
| Right-of-use assets: | | | |
| Gross assets | $ 459.1 | $ 457.9 | |
| Less: accumulated depreciation | 122.8 | 89.3 | |
| Net assets | $ 336.3 | $ 368.6 | Property, plant and equipment, net |
| Lease liabilities: | | | |
| Short-term | $ 41.2 | $ 49.9 | Current maturities of long-term debt |
| Long-term | 171.8 | 294.6 | Long-term debt, less current maturities |
| Total | $ 213.0 | $ 344.5 | |

Lease expense is generally included within cost of goods sold and selling, general and administrative expenses, except for interest on lease liabilities, which is recorded within net interest. The components of lease expense were as follows:

| | December 31, | | |
|---|---|---|---|
| *(in millions)* | **2021** | **2020** | **2019** |
| Operating lease cost | $ 78.8 | $ 81.7 | $ 98.4 |
| Finance lease cost: | | | |
| Amortization of right-of-use assets | 40.6 | 37.7 | 28.3 |
| Interest on lease liabilities | 6.3 | 13.3 | 15.2 |
| Short-term lease cost | 3.1 | 3.1 | 10.5 |
| Variable lease cost | 19.2 | 21.8 | 21.5 |
| Total lease cost | $ 148.0 | $ 157.6 | $ 173.9 |

Rental expense for 2021, 2020 and 2019 was $211.8 million, $226.9 million and $249.1 million, respectively.

Supplemental cash flow information related to leases was as follows:

| (In millions) | December 31, 2021 | 2020 | 2019 |
|---|---|---|---|
| Cash paid for amounts included in the measurement of lease liabilities: | | | |
| Operating cash flows from operating leases | $ 78.8 | $ 96.6 | $ 107.9 |
| Operating cash flows from finance leases | 6.3 | 8.4 | 10.7 |
| Financing cash flows from finance leases | 142.5 | 46.9 | 41.3 |
| | | | |
| Right-of-use assets obtained in exchange for lease obligations: | | | |
| Operating leases | $ 18.4 | $ 22.4 | $ 56.0 |
| Finance leases | 8.9 | 36.4 | 88.2 |

Other information related to leases was as follows:

| | December 31, 2021 |
|---|---|
| **Weighted Average Remaining Lease Term** | |
| Operating leases | 4.3 years |
| Finance leases | 3.1 years |
| | |
| **Weighted Average Discount Rate** | |
| Operating leases | 4.8 % |
| Finance leases | 2.4 % |

Future lease payments under non-cancellable leases recorded as of December 31, 2021, were as follows:

| (in millions) | Operating Leases | Finance Leases |
|---|---|---|
| 2022 | $ 63.3 | $ 45.4 |
| 2023 | 29.7 | 70.9 |
| 2024 | 18.6 | 86.9 |
| 2025 | 7.1 | 4.8 |
| 2026 | 3.1 | 4.0 |
| Thereafter | 17.7 | 10.8 |
| Total future lease payments | $ 139.5 | $ 222.8 |
| Less imputed interest | (15.5) | (9.8) |
| Total | $ 124.0 | $ 213.0 |

## 4. OTHER FINANCIAL STATEMENT DATA

The following provides additional information concerning selected balance sheet accounts:

| *(in millions)* | December 31, 2021 | December 31, 2020 |
|---|---|---|
| **Receivables** | | |
| Trade - External | $ 954.6 | $ 632.8 |
| Trade - Affiliate | 390.1 | 99.7 |
| Non-trade | 187.7 | 149.0 |
| | 1,532.4 | 881.5 |
| Less allowance for doubtful accounts | 0.5 | 0.4 |
| | $ 1,531.9 | $ 881.1 |
| **Inventories** | | |
| Raw materials | $ 296.6 | $ 92.1 |
| Work in process | 741.1 | 634.5 |
| Finished goods | 1,534.3 | 868.2 |
| Final price deferred [(a)] | 31.4 | 23.0 |
| Operating materials and supplies | 138.0 | 121.4 |
| | $ 2,741.4 | $ 1,739.2 |
| **Other current assets** | | |
| Income and other taxes receivable | $ 126.1 | $ 181.4 |
| Prepaid expenses | 107.3 | 80.4 |
| Other | 49.1 | 65.1 |
| | $ 282.5 | $ 326.9 |
| **Other assets** | | |
| Restricted cash | $ 8.5 | $ 12.3 |
| MRO inventory | 144.7 | 137.7 |
| Marketable securities held in trust - restricted | 731.5 | 734.3 |
| Operating lease right-of-use assets | 120.2 | 173.1 |
| Indemnification asset | 21.0 | 23.0 |
| Long-term receivable | 41.5 | 52.6 |
| Other | 307.3 | 255.8 |
| | $ 1,374.7 | $ 1,388.8 |

| (in millions) | December 31, 2021 | December 31, 2020 |
|---|---|---|
| **Accrued liabilities** | | |
| Accrued dividends | $ 43.6 | $ 20.4 |
| Payroll and employee benefits | 235.9 | 195.5 |
| Asset retirement obligations | 222.4 | 190.2 |
| Customer prepayments [(b)] | 437.7 | 287.6 |
| Accrued income and other taxes | 184.3 | 83.1 |
| Operating lease obligation | 59.7 | 64.0 |
| Servicing liability | 81.1 | — |
| Other | 618.9 | 392.3 |
| | $ 1,883.6 | $ 1,233.1 |
| **Other noncurrent liabilities** | | |
| Asset retirement obligations | $ 1,526.9 | $ 1,203.7 |
| Operating lease obligation | 64.3 | 109.6 |
| Accrued pension and postretirement benefits | 114.4 | 158.5 |
| Unrecognized tax benefits | 156.6 | 46.4 |
| Other | 239.9 | 235.3 |
| | $ 2,102.1 | $ 1,753.5 |

(a) Final price deferred is product that has shipped to customers, but we retain control and do not recognize revenue until a sales contract has been agreed to with the customer.

(b) The timing of recognition of revenue related to our performance obligations may be different than the timing of collection of cash related to those performance obligations. Specifically, we collect prepayments from certain customers in Brazil. In addition, cash collection from Canpotex may occur prior to delivery of product to the end customer. We generally satisfy our contractual liabilities within one quarter of incurring the liability.

Interest expense, net was comprised of the following in 2021, 2020 and 2019:

| (in millions) | Years Ended December 31, 2021 | Years Ended December 31, 2020 | Years Ended December 31, 2019 |
|---|---|---|---|
| Interest income | $ 25.2 | $ 33.5 | $ 33.1 |
| Less interest expense | 194.3 | 214.1 | 216.0 |
| Interest expense, net | $ (169.1) | $ (180.6) | $ (182.9) |

## 5. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consist of the following:

| *(in millions)* | December 31, 2021 | December 31, 2020 |
|---|---|---|
| Land | $ 341.6 | $ 325.7 |
| Mineral properties and rights | 5,791.3 | 5,035.2 |
| Buildings and leasehold improvements | 3,452.5 | 3,306.2 |
| Machinery and equipment | 9,893.6 | 9,846.9 |
| Construction in-progress | 1,234.4 | 1,447.1 |
| | 20,713.4 | 19,961.1 |
| Less: accumulated depreciation and depletion | 8,238.1 | 8,106.8 |
| | $ 12,475.3 | $ 11,854.3 |

Depreciation and depletion expense was $811.8 million, $846.4 million and $877.6 million for 2021, 2020 and 2019, respectively. Capitalized interest on major construction projects was $30.1 million, $33.3 million and $28.5 million for 2021, 2020 and 2019, respectively.

## 6. EARNINGS PER SHARE

The numerator for basic and diluted earnings per share ("***EPS***") is net earnings attributable to Mosaic. The denominator for basic EPS is the weighted average number of shares outstanding during the period. The denominator for diluted EPS also includes the weighted average number of additional common shares that would have been outstanding if the dilutive potential common shares had been issued, unless the shares are anti-dilutive.

The following is a reconciliation of the numerator and denominator for the basic and diluted EPS computations:

| *(in millions)* | Years Ended December 31, 2021 | Years Ended December 31, 2020 | Years Ended December 31, 2019 |
|---|---|---|---|
| Net earnings (loss) attributable to Mosaic | $ 1,630.6 | $ 666.1 | $ (1,067.4) |
| Basic weighted average number of shares outstanding attributable to common stockholders | 378.1 | 379.0 | 383.8 |
| Dilutive impact of share-based awards | 3.5 | 2.3 | — |
| Diluted weighted average number of shares outstanding | 381.6 | 381.3 | 383.8 |
| Basic net earnings (loss) per share | $ 4.31 | $ 1.76 | $ (2.78) |
| Diluted net earnings (loss) per share | $ 4.27 | $ 1.75 | $ (2.78) |

A total of 0.5 million shares for 2021, 2.3 million shares for 2020 and 2.5 million shares for 2019 of common stock subject to issuance related to share-based awards have been excluded from the calculation of diluted EPS because the effect would have been anti-dilutive.

## 7. CASH FLOW INFORMATION

Supplemental disclosures of cash paid for interest and income taxes and non-cash investing and financing information is as follows:

| *(in millions)* | Years Ended December 31, 2021 | 2020 | 2019 |
|---|---|---|---|
| Cash paid during the period for: | | | |
| Interest | $ 220.0 | $ 232.8 | $ 231.3 |
| Less amount capitalized | 30.1 | 33.3 | 28.5 |
| Cash interest, net | $ 189.9 | $ 199.5 | $ 202.8 |
| Income taxes | $ 208.6 | $ 6.2 | $ 46.5 |

Acquiring or constructing property, plant and equipment by incurring a liability does not result in a cash outflow for us until the liability is paid. In the period the liability is incurred, the change in operating accounts payable on the Consolidated Statements of Cash Flows is adjusted by such amount. In the period the liability is paid, the amount is reflected as a cash outflow from investing activities. The applicable net change in operating accounts payable that was classified to investing activities on the Consolidated Statements of Cash Flows was $18.6 million, $(29.8) million and $63.2 million for 2021, 2020 and 2019, respectively.

We accrued $43.6 million related to the dividends declared in 2021 that will be paid in 2022. At December 31, 2020 and 2019, we had accrued dividends of $20.4 million and $20.0 million which were paid in 2021 and 2020, respectively.

We had non-cash investing and financing transactions related to right-of-use assets obtained in exchange for lease obligations assets under finance leases in 2021 of $8.9 million. Non-cash investing and financing transactions related to assets acquired under capital leases were $36.4 million and $88.2 million for 2020 and 2019, respectively.

Depreciation, depletion and amortization includes $811.8 million, $846.4 million and $877.6 million related to depreciation and depletion of property, plant and equipment, and $1.1 million, $1.2 million and $5.1 million related to amortization of intangible assets for 2021, 2020 and 2019, respectively.

## 8. INVESTMENTS IN NON-CONSOLIDATED COMPANIES

We have investments in various international and domestic entities and ventures. The equity method of accounting is applied to such investments when the ownership structure prevents us from exercising a controlling influence over operating and financial policies of the businesses but still allow us to have significant influence. Under this method, our equity in the net earnings or losses of the investments is reflected as equity in net earnings of non-consolidated companies on our Consolidated Statements of Earnings. The effects of material intercompany transactions with these equity method investments are eliminated, including the gross profit on sales to and purchases from our equity-method investments which is deferred until the time of sale to the final third-party customer. The cash flow presentation of dividends received from equity method investees is determined by evaluation of the facts, circumstances and nature of the distribution.

A summary of our equity-method investments, which were in operation as of December 31, 2021, is as follows:

| Entity | Economic Interest |
|---|---|
| Gulf Sulphur Services LTD., LLLP | 50.0 % |
| River Bend Ag, LLC | 50.0 % |
| IFC S.A. | 45.0 % |
| MWSPC | 25.0 % |
| Canpotex* | 36.2 % |

*In 2021 our realized percentage was 33% as a result of lower shipments due to the early closure of the K1 and K2 mine shafts at Esterhazy.

The summarized financial information shown below includes all non-consolidated companies carried on the equity method.

| *(in millions)* | Years Ended December 31, 2021 | 2020 | 2019 |
|---|---|---|---|
| Net sales | $ 4,758.2 | $ 3,463.2 | $ 4,058.5 |
| Net earnings (loss) | 70.1 | (405.3) | (215.0) |
| Mosaic's share of equity in net earnings (loss) | 7.8 | (93.8) | (59.4) |
| Total assets | 10,685.6 | 8,944.4 | 9,682.5 |
| Total liabilities | 8,864.7 | 7,184.9 | 7,512.7 |
| Mosaic's share of equity in net assets | 466.9 | 452.5 | 554.7 |

The difference between our share of equity in net assets as shown in the above table and the investment in non-consolidated companies as shown on the Consolidated Balance Sheets is mainly due to the July 1, 2016, equity contribution of $120 million we made to MWSPC, representing the remaining liability for our portion of mineral rights value transferred to MWSPC from Saudi Arabian Mining Company ("***Ma'aden***"). As of December 31, 2021, MWSPC represented 70% of the total assets and 65% of the total liabilities in the table above. MWSPC commenced ammonia operations in late 2016 and, on December 1, 2018, commenced commercial operations of its DAP plant, thereby bringing the entire project to the commercial production phase. In 2021, 2020 and 2019 our share of equity in net earnings (loss) was $5.0 million, $(97.3) million, and $(62.1) million, respectively.

MWSPC owns and operates a mine and two chemical complexes that produce phosphate fertilizers and other downstream phosphates products in the Kingdom of Saudi Arabia. The cost to develop and construct the integrated phosphate production facilities (the "***Project***") was approximately $8.0 billion, which has been funded primarily through investments by us, Ma'aden and SABIC (together, the "***Project Investors***"), and through borrowing arrangements and other external project financing facilities ("***Funding Facilities***"). The production facilities are expected to have a capacity of approximately 3.0 million tonnes of finished product per year when fully operational. We market approximately 25% of the phosphate production of the joint venture.

On June 30, 2014, MWSPC entered into Funding Facilities with a consortium of 20 financial institutions for a total amount of approximately $5.0 billion. Also on June 30, 2014, in support of the Funding Facilities, we, together with Ma'aden and SABIC, agreed to provide our respective proportionate shares of the funding necessary for MWSPC by:

a. Contributing equity or making shareholder subordinated loans of up to $2.4 billion to fund project costs to complete and commission the Project (the "***Equity Commitments***").
b. Through the earlier of Project completion or June 30, 2020, contributing equity, making shareholder subordinated loans or providing bank subordinated loans, to fund cost overruns on the Project (the "***Additional Cost Overrun Commitment***").
c. Through the earlier of Project completion or June 30, 2020, contributing equity, making shareholder loans or providing bank subordinated loans to fund scheduled debt service (excluding accelerated amounts) payable under the Funding Facilities and certain other amounts (such commitment, the "***DSU Commitment***" and such scheduled debt service and other amounts, "***Scheduled Debt Service***").
d. From the earlier of the Project completion date or June 30, 2020, to the extent there is a shortfall in the amounts available to pay Scheduled Debt Service, depositing for the payment of Scheduled Debt Service an amount up to the respective amount of certain shareholder tax amounts, and severance fees under MWSPC's mining license, paid within the prior 36 months by MWSPC on behalf of the Project Investors, if any.

In January 2016, MWSPC received approval from the Saudi Industrial Development Fund ("***SIDF***") for loans in the total amount of approximately $1.1 billion for the Project, subject to the finalization of definitive agreements. In 2017, MWSPC entered into definitive agreements with SIDF to draw up to $560 million from the total SIDF-approved amount (the "***SIDF Loans***"). In September of 2018, we received communication that SIDF agreed to waive Mosaic's parent guarantee. MWSPC received approval to access the remaining SIDF facility of $506 million which was subsequently drawn in December 2018.

On June 20, 2020, MWSPC refinanced its commercial loans while retaining the SIDF loans. The refinancing extended debt repayment to 2037 and deferred principal payments until June 30, 2022. The refinancing removes recourse to Mosaic by all lenders to MWSPC (DSU Commitment and Scheduled Debt Service). Mosaic's contractual commitment to make future cash contributions to MWSPC was also eliminated.

As of December 31, 2021, our cash investment was $770 million. We did not make any contributions in 2021 and do not expect future contributions will be needed.

Canpotex is a Saskatchewan export association used by two Canadian potash producers to market, sell and distribute Canadian potash products outside of Canada and the U.S. to unrelated third party customers at market prices. It operates as a break-even entity. We have concluded that the sales to Canpotex are not at arm's-length, due to the unique pricing and payment structure and financial obligations of the shareholders. Therefore, the full profit on sales to Canpotex are eliminated until Canpotex no longer has control of the related inventory and has sold it to an unrelated third party customer. We eliminate the intra-entity profit with Canpotex at the end of each reporting period and present that profit elimination by reversing revenue and cost of goods sold for the inventory still remaining at Canpotex. Any equity earnings or loss, which have historically been insignificant, are recorded in the equity in net earnings or loss line within the Consolidated Statement of Earnings.

## 9. GOODWILL

Goodwill is carried at cost, not amortized, and represents the excess of the purchase price and related costs over the fair value assigned to the net identifiable assets of a business acquired. We test goodwill for impairment on a quantitative basis at the reporting unit level on an annual basis or upon the occurrence of events that may indicate possible impairment. Impairment is measured as the excess carrying value over the fair value of goodwill.

The changes in the carrying amount of goodwill, by reporting unit, as of December 31, 2021 and 2020, are as follows:

| *(in millions)* | Potash | Mosaic Fertilizantes | Corporate, Eliminations and Other | Total |
|---|---|---|---|---|
| Balance as of December 31, 2019 | $ 1,039.8 | $ 105.0 | $ 12.1 | $ 1,156.9 |
| Foreign currency translation | 23.4 | (7.3) | — | 16.1 |
| Balance as of December 31, 2020 | $ 1,063.2 | $ 97.7 | $ 12.1 | $ 1,173.0 |
| Foreign currency translation | 1.0 | (1.8) | — | (0.8) |
| Balance as of December 31, 2021 | $ 1,064.2 | $ 95.9 | $ 12.1 | $ 1,172.2 |

As of October 31, 2021, we performed our annual quantitative assessment. In performing our assessment, we estimated the fair value of each of our reporting units using the income approach, also known as the discounted cash flow ("***DCF***") method. The income approach utilized the present value of cash flows to estimate fair value. The future cash flows for our reporting units were projected based on our estimates, at that time, for revenue, operating income and other factors (such as working capital and capital expenditures for each reporting unit). To determine if the fair value of each of our reporting units with goodwill exceeded its carrying value, we assumed sales volume growth rates based on our long-term expectations, our internal selling prices and projected raw material prices for years one through five, which were anchored in projections from CRU International Limited ("***CRU***"), an independent third party data source. Selling prices and raw material prices for years six and beyond were based on anticipated market growth and long-term CRU outlooks. The discount rates used in our DCF method were based on a weighted-average cost of capital ("***WACC***"), determined from relevant market comparisons. A terminal value growth rate of 2% was applied to all years thereafter for the projected period and reflected our estimate of stable growth. We then calculated a present value of the respective cash flows for each reporting unit to arrive at an estimate of fair value under the income approach. Finally, we compared our estimates of fair values for our reporting units, to our October 31, 2021 total public market capitalization, based on our common stock price at that date.

In making this assessment, we considered, among other things, expectations of projected net sales and cash flows, assumptions impacting the WACC, changes in our stock price and changes in the carrying values of our reporting units with goodwill. We also considered overall business conditions.

The Potash, Mosaic Fertilizantes and Corporate, Eliminations and Other reporting units were evaluated and not considered at risk of goodwill impairment at October 31, 2021.

As of December 31, 2021, $3.0 million of goodwill was tax deductible.

For the year ending December 31, 2019, we recognized a goodwill impairment charge of $588.6 million in our Phosphates reporting unit as we concluded that the carrying value of this reporting unit was in excess of its fair value due to a reduction in our long-range forecast, primarily related to changes in projected selling prices and raw material prices.

## 10. FINANCING ARRANGEMENTS

### *Mosaic Credit Facility*

On August 19, 2021, we entered into a new committed unsecured five-year credit facility of up to $2.5 billion (the "***Mosaic Credit Facility***"), comprised of a $2.5 billion revolving facility, with a maturity date of August 19, 2026, which is intended to serve as our primary senior unsecured bank credit facility. The Mosaic Credit Facility increased and extended our prior unsecured revolving credit facility of up to $2.2 billion (the "***Prior Credit Facility***"), maturing on November 18, 2022.

The Mosaic Credit Facility has cross-default provisions that, in general, provide that a failure to pay principal or interest under, or any other amount payable under, any indebtedness with outstanding principal amount of $100 million or more, or breach or default under such indebtedness that permits the holders thereof to accelerate the maturity thereof, will result in a cross-default.

The Mosaic Credit Facility requires Mosaic to maintain certain financial ratios, including a ratio of Consolidated Indebtedness, which has been redefined to exclude unrestricted cash and cash equivalents, to Consolidated Capitalization Ratio (as defined) of no greater than 0.65 to 1.0 as well as a minimum Interest Coverage Ratio (as defined) of not less than 3.0 to 1.0. We were in compliance with these ratios as of December 31, 2021.

The Mosaic Credit Facility also contains other events of default and covenants that limit various matters. These provisions include limitations on indebtedness, liens, investments and acquisitions (other than capital expenditures), certain mergers, certain sales of assets and other matters customary for credit facilities of this nature.

As of December 31, 2021, we had outstanding letters of credit that utilized a portion of the amount available for revolving loans under the Mosaic Credit Facility of $10.9 million. At December 31, 2020, we had outstanding letters of credit of $12.4 million. The net available borrowings for revolving loans under the Mosaic Credit Facility were approximately $2.49 billion as of December 31, 2021. Unused commitment fees accrued at an average annual rate of 0.15% under the new Mosaic Credit Facility during 2021, decreasing from the average annual rate of 0.40% under the Prior Credit Facility. Unused commitment fees generated expenses of $7.0 million during 2021. As of December 2020 and 2019, unused commitment fees accrued at an average rate of 0.40% and 0.20%, generating expenses of $6.0 million and $4.0 million.

### *Short-Term Debt*

Short-term debt consists of the revolving credit facility under the Mosaic Credit Facility, under which there were no borrowings as of December 31, 2021, working capital financing arrangements and various other short-term borrowings related to our international operations in India, China and Brazil. These other short-term borrowings outstanding were $302.8 million and $0.1 million as of December 31, 2021 and 2020, respectively.

On January 7, 2020, we entered into an inventory financing arrangement to sell up to $400 million of certain inventory for cash and subsequently to repurchase the inventory at an agreed upon price and time in the future, not to exceed 180 days. Under the terms of the agreement, we may borrow up to 90% of the value of the inventory. It is later repurchased by Mosaic at the original sale price plus interest and any transaction costs. As of December 31, 2021, we had sold $302.7 million of inventory under this arrangement. Subsequent to year-end in February 2022, the borrowing capacity under this agreement was increased to $625.0 million.

We have a Receivable Purchasing Agreement ("***RPA***"), with a bank whereby, from time-to-time, we sell certain receivables. The purchase price of the receivable sold under the RPA is the face value of the receivable less an agreed upon discount. In January 2021, we entered into a First Amendment to the RPA. This amendment made certain adjustments so that the receivables sold under the RPA are accounted for as a true sale. Upon sale, these receivables are removed from the Consolidated Balance Sheets. Cash received is presented as cash provided by operating activities in the Consolidated Statements of Cash Flows. Prior to the amendment, we recorded the purchase price as short-term debt, and recognized interest expense by accreting the liability through the due date of the underlying receivables. Subsequent to year-end in February 2022, the RPA was amended to increase the borrowing capacity under the agreement from $250 million to $400 million.

The Company sold approximately $589.7 million and $302.0 million as of December 31, 2021 and 2020, respectively, of accounts receivable under this arrangement. Discounts on sold receivables were not material for any period presented. Following the sale to the bank, we continue to service the collection of the receivable on behalf of the bank without further consideration. As of December 31, 2021, $81.1 million had been collected but not yet remitted to the bank. This amount is classified in accrued liabilities on the Consolidated Balance Sheets. Cash collected and remitted are included in financing activities in the Consolidated Statements of Cash Flows.

We had additional outstanding bilateral letters of credit of $54.7 million as of December 31, 2021, which includes $50.0 million as required by the 2015 Consent Decrees as described further in Note 13 of our Consolidated Financial Statements.

***Long-Term Debt, including Current Maturities***

On November 13, 2017, we issued new senior notes consisting of $550 million aggregate principal amount of 3.250% senior notes due 2022 and $700 million aggregate principal amount of 4.050% senior notes due 2027 (collectively, the "***Senior Notes of 2017***").

We have additional senior notes outstanding, consisting of $900 million aggregate principal amount of 4.25% senior notes due 2023, $500 million aggregate principal amount of 5.45% senior notes due 2033 and $600 million aggregate principal amount of 5.625% senior notes due 2043 (collectively, the "***Senior Notes of 2013***"); and $300 million aggregate principal amount of 4.875% senior notes due 2041 (collectively, the "***Senior Notes of 2011***"). In 2021, we prepaid the outstanding balance of $450 million on our 3.75% senior notes, due November 15, 2021, without premium or penalty.

The Senior Notes of 2011, the Senior Notes of 2013 and the Senior Notes of 2017 are Mosaic's senior unsecured obligations and rank equally in right of payment with Mosaic's existing and future senior unsecured indebtedness. The indenture governing these notes contains restrictive covenants limiting debt secured by liens, sale and leaseback transactions and mergers, consolidations and sales of substantially all assets, as well as other events of default.

A debenture issued by Mosaic Global Holdings, Inc., one of our consolidated subsidiaries, due in 2028 (the "***2028 Debenture***"), is outstanding as of December 31, 2021, with a balance of $147.1 million. The indenture governing the 2028 Debenture also contain restrictive covenants limiting debt secured by liens, sale and leaseback transactions and mergers, consolidations and sales of substantially all assets, as well as events of default. The obligations under the 2028 Debenture are guaranteed by the Company and several of its subsidiaries.

Long-term debt primarily consists of unsecured notes, term loans, finance leases, unsecured debentures and secured notes. Long-term debt as of December 31, 2021 and 2020, respectively, consisted of the following:

| *(in millions)* | December 31, 2021 Stated Interest Rate | December 31, 2021 Effective Interest Rate | Maturity Date | December 31, 2021 Stated Value | Combination Fair Market Value Adjustment | Discount on Notes Issuance | December 31, 2021 Carrying Value | December 31, 2020 Stated Value | Combination Fair Market Value Adjustment | Discount on Notes Issuance | December 31, 2020 Carrying Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Unsecured notes | 3.25% - 5.63% | 5.18% | 2022-2043 | $ 3,550.0 | $ — | $ (6.6) | $ 3,543.4 | $ 4,000.0 | $ — | $ (5.3) | $ 3,994.7 |
| Unsecured debentures | 7.30% | 7.19% | 2028 | 147.1 | 0.7 | — | 147.8 | 147.1 | 0.9 | — | 148.0 |
| Finance leases | 0.60% - 19.72% | 2.39% | 2022-2030 | 213.0 | — | — | 213.0 | 344.5 | — | — | 344.5 |
| Other[(a)] | 6.53% - 8.00% | 4.08% | 2022-2026 | 64.9 | 9.7 | — | 74.6 | 78.8 | 12.0 | — | 90.8 |
| Total long-term debt | | | | 3,975.0 | 10.4 | (6.6) | 3,978.8 | 4,570.4 | 12.9 | (5.3) | 4,578.0 |
| Less current portion | | | | 594.8 | 2.3 | (0.5) | 596.6 | 502.9 | 2.3 | (1.0) | 504.2 |
| Total long-term debt, less current maturities | | | | $ 3,380.2 | $ 8.1 | $ (6.1) | $ 3,382.2 | $ 4,067.5 | $ 10.6 | $ (4.3) | $ 4,073.8 |

(a) Includes deferred financing fees related to our long term debt.

Scheduled maturities of long-term debt are as follows for the periods ending December 31:

| | *(in millions)* |
|---|---|
| 2022 | $ 596.6 |
| 2023 | 996.2 |
| 2024 | 103.1 |
| 2025 | 15.7 |
| 2026 | 15.7 |
| Thereafter | 2,251.5 |
| Total | $ 3,978.8 |

***Structured Accounts Payable Arrangements***

In Brazil, we finance some of our potash-based fertilizer, sulfur, ammonia and other raw material product purchases through third-party contractual arrangements. These arrangements provide that the third-party intermediary advance the amount of the scheduled payment to the vendor, less an appropriate discount, at a scheduled payment date and Mosaic makes payment to the third-party intermediary at a later date, stipulated in accordance with the commercial terms negotiated. At December 31, 2021 and 2020, these structured accounts payable arrangements were $743.7 million and $640.0 million, respectively.

## 11. MARKETABLE SECURITIES HELD IN TRUSTS

In August 2016, Mosaic deposited $630 million into two trust funds (together, the "***RCRA Trusts***") created to provide additional financial assurance in the form of cash for the estimated costs ("***Gypstack Closure Costs***") of closure and long-term care of our Florida and Louisiana phosphogypsum management systems ("***Gypstacks***"), as described further in Note 13 of our Notes to Consolidated Financial Statements. Our actual Gypstack Closure Costs are generally expected to be paid by us in the normal course of our Phosphates business; however, funds held in each of the RCRA Trusts can be drawn by the applicable governmental authority in the event we cannot perform our closure and long-term care obligations. When our estimated Gypstack Closure Costs with respect to the facilities associated with a RCRA Trust are sufficiently lower than the amount on deposit in that RCRA Trust, we have the right to request that the excess funds be released to us. The same is true for the RCRA Trust balance remaining after the completion of our obligations, which will be performed over a period that may not end until three decades or more after a Gypstack has been closed. The investments held by the RCRA Trusts are managed by independent investment managers with discretion to buy, sell, and invest pursuant to the objectives and standards set forth in the related trust agreements. Amounts reserved to be held or held in the RCRA Trusts (including losses or reinvested earnings) are included in other assets on our Consolidated Balance Sheets.

The RCRA Trusts hold investments, which are restricted from our general use, in marketable debt securities classified as available-for-sale and are carried at fair value. As a result, unrealized gains and losses are included in other comprehensive income until realized, unless it is determined that the entire unamortized cost basis of the investment is not expected to be recovered. A credit loss would then be recognized in operations for the amount of the expected credit loss. As of December 31, 2021, we expect to recover our amortized cost on all available-for-sale securities and have not established an allowance for credit loss..

We review the fair value hierarchy classification on a quarterly basis. Changes in the ability to observe valuation inputs may result in a reclassification of levels for certain securities within the fair value hierarchy. We determine the fair market values of our available-for-sale securities and certain other assets based on the fair value hierarchy described below:

Level 1: Values based on unadjusted quoted prices in active markets that are accessible at the measurement date for identical assets or liabilities.

Level 2: Values based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, or model-based valuation techniques for which all significant assumptions are observable in the market.

Level 3: Values generated from model-based techniques that use significant assumptions not observable in the market. These unobservable assumptions reflect our own estimates of assumptions that market participants would use in pricing

the asset or liability. Valuation techniques include use of option pricing models, discounted cash flow models and similar techniques.

The estimated fair value of the investments in the RCRA Trusts as of December 31, 2021 and December 31, 2020 are as follows:

| | December 31, 2021 | | | |
|---|---|---|---|---|
| *(in millions)* | Amortized Cost | Gross Unrealized Gains | Gross Unrealized Losses | Fair Value |
| **Level 1** | | | | |
| Cash and cash equivalents | $ 8.1 | $ — | $ — | $ 8.1 |
| **Level 2** | | | | |
| Corporate debt securities | 198.8 | 5.6 | (0.9) | 203.5 |
| Municipal bonds | 198.1 | 6.5 | (0.5) | 204.1 |
| U.S. government bonds | 305.3 | — | (6.1) | 299.2 |
| Total | $ 710.3 | $ 12.1 | $ (7.5) | $ 714.9 |

| | December 31, 2020 | | | |
|---|---|---|---|---|
| *(in millions)* | Amortized Cost | Gross Unrealized Gains | Gross Unrealized Losses | Fair Value |
| **Level 1** | | | | |
| Cash and cash equivalents | $ 11.8 | $ — | $ — | $ 11.8 |
| **Level 2** | | | | |
| Corporate debt securities | 193.3 | 14.0 | — | 207.3 |
| Municipal bonds | 190.5 | 8.8 | (0.3) | 199.0 |
| U.S. government bonds | 300.7 | 4.7 | (0.1) | 305.3 |
| Total | $ 696.3 | $ 27.5 | $ (0.4) | $ 723.4 |

The following tables show gross unrealized losses and fair values of the RCRA Trusts' available-for-sale securities that have been in a continuous unrealized loss position for which an allowance for credit losses has not been recorded as of December 31, 2021 and December 31, 2020.

| | December 31, 2021 | | December 31, 2020 | |
|---|---|---|---|---|
| **Securities that have been in a continuous loss position for less than 12 months *(in millions)*:** | Fair Value | Gross Unrealized Losses | Fair Value | Gross Unrealized Losses |
| Corporate debt securities | $ 67.1 | $ (0.8) | $ 1.5 | $ — |
| Municipal bonds | 39.9 | (0.4) | 16.0 | (0.2) |
| U.S. government bonds | 152.2 | (2.5) | 120.3 | (0.1) |
| Total | $ 259.2 | $ (3.7) | $ 137.8 | $ (0.3) |

| | December 31, 2021 | | December 31, 2020 | |
|---|---|---|---|---|
| **Securities that have been in a continuous loss position for more than 12 months *(in millions)*:** | Fair Value | Gross Unrealized Losses | Fair Value | Gross Unrealized Losses |
| Corporate debt securities | $ 3.6 | $ (0.1) | $ — | $ — |
| Municipal bonds | 4.5 | (0.1) | 4.6 | (0.1) |
| U.S. government bonds | 143.4 | (3.6) | — | — |
| Total | $ 151.5 | $ (3.8) | $ 4.6 | $ (0.1) |

The following table summarizes the balance by contractual maturity of the available-for-sale debt securities invested by the RCRA Trusts as of December 31, 2021. Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations before the underlying contracts mature.

| *(in millions)* | December 31, 2021 |
|---|---|
| Due in one year or less | $ 26.4 |
| Due after one year through five years | 351.9 |
| Due after five years through ten years | 293.9 |
| Due after ten years | 34.6 |
| Total debt securities | $ 706.8 |

For the year ended December 31, 2021, realized gains and (losses) were $5.8 million and $(3.4) million, respectively. For the year ended December 31, 2020, realized gains and (losses) were $17.7 million and $(1.5) million, respectively.

## 12. INCOME TAXES

In preparing our Consolidated Financial Statements, we utilize the asset and liability approach in accounting for income taxes. We recognize income taxes in each of the jurisdictions in which we have a presence. For each jurisdiction, we estimate the actual amount of income taxes currently payable or receivable, as well as deferred income tax assets and liabilities attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which these temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

The provision for income taxes for 2021, 2020 and 2019, consisted of the following:

| | Years Ended December 31, | | |
|---|---|---|---|
| *(in millions)* | 2021 | 2020 | 2019 |
| *Current:* | | | |
| Federal | $ (12.7) | $ (22.0) | $ (75.5) |
| State | 5.6 | 1.3 | (5.2) |
| Non-U.S. | 386.9 | 114.4 | 119.1 |
| Total current | 379.8 | 93.7 | 38.4 |
| *Noncurrent:* | | | |
| Federal | $ — | $ — | $ — |
| State | — | — | — |
| Non-U.S. | 110.0 | 3.2 | — |
| Total noncurrent | 110.0 | 3.2 | — |
| *Deferred:* | | | |
| Federal | $ 141.9 | $ (66.7) | $ (194.8) |
| State | 21.4 | (12.9) | (6.7) |
| Non-U.S. | (55.4) | (595.8) | (61.6) |
| Total deferred | 107.9 | (675.4) | (263.1) |
| Provision for (benefit from) income taxes | $ 597.7 | $ (578.5) | $ (224.7) |

The components of earnings from consolidated companies before income taxes, and the effects of significant adjustments to tax computed at the federal statutory rate, were as follows:

| | Years Ended December 31, | | |
|---|---|---|---|
| *(in millions)* | **2021** | **2020** | **2019** |
| U.S.earnings (loss) | $ 900.1 | $ (449.0) | $ (1,096.2) |
| Non-U.S. earnings | 1,324.7 | 629.9 | (159.9) |
| Earnings (loss) from consolidated companies before income taxes | $ 2,224.8 | $ 180.9 | $ (1,256.1) |
| Computed tax at the U.S. federal statutory rate | 21.0 % | 21.0 % | 21.0 % |
| State and local income taxes, net of federal income tax benefit | 1.2 % | (7.0)% | 2.6 % |
| Percentage depletion in excess of basis | (1.1)% | (10.3)% | 2.5 % |
| Impact of non-U.S. earnings | 6.3 % | 42.1 % | 5.3 % |
| Change in valuation allowance | (0.3)% | (330.0)% | (3.1)% |
| Phosphates goodwill impairment | — % | — % | (5.0)% |
| Non-U.S. incentives | (5.7)% | (35.6)% | — % |
| Other items (none in excess of 5% of computed tax) | 5.5 % | — % | (5.4)% |
| Effective tax rate | 26.9 % | (319.8)% | 17.9 % |

2021 Effective Tax Rate

In the year ended December 31, 2021, there were two items impacting the effective tax rate: 1) items attributable to ordinary business operations during the year, and 2) other items specific to the period, including the Esterhazy mine closure costs.

The tax impact of our ordinary business operations is affected by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, by a benefit associated with non-U.S. incentives, changes in valuation allowances and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

Tax expense specific to the period included a net benefit of $0.6 million. The net expense relates to the following: $23.9 million related to true-up of estimates primarily related to our U.S. tax return and $20.4 million related to an increase in non-U.S. reserves. The tax expenses are partially offset by net tax benefits related to $43.7 million of Esterhazy mine closure costs and $1.2 million related to a benefit for withholding taxes related to undistributed earnings and other miscellaneous tax expenses.

2020 Effective Tax Rate

In the year ended December 31, 2020, there were two items impacting the effective tax rate: 1) items attributable to ordinary business operations during the year, and 2) other items specific to the period, including impacts recorded due to the Coronavirus Aid, Relief, and Economic Security Act (the *"**CARES Act**"*). The CARES Act provides various tax relief measures to taxpayers impacted by the coronavirus.

The tax impact of our ordinary business operations is affected by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, by a benefit associated with non-U.S. incentives, changes in valuation allowances and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

Tax expense specific to the period included a net benefit of $609.0 million. The net benefit relates to the following: $582.6 million for changes to valuation allowances in the U.S. and foreign jurisdictions, $23.6 million related to certain provisions of the CARES Act, $5.5 million related to release of the sequestration on AMT and miscellaneous tax expense of $2.7 million. The change to the valuation allowance in Brazil related to the Acquired Business. As of December 31, 2020, the Acquired Business has achieved cumulative income and therefore we were able to rely on future forecasts of taxable income which support realization of its deferred tax assets.

2019 Effective Tax Rate

In the year ended December 31, 2019, there were two items impacting the effective tax rate: 1) items attributable to ordinary business operations during the year, and 2) other items specific to the period, including impacts recorded due to the U.S. Tax Cuts and Jobs Act (the *"**Act**"*).

The tax impact of our ordinary business operations is impacted by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, changes in valuation allowances and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

Tax expense specific to the period included a benefit of $355.6 million. The benefit relates to various notable items, which resulted in the following tax benefits: $263.4 million related to the indefinite idling of the Colonsay mine, $81.0 million related to the Plant City closure costs, and $79.6 million related to the phosphates goodwill impairment. These tax benefits are partially offset by tax expense of: $21.2 million for changes in certain provisions of the Act, $15.9 million for valuation allowances in the U.S. and foreign jurisdictions, $14.0 million related to state tax rate changes, $12.5 million related to changes in estimates related to prior years (including changes in certain provisions of the Act), and miscellaneous tax expense of $4.8 million. The tax expense of $21.2 million related to certain provisions of the Act and is the reversal of the benefit recorded in December 31, 2018 that pertained to the one-time "deemed" repatriation.

***Deferred Tax Liabilities and Assets***

Significant components of our deferred tax liabilities and assets as of December 31 were as follows:

| | December 31, | |
|---|---|---|
| *(in millions)* | **2021** | **2020** |
| *Deferred tax liabilities:* | | |
| Depreciation and amortization | $ 456.2 | $ 232.5 |
| Depletion | 430.1 | 527.0 |
| Partnership tax basis differences | 66.3 | 69.0 |
| Undistributed earnings of non-U.S. subsidiaries | — | 3.8 |
| Other liabilities | 39.1 | 32.5 |
| Total deferred tax liabilities | $ 991.7 | $ 864.8 |
| *Deferred tax assets:* | | |
| Deferred revenue | $ — | $ 62.4 |
| Capital loss carryforwards | — | 0.1 |
| Foreign tax credit carryforwards | 775.1 | 628.6 |
| Net operating loss carryforwards | 232.3 | 321.8 |
| Pension plans and other benefits | 19.8 | 34.2 |
| Asset retirement obligations | 337.3 | 262.9 |
| Disallowed interest expense under §163(j) | 31.6 | 68.8 |
| Other assets | 351.2 | 287.6 |
| Subtotal | 1,747.3 | 1,666.4 |
| Valuation allowance | 774.7 | 683.0 |
| Net deferred tax assets | 972.6 | 983.4 |
| Net deferred tax liabilities | $ (19.1) | $ 118.6 |

We have certain non-U.S. entities that are taxed in both their local jurisdiction and the U.S. As a result, we have deferred tax balances for both jurisdictions. As of December 31, 2021 and 2020, these non-U.S. deferred taxes are offset by approximately $185.1 million and $191.0 million, respectively, of anticipated foreign tax credits included within our depreciation and depletion components of deferred tax liabilities above. Due to the Act, we have recorded a valuation allowance against the anticipated foreign tax credits of $229.6 million and $235.5 million for December 31, 2021 and 2020, respectively.

***Tax Carryforwards***

As of December 31, 2021, we had estimated carryforwards for tax purposes as follows: net operating losses of $1.5 billion, foreign tax credits of $775.1 million and $3.9 million of non-U.S. business credits. These carryforward benefits may be subject to limitations imposed by the Internal Revenue Code, and in certain cases, provisions of foreign law. Approximately $507.6 million of our net operating loss carryforwards relate to Brazil and can be carried forward indefinitely but are limited to 30 percent of taxable income each year. The majority of the remaining net operating loss carryforwards relate to U.S. federal and certain U.S. states and can be carried forward for 20 years. Of the $775.1 million of foreign tax credits, approximately $33.3 million have an expiration date of 2023, approximately $332.7 million have an expiration date of 2026, approximately $20.2 million have an expiration date of 2029, and approximately $14.6 million have an expiration date of 2030. The realization of our foreign tax credit carryforwards is dependent on market conditions, tax law changes, and other business outcomes including our ability to generate certain types of taxable income in the future. Due to current business operations and future forecasts, the Company has determined that no valuation allowance is required on its general basket foreign tax credits. As a result of changes in U.S. tax law due to the Act, the Company valuation allowances recorded against its branch basket foreign tax credits of $364.7 million as of December 31, 2021.

As of December 31, 2021, we have not recognized a deferred tax liability for un-remitted earnings of approximately $2.3 billion from certain foreign operations because we believe our subsidiaries have invested the undistributed earnings indefinitely, or the earnings will be remitted in a tax-neutral transaction. It is not practicable for us to determine the amount of unrecognized deferred tax liability on these reinvested earnings. As part of the accounting for the Act, we recorded local country withholding taxes related to certain entities from which we began repatriating undistributed earnings and will continue to record local country withholding taxes, including foreign exchange impacts, on all future earnings.

***Valuation Allowance***

In assessing the need for a valuation allowance, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. We evaluate our ability to realize the tax benefits associated with deferred tax assets by analyzing the relative impact of all the available positive and negative evidence regarding our forecasted taxable income using both historical and projected future operating results, the reversal of existing taxable temporary differences, taxable income in prior carry-back years (if permitted) and the availability of tax planning strategies. The ultimate realization of deferred tax assets is dependent upon the generation of certain types of future taxable income during the periods in which those temporary differences become deductible. In making this assessment, we consider the scheduled reversal of deferred tax liabilities, our ability to carry back the deferred tax asset, projected future taxable income, and tax planning strategies. A valuation allowance will be recorded in each jurisdiction in which a deferred income tax asset is recorded when it is more likely than not that the deferred income tax asset will not be realized. Changes in deferred tax asset valuation allowances typically impact income tax expense.

For the year ended December 31, 2021, the valuation allowance increased by $91.7 million, of which a $111.2 million increase related to changes in the valuation allowance to U.S. branch foreign tax credits. These increases to the valuation allowance were partially offset by a decrease of $13.9 million related to changes in valuation allowances and currency translation in Brazil, $2.4 million decrease to net operating losses for certain U.S. states, and $3.4 million changes in valuation allowances in other foreign jurisdictions.

For the year ended December 31, 2020, the valuation allowance decreased by $774.1 million, of which a $763.5 million decrease related to changes in valuation allowances and currency translation in Brazil, $3.5 million related to net operating losses for certain U.S. states and $32.2 million related to our conclusion that we are more likely than not to use attributes at other foreign jurisdictions. These decreases to the valuation allowance were partially offset by the following increases: $24.1 million increase related to U.S. branch foreign tax credits and $0.9 million related to net operating losses in Peru.

For the year ended December 31, 2019, the valuation allowance decreased by $73.4 million, of which a $48.0 million decrease related to changes in valuation allowances and currency translation in Brazil, and a $49.8 million decrease related to U.S. branch foreign tax credits. These decreases to the valuation allowance were offset by the following increases: $6.8 million related to net operating losses for certain U.S. states, $8.3 million related to net operating losses in Peru, and $9.2 million related to our conclusion that we are not more likely than not to use attributes at other foreign jurisdictions.

Changes to our income tax valuation allowance were as follows:

| (in millions) | Years Ended December 31, 2021 | 2020 | 2019 |
|---|---|---|---|
| Income tax valuation allowance, related to deferred income taxes | | | |
| Balance at beginning of period | $ 683.0 | $ 1,457.10 | $ 1,530.5 |
| Charges or (reductions) to costs and expenses | 91.7 | (774.1) | (73.4) |
| Balance at end of period | $ 774.7 | $ 683.0 | $ 1,457.1 |

***Uncertain Tax Positions***

Accounting for uncertain income tax positions is determined by prescribing a minimum probability threshold that a tax position must meet before a financial statement benefit is recognized. This minimum threshold is that a tax position is more likely than not to be sustained upon examination by the applicable taxing authority, including resolution of any related appeals or litigation processes, based on the technical merits of the position. The tax benefit to be recognized is measured as the largest amount of benefit that is greater than a fifty percent likelihood of being realized upon ultimate settlement.

As of December 31, 2021, we had $124.6 million of gross uncertain tax positions. If recognized, the benefit to our effective tax rate in future periods would be approximately $48.0 million of that amount. During 2021, we recorded net increases in our uncertain tax positions of $87.7 million related to certain U.S. and non-U.S. tax matters, of which $3.0 million impacted the effective tax rate. This increase was offset by items not included in gross uncertain tax positions.

Based upon the information available as of December 31, 2021, we expect to reach an agreement on $96.5 million of the unrecognized tax benefits in the next twelve months. Any other possible changes cannot reasonably be estimated as of December 31, 2021.

A summary of gross unrecognized tax benefit activity is as follows:

| (in millions) | Years Ended December 31, 2021 | 2020 | 2019 |
|---|---|---|---|
| Gross unrecognized tax benefits, beginning of period | $ 36.9 | $ 39.5 | $ 38.1 |
| Gross increases: | | | |
| Prior period tax positions | 84.7 | — | — |
| Current period tax positions | 3.0 | 2.8 | 5.1 |
| Gross decreases: | | | |
| Prior period tax positions | — | (5.9) | (4.9) |
| Currency translation | — | 0.5 | 1.2 |
| Gross unrecognized tax benefits, end of period | $ 124.6 | $ 36.9 | $ 39.5 |

We recognize interest and penalties related to unrecognized tax benefits as a component of our income tax expense. Interest and penalties accrued in our Consolidated Balance Sheets as of December 31, 2021 and 2020 were $31.1 million and $9.0 million, respectively, and are included in other noncurrent liabilities in the Consolidated Balance Sheets.

***Open Tax Periods***

We operate in multiple tax jurisdictions, both within the U.S.and outside the U.S., and face audits from various tax authorities regarding transfer pricing, deductibility of certain expenses, and intercompany transactions, as well as other matters. With few exceptions, we are no longer subject to examination for tax years prior to 2012.

Mosaic is continually under audit by various tax authorities in the normal course of business. Such tax authorities may raise issues contrary to positions taken by the Company. If such positions are ultimately not sustained by the Company this could result in material assessments to the Company. The costs related to defending, if needed, such positions on appeal or in court may be material. The Company believes that any issues considered are properly accounted for.

We are currently under audit by the Canada Revenue Agency for the tax years ended May 31, 2012 through December 31, 2017. Based on the information available, we do not anticipate significant changes to our unrecognized tax benefits as a result of these examinations other than the amounts discussed above.

## 13. ASSET RETIREMENT OBLIGATIONS

We recognize our estimated asset retirement obligations ("***AROs***") in the period in which we have an existing legal obligation associated with the retirement of a tangible long-lived asset and the amount of the liability can be reasonably estimated. The ARO is recognized at fair value when the liability is incurred with a corresponding increase in the carrying amount of the related long lived asset. We depreciate the tangible asset over its estimated useful life. The liability is adjusted in subsequent periods through accretion expense which represents the increase in the present value of the liability due to the passage of time. Such depreciation and accretion expenses are included in cost of goods sold for operating facilities and other operating expense for indefinitely closed facilities.

Our legal obligations related to asset retirement require us to: (i) reclaim lands disturbed by mining as a condition to receive permits to mine phosphate ore reserves; (ii) treat low pH process water in Gypstacks to neutralize acidity; (iii) close and monitor Gypstacks at our Florida and Louisiana facilities at the end of their useful lives; (iv) remediate certain other conditional obligations; (v) remove all surface structures and equipment, plug and abandon mine shafts, contour and revegetate, as necessary, and monitor for five years after closing our Carlsbad, New Mexico facility; (vi) decommission facilities, manage tailings and execute site reclamation at our Saskatchewan potash mines at the end of their useful lives; (vii) de-commission mines in Brazil and Peru acquired as part of the acquisition (the "***Acquisition***") of Vale Fertilizantes S.A. (now known as Mosaic Fetilizantes P&K S.A. and (viii) de-commission plant sites and close Gypstacks in Brazil, also as part of the Acquisition. The estimated liability for these legal obligations is based on the estimated cost to satisfy the above obligations which is discounted using a credit-adjusted risk-free rate.

A reconciliation of our AROs is as follows:

| | Years Ended December 31, | |
|---|---|---|
| *(in millions)* | **2021** | **2020** |
| AROs, beginning of period | $ 1,393.9 | $ 1,315.2 |
| Liabilities incurred | 20.2 | 10.8 |
| Liabilities settled | (163.1) | (125.1) |
| Accretion expense | 71.9 | 68.0 |
| Revisions in estimated cash flows | 443.3 | 167.3 |
| Foreign currency translation | (16.9) | (42.3) |
| AROs, end of period | 1,749.3 | 1,393.9 |
| Less current portion | 222.4 | 190.2 |
| Non-current portion of AROs | $ 1,526.9 | $ 1,203.7 |

*North America Gypstack Closure Costs*

A majority of our ARO relates to Gypstack Closure Costs in Florida and Louisiana. For financial reporting purposes, we recognize our estimated Gypstack Closure Costs at their present value. This present value determined for financial reporting purposes is reflected on our Consolidated Balance Sheets in accrued liabilities and other noncurrent liabilities. As of December 31, 2021 and 2020, the present value of our Gypstack Closure Costs ARO reflected in our Consolidated Balance Sheet was approximately $883.2 million and $669.9 million, respectively.

As discussed below, we have arrangements to provide financial assurance for the estimated Gypstack Closure Costs associated with our facilities in Florida and Louisiana.

*EPA RCRA Initiative.* On September 30, 2015, we and our subsidiary, Mosaic Fertilizer, LLC ("***Mosaic Fertilizer***"), reached agreements with the U.S. Environmental Protection Agency ("***EPA***"), the U.S. Department of Justice ("***DOJ***"), the Florida Department of Environmental Protection ("***FDEP***") and the Louisiana Department of Environmental Quality on the terms of two consent decrees (collectively, the "***2015 Consent Decrees***") to resolve claims relating to our management of certain waste materials onsite at our Riverview, New Wales, Mulberry, Green Bay, South Pierce and Bartow fertilizer manufacturing facilities in Florida and our Faustina and Uncle Sam facilities in Louisiana. This followed a 2003 announcement by the EPA

Office of Enforcement and Compliance Assurance that it would be targeting facilities in mineral processing industries, including phosphoric acid producers, for a thorough review under the U.S. Resource Conservation and Recovery Act ("***RCRA***") and related state laws. As discussed below, a separate consent decree was previously entered into with EPA and the FDEP with respect to RCRA compliance at the Plant City, Florida phosphate concentrates facility (the "***Plant City Facility***") that we acquired as part of our acquisition (the "***CF Phosphate Assets Acquisition***") of the Florida phosphate assets and assumption of certain related liabilities of CF Industries, Inc. ("***CF***").

The remaining monetary obligations under the 2015 Consent Decrees include:

- Modification of certain operating practices and undertaking certain capital improvement projects over a period of several years that are expected to result in remaining capital expenditures likely to exceed $20 million in the aggregate.
- Provision of additional financial assurance for the estimated Gypstack Closure Costs for Gypstacks at the covered facilities. The RCRA Trusts are discussed in Note 11 to our Consolidated Financial Statements. In addition, we have agreed to guarantee the difference between the amounts held in each RCRA Trust (including any earnings) and the estimated closure and long-term care costs.

As of December 31, 2021, the undiscounted amount of our Gypstack Closure Costs ARO associated with the facilities covered by the 2015 Consent Decrees, determined using the assumptions used for financial reporting purposes, was approximately $1.8 billion, and the present value of our Gypstack Closure Costs ARO reflected in our Consolidated Balance Sheet for those facilities was approximately $603 million.

*Plant City and Bonnie Facilities.* As part of the CF Phosphate Assets Acquisition, we assumed certain AROs related to Gypstack Closure Costs at both the Plant City Facility and a closed Florida phosphate concentrates facility in Bartow, Florida (the "***Bonnie Facility***") that we acquired. Associated with these assets are two related financial assurance arrangements for which we became responsible and that provided sources of funds for the estimated Gypstack Closure Costs for these facilities. Pursuant to federal or state laws, the applicable government entities are permitted to draw against such amounts in the event we cannot perform such closure activities. One of the financial assurance arrangements was initially a trust (the "***Plant City Trust***") established to meet the requirements under a consent decree with the EPA and the FDEP with respect to RCRA compliance at Plant City. The Plant City Trust also satisfied Florida financial assurance requirements at that site. Beginning in September 2016, as a substitute for the financial assurance provided through the Plant City Trust, we have provided financial assurance for the Plant City Facility in the form of a surety bond (the "***Plant City Bond***"). The amount of the Plant City Bond is $249.7 million, which reflects our closure cost estimates as of December 31, 2021. The other financial assurance arrangement was also a trust fund (the "***Bonnie Facility Trust***") established to meet the requirements under Florida financial assurance regulations that apply to the Bonnie Facility. In July 2018, we received $21.0 million from the Bonnie Facility Trust by substituting for the trust fund a financial test mechanism ("***Bonnie Financial Test***") supported by a corporate guarantee as allowed by state regulations. Both financial assurance funding obligations require estimates of future expenditures that could be impacted by refinements in scope, technological developments, new information, cost inflation, changes in regulations, discount rates and the timing of activities. Under our current approach to satisfying applicable requirements, additional financial assurance would be required in the future if increases in cost estimates exceed the face amount of the Plant City Bond or the amount supported by the Bonnie Financial Test.

As of December 31, 2021 and 2020, the aggregate amounts of AROs associated with the combined Plant City Facility and Bonnie Facility Gypstack Closure Costs included in our consolidated balance sheet were $262.9 million and $251.8 million, respectively. The aggregate amount represented by the Plant City Bond exceeds the present value of the aggregate amount of ARO associated with that facility. This is because the amount of financial assurance we are required to provide represents the aggregate undiscounted estimated amount to be paid by us in the normal course of our Phosphates business over a period that may not end until three decades or more after the Gypstack has been closed, whereas the ARO included in our Consolidated Balance Sheet reflects the discounted present value of those estimated amounts.

## 14. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

We periodically enter into derivatives to mitigate our exposure to foreign currency risks, interest rate movements and the effects of changing commodity prices. We record all derivatives on the Consolidated Balance Sheets at fair value. The fair value of these instruments is determined by using quoted market prices, third-party comparables, or internal estimates. We net our derivative asset and liability positions when we have a master netting arrangement in place. Changes in the fair value of the foreign currency, commodity and freight derivatives are immediately recognized in earnings. As of December 31, 2021

and 2020, the gross asset position of our derivative instruments was $45.3 million and $65.3 million, respectively, and the gross liability position of our liability instruments was $45.5 million and $49.9 million, respectively.

We do not apply hedge accounting treatments to our foreign currency exchange contracts, commodities contracts, or freight contracts. Unrealized gains and (losses) on foreign currency exchange contracts used to hedge cash flows related to the production of our products are included in cost of goods sold in the Consolidated Statements of Earnings. Unrealized gains and (losses) on commodities contracts and certain forward freight agreements are also recorded in cost of goods sold in the Consolidated Statements of Earnings. Unrealized gains or (losses) on foreign currency exchange contracts used to hedge cash flows that are not related to the production of our products are included in the foreign currency transaction gain/(loss) caption in the Consolidated Statements of Earnings.

From time to time, we enter into fixed-to-floating interest rate contracts. We apply fair value hedge accounting treatment to these contracts. Under these arrangements, we agree to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. The mark-to-market of these fair value hedges is recorded as gains or losses in interest expense. We had no fixed-to-floating interest rate swap agreements in effect as of December 31, 2021 and 2020.

The following is the total absolute notional volume associated with our outstanding derivative instruments:

*(in millions of Units)*

| Instrument | Derivative Category | Unit of Measure | December 31, 2021 | December 31, 2020 |
|---|---|---|---|---|
| Foreign currency derivatives | Foreign Currency | US Dollars | 3,185.8 | 2,912.3 |
| Natural gas derivatives | Commodity | MM Btu | 23.6 | 27.3 |

***Credit-Risk-Related Contingent Features***

Certain of our derivative instruments contain provisions that are governed by International Swap and Derivatives Association agreements with the counterparties. These agreements contain provisions that allow us to settle for the net amount between payments and receipts, and also state that if our debt were to be rated below investment grade, certain counterparties to the derivative instruments could request full collateralization on derivative instruments in net liability positions. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a liability position as of December 31, 2021 and 2020 was $8.6 million and $11.3 million, respectively. We have no cash collateral posted in association with these contracts. If the credit-risk-related contingent features underlying these agreements were triggered on December 31, 2021, we would have been required to post an additional $4.5 million of collateral assets, which are either cash or U.S. Treasury instruments, to the counterparties.

***Counterparty Credit Risk***

We enter into foreign exchange, certain commodity and interest rate derivatives, primarily with a diversified group of highly rated counterparties. We continually monitor our positions and the credit ratings of the counterparties involved and limit the amount of credit exposure to any one party. While we may be exposed to potential losses due to the credit risk of non-performance by these counterparties, material losses are not anticipated. We closely monitor the credit risk associated with our counterparties and customers and to date have not experienced material losses.

## 15. FAIR VALUE MEASUREMENTS

Following is a summary of the valuation techniques for assets and liabilities recorded in our Consolidated Balance Sheets at fair value on a recurring basis:

*Foreign Currency Derivatives*–The foreign currency derivative instruments that we currently use are forward contracts and zero-cost collars, which typically expire within eighteen months. Derivative instruments that we used to hedge anticipated cash flows related to our Esterhazy K3 expansion project expire within a period of thirty-six months. Most of the valuations are adjusted by a forward yield curve or interest rates. In such cases, these derivative contracts are classified within Level 2. Some valuations are based on exchange-quoted prices, which are classified as Level 1. Changes in the fair market values of these contracts are recognized in the Consolidated Financial Statements as a component of cost of goods sold in our Corporate, Eliminations and Other segment or foreign currency transaction (gain) loss. As of December 31, 2021, and 2020, the gross asset position of our foreign currency derivative instruments was $27.0 million and $58.6 million,

respectively, and the gross liability position of our foreign currency derivative instruments was $45.4 million and $48.7 million, respectively.

*Commodity Derivatives*–The commodity contracts primarily relate to natural gas. The commodity derivative instruments that we currently use are forward purchase contracts, swaps and three-way collars. The natural gas contracts settle using NYMEX futures or AECO price indexes, which represent fair value at any given time. The contracts' maturities and settlements are scheduled for future months and settlements are scheduled to coincide with anticipated gas purchases during those future periods. Quoted market prices from NYMEX and AECO are used to determine the fair value of these instruments. These market prices are adjusted by a forward yield curve and are classified within Level 2. Changes in the fair market values of these contracts are recognized in the Consolidated Financial Statements as a component of cost of goods sold in our Corporate, Eliminations and Other segment. As of December 31, 2021 and 2020, the gross asset position of our commodity derivative instruments was $18.3 million and $6.7 million, respectively, and the gross liability position of our commodity derivative instruments was $0.1 million and $1.2 million, respectively.

*Interest Rate Derivatives*–We manage interest expense through interest rate contracts to convert a portion of our fixed-rate debt into floating-rate debt. From time to time, we also enter into interest rate swap agreements to hedge our exposure to changes in future interest rates related to anticipated debt issuances. Valuations are based on external pricing sources and are classified as Level 2. Changes in the fair market values of these contracts are recognized in the Condensed Consolidated Financial Statements as a component of interest expense. In April 2020, we terminated our outstanding interest rate swap contracts which resulted in an immaterial impact to our Condensed Consolidated Statement of Earnings (Loss).

***Financial Instruments***

The carrying amounts and estimated fair values of our financial instruments are as follows:

| | December 31, | | | |
|---|---|---|---|---|
| | 2021 | | 2020 | |
| *(in millions)* | Carrying Amount | Fair Value | Carrying Amount | Fair Value |
| Cash and cash equivalents | $ 769.5 | $ 769.5 | $ 574.0 | $ 574.0 |
| Accounts receivable | 1,531.9 | 1,531.9 | 881.1 | 881.1 |
| Accounts payable | 1,260.7 | 1,260.7 | 769.1 | 769.1 |
| Structured accounts payable arrangements | 743.7 | 743.7 | 640.0 | 640.0 |
| Short-term debt | 302.8 | 302.8 | 0.1 | 0.1 |
| Long-term debt, including current portion | 3,978.8 | 4,516.1 | 4,578.0 | 5,172.1 |

For cash and cash equivalents, accounts receivable, net, accounts payable, structured accounts payable arrangements and short-term debt, the carrying amount approximates fair value because of the short-term maturity of those instruments. The fair value of long-term debt, including the current portion, is estimated using quoted market prices for the publicly registered notes and debentures, classified as Level 1 and Level 2, respectively, within the fair value hierarchy, depending on the market liquidity of the debt. For information regarding the fair value of our marketable securities held in trusts, see Note 11 of our Notes to Consolidated Financial Statements.

## 16. GUARANTEES AND INDEMNITIES

We enter into various contracts that include indemnification and guarantee provisions as a routine part of our business activities. Examples of these contracts include asset purchase and sale agreements, surety bonds, financial assurances to regulatory agencies in connection with reclamation and closure obligations, commodity sale and purchase agreements, and other types of contractual agreements with vendors and other third parties. These agreements indemnify counterparties for matters such as reclamation and closure obligations, tax liabilities, environmental liabilities, litigation and other matters, as well as breaches by Mosaic of representations, warranties and covenants set forth in these agreements. In many cases, we are essentially guaranteeing our own performance, in which case the guarantees do not fall within the scope of the accounting and disclosures requirements under U.S. GAAP.

Our more significant guarantees and indemnities are as follows:

*Guarantees to Brazilian Financial Parties.* From time to time, we issue guarantees to financial parties in Brazil for certain amounts owed the institutions by certain customers of Mosaic. The guarantees are for all or part of the customers' obligations. In the event that the customers default on their payments to the institutions and we would be required to perform under the guarantees, we have in most instances obtained collateral from the customers. We monitor the nonperformance risk of the counterparties and have noted no material concerns regarding their ability to perform on their obligations. The guarantees generally have a one-year term, but may extend up to two years or longer depending on the crop cycle, and we expect to renew many of these guarantees on a rolling twelve-month basis. As of December 31, 2021, we have estimated the maximum potential future payment under the guarantees to be $67.7 million. The fair value of our guarantees is immaterial to the Consolidated Financial Statements as of December 31, 2021 and 2020.

*Other Indemnities.* Our maximum potential exposure under other indemnification arrangements can range from a specified dollar amount to an unlimited amount, depending on the nature of the transaction. Total maximum potential exposure under these indemnification arrangements is not estimable due to uncertainty as to whether claims will be made or how they will be resolved. We do not believe that we will be required to make any material payments under these indemnity provisions.

Because many of the guarantees and indemnities we issue to third parties do not limit the amount or duration of our obligations to perform under them, there exists a risk that we may have obligations in excess of the amounts described above. For those guarantees and indemnities that do not limit our liability exposure, we may not be able to estimate what our liability would be until a claim is made for payment or performance due to the contingent nature of these arrangements.

## 17. PENSION PLANS AND OTHER BENEFITS

We sponsor pension and postretirement benefits through a variety of plans including defined benefit plans, defined contribution plans and postretirement benefit plans in North America and certain of our international locations. We reserve the right to amend, modify or terminate the Mosaic sponsored plans at any time, subject to provisions of the Employee Retirement Income Security Act of 1974 ("***ERISA***"), prior agreements and our collective bargaining agreements.

### *Defined Benefit*

We sponsor various defined benefit pension plans in the U.S. and in Canada. Benefits are based on different combinations of years of service and compensation levels, depending on the plan. Generally, contributions to the U.S. plans are made to meet minimum funding requirements of ERISA, while contributions to Canadian plans are made in accordance with Pension Benefits Acts instituted by the provinces of Saskatchewan and Ontario. Certain employees in the U.S. and Canada, whose pension benefits exceed Internal Revenue Code and Canada Revenue Agency limitations, respectively, are covered by supplementary non-qualified, unfunded pension plans.

We sponsor various defined benefit pension plans in Brazil, and we acquired through the Acquisition multi-employer pension plans for certain of our Brazil associates. All our pension plans are governed by the Brazilian pension plans regulatory agency, National Superintendence of Supplementary Pensions. Our Brazil plans are not individually significant to the Company's consolidated financial statements after factoring in the multi-employer pension plan indemnification that we acquired through the Acquisition. We made contributions to these plans, net of indemnification, of $0.2 million and $0.4 million during the years ended December 31, 2021 and 2020, respectively.

***Accounting for Pension Plans***

The year-end status of the North American pension plans was as follows:

| *(in millions)* | Pension Plans Years Ended December 31, 2021 | Pension Plans Years Ended December 31, 2020 |
|---|---|---|
| Change in projected benefit obligation: | | |
| Benefit obligation at beginning of period | $ 796.6 | $ 755.5 |
| Service cost | 4.4 | 4.2 |
| Interest cost | 14.6 | 20.9 |
| Actuarial loss | (31.1) | 49.8 |
| Currency fluctuations | 0.3 | 10.9 |
| Benefits paid | (45.2) | (44.7) |
| Projected benefit obligation at end of period | $ 739.6 | $ 796.6 |
| Change in plan assets: | | |
| Fair value at beginning of period | $ 845.2 | $ 790.6 |
| Currency fluctuations | 0.4 | 11.0 |
| Actual return | 1.1 | 82.4 |
| Company contribution | 5.5 | 5.9 |
| Benefits paid | (45.2) | (44.7) |
| Fair value at end of period | $ 807.0 | $ 845.2 |
| Funded status of the plans as of the end of period | $ 67.4 | $ 48.6 |
| Amounts recognized in the consolidated balance sheets: | | |
| Noncurrent assets | $ 78.1 | $ 59.7 |
| Current liabilities | (0.9) | (0.6) |
| Noncurrent liabilities | (9.8) | (10.5) |
| Amounts recognized in accumulated other comprehensive (income) loss | | |
| Prior service costs | $ 13.7 | $ 15.8 |
| Actuarial loss | 83.1 | 88.7 |

The accumulated benefit obligation for the defined benefit pension plans was $739.1 million and $796.1 million as of December 31, 2021 and 2020, respectively.

The components of net annual periodic benefit costs and other amounts recognized in other comprehensive income include the following components:

| (in millions) | Pension Plans | | |
|---|---|---|---|
| | Years Ended December 31, | | |
| | 2021 | 2020 | 2019 |
| *Net Periodic Benefit Cost* | | | |
| Service cost | $ 4.4 | $ 4.2 | $ 4.8 |
| Interest cost | 14.6 | 20.9 | 25.0 |
| Expected return on plan assets | (30.4) | (34.2) | (33.8) |
| Amortization of: | | | |
| Prior service cost | 2.1 | 2.3 | 2.3 |
| Actuarial loss | 3.8 | 9.2 | 9.2 |
| Preliminary net periodic benefit cost | $ (5.5) | $ 2.4 | $ 7.5 |
| Curtailment/settlement expense | — | 1.0 | — |
| Total net periodic benefit cost | $ (5.5) | $ 3.4 | $ 7.5 |
| *Other Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income* | | | |
| Prior service (credit) cost recognized in other comprehensive income | $ (2.1) | $ (2.3) | $ 5.5 |
| Net actuarial gain recognized in other comprehensive income | (5.6) | (8.6) | (13.9) |
| Total recognized in other comprehensive income (loss) | $ (7.7) | $ (10.9) | $ (8.4) |
| Total recognized in net periodic benefit income and other comprehensive income | $ (13.2) | $ (7.5) | $ (0.9) |

The estimated net actuarial (gain) loss and prior service cost (credit) for the pension plans and postretirement plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost in 2022 is $3.9 million.

The following estimated benefit payments, which reflect estimated future service are expected to be paid by the related plans in the years ending December 31:

| (in millions) | Pension Plans Benefit Payments | Other Postretirement Plans Benefit Payments | Medicare Part D Adjustments |
|---|---|---|---|
| 2022 | $ 46.9 | $ 2.9 | $ 0.1 |
| 2023 | 44.5 | 2.7 | 0.1 |
| 2024 | 44.2 | 2.5 | 0.1 |
| 2025 | 44.1 | 2.2 | 0.1 |
| 2026 | 44.0 | 2.0 | 0.1 |
| 2027-2031 | 212.0 | 7.8 | 0.2 |

In 2022, we expect to contribute cash of at least $5.6 million to the pension plans to meet minimum funding requirements.

Plan Assets and Investment Strategies

The Company's overall investment strategy is to obtain sufficient return and provide adequate liquidity to meet the benefit obligations of our pension plans. Investments are made in public securities to ensure adequate liquidity to support benefit payments. Domestic and international stocks and bonds provide diversification to the portfolio.

For the U.S. plans, we utilize an asset allocation policy that seeks to reduce funded status volatility over time. As such, the primary investment objective beyond accumulating sufficient assets to meet future benefit obligations is to monitor and manage the assets of the plan to better insulate the asset portfolio from changes in interest rates that impact the liabilities. This requires an interest rate management strategy to reduce the sensitivity in the plan's funded status and having a portion of the plan's assets invested in return-seeking strategies. Currently, our policy includes a 100% allocation to fixed income strategies.

For the Canadian pension plans the primary investment objective is to secure the promised pension benefits through capital preservation and appreciation to better manage the asset/liability gap and interest rate risk. A secondary investment objective is to most effectively manage investment volatility to reduce the variability of the Company's required contributions. The plans are expected to achieve an annual overall return, over a five-year rolling period, consistent with or in excess of total fund benchmarks that reflect each plan's strategic allocations and respective market benchmarks at the individual asset class level. Management of the asset/liability gap of the plans and performance results are reviewed quarterly. Until September 2018, Mosaic had the four Canadian pension plans, two salaried and two hourly plans, managed in one master trust. In order to better match the assets with the liabilities of each plan, Mosaic decided to split the master trust into one trust for each plan. Currently, our policy includes an 80% allocation to fixed income and 20% to return-seeking strategies for the salaried and hourly plans. Actual allocations may experience temporary fluctuations based on market movements and investment strategies.

A significant amount of the assets are invested in funds that are managed by a group of professional investment managers through Mosaic's investment advisor. These funds are mainly commingled funds. Performance is reviewed by Mosaic management monthly by comparing each fund's return to a benchmark with an in-depth quarterly review presented by Mosaic's investment advisor to the Global Pension Investment Committee. We do not have significant concentrations of credit risk or industry sectors within the plan assets. Assets may be indirectly invested in Mosaic stock, but any risk related to this investment would be immaterial due to the insignificant percentage of the total pension assets that would be invested in Mosaic stock.

Fair Value Measurements of Plan Assets

The following tables provide fair value measurement, by asset class, of the Company's defined benefit plan assets for both the U.S. and Canadian plans:

| *(in millions)* | December 31, 2021 | | | |
|---|---|---|---|---|
| **Pension Plan Asset Category** | **Total** | **Level 1** | **Level 2** | **Level 3** |
| Cash | $ 5.2 | $ 5.2 | $ — | $ — |
| Equity securities[(a)] | 71.3 | — | 71.3 | — |
| Fixed income[(b)] | 720.0 | — | 720.0 | — |
| Private equity funds | 10.5 | — | — | 10.5 |
| Total assets at fair value | $ 807.0 | $ 5.2 | $ 791.3 | $ 10.5 |

| *(in millions)* | December 31, 2020 | | | |
|---|---|---|---|---|
| **Pension Plan Asset Category** | **Total** | **Level 1** | **Level 2** | **Level 3** |
| Cash | $ 4.6 | $ 4.6 | $ — | $ — |
| Equity securities[(a)] | 198.5 | — | 198.5 | — |
| Fixed income[(b)] | 641.0 | — | 641.0 | — |
| Private equity funds | 1.1 | — | — | 1.1 |
| Total assets at fair value | $ 845.2 | $ 4.6 | $ 839.5 | $ 1.1 |

(a) This class, which includes several funds, was invested approximately 44% in U.S. equity securities, 1% in Canadian equity securities and 55% in other international equity securities as of December 31, 2021, and 43% in U.S. equity securities, 0% in Canadian equity securities and 57% in other international equity securities as of December 31, 2020.

(b) This class, which includes several funds, was invested approximately 44% in corporate debt securities, 49% in governmental securities in the U.S. and Canada and 7% in other foreign entity debt securities as of December 31, 2021, and 48% in corporate debt securities, 45% in governmental securities in the U.S. and Canada and 7% in other foreign entity debt securities as of December 31, 2020.

Rates and Assumptions

The approach used to develop the discount rate for the pension and postretirement plans is commonly referred to as the yield curve approach. Under this approach, we use a hypothetical curve formed by the average yields of available corporate bonds rated AA and above and match it against the projected benefit payment stream. Each category of cash flow of the projected benefit payment stream is discounted back using the respective interest rate on the yield curve. Using the present value of projected benefit payments, a weighted-average discount rate is derived.

The approach used to develop the expected long-term rate of return on plan assets combines an analysis of historical performance, the drivers of investment performance by asset class and current economic fundamentals. For returns, we utilized a building block approach starting with inflation expectations and added an expected real return to arrive at a long-term nominal expected return for each asset class. Long-term expected real returns are derived from future expectations of the U.S. Treasury real yield curve.

Weighted average assumptions used to determine benefit obligations were as follows:

| | Pension Plans | | |
|---|---|---|---|
| | Years Ended December 31, | | |
| | 2021 | 2020 | 2019 |
| Discount rate | 2.84 % | 2.40 % | 3.12 % |
| Expected return on plan assets | 3.25 % | 3.89 % | 5.13 % |
| Rate of compensation increase | 3.00 % | 3.00 % | 3.00 % |

Weighted-average assumptions used to determine net benefit cost were as follows:

| | Pension Plans | | |
|---|---|---|---|
| | Years Ended December 31, | | |
| | 2021 | 2020 | 2019 |
| Discount rate | 2.44 % | 3.12 % | 4.09 % |
| Service cost discount rate | 2.64 % | 3.15 % | 4.00 % |
| Interest cost discount rate | 1.90 % | 2.83 % | 3.77 % |
| Expected return on plan assets | 3.89 % | 4.88 % | 5.14 % |
| Rate of compensation increase | 3.00 % | 3.00 % | 3.50 % |

***Defined Contribution Plans***

Eligible salaried and non-union hourly employees in the U.S. participate in a defined contribution investment plan which permits employees to defer a portion of their compensation through payroll deductions and provides matching contributions. We match 100% of the first 3% of the participant's contributed pay plus 50% of the next 3% of the participant's contributed pay, subject to Internal Revenue Service limits. Participant contributions, matching contributions and the related earnings immediately vest. Mosaic also provides an annual non-elective employer contribution feature for eligible salaried and non-union hourly employees based on the employee's age and eligible pay. Participants are generally vested in the non-elective employer contributions after three years of service. In addition, a discretionary feature of the plan allows the Company to make additional contributions to employees. Certain union employees participate in a defined contribution retirement plan based on collective bargaining agreements.

Canadian salaried and non-union hourly employees participate in an employer funded plan with employer contributions similar to the U.S. plan. The plan provides a profit sharing component which is paid each year. We also sponsor one mandatory union plan in Canada. Benefits in these plans vest after two years of consecutive service.

The expense attributable to defined contribution plans in the U.S. and Canada was $55.8 million, $48.0 million and $56.4 million for 2021, 2020 and 2019, respectively.

***Postretirement Medical Benefit Plans***

We provide certain health care benefit plans for certain retired employees ("***Retiree Health Plans***") which may be either contributory or non-contributory and contain certain other cost-sharing features such as deductibles and coinsurance.

The North American Retiree Health Plans are unfunded and the projected benefit obligation was $31.1 million and $35.0 million as of December 31, 2021 and 2020, respectively. This liability should continue to decrease due to our limited exposure. The related income statement effects of the Retiree Health Plans are not material to the Company. We anticipate contributing cash of at least $2.9 million in 2022 to the postretirement medical benefit plans to fund anticipated benefit payments.

The year-end status of the Brazil postretirement medical benefit plans with a discount rate of 7.69% and 7.45% on each of December 31, 2021 and December 31, 2020, respectively was as follows:

| | Postretirement Medical Benefits | |
|---|---|---|
| | Years Ended December 31, | |
| *(in millions)* | 2021 | 2020 |
| Change in accumulated postretirement benefit obligation ("APBO"): | | |
| APBO at beginning of year | $ 96.8 | $ 109.4 |
| Service cost | 0.3 | 1.0 |
| Interest cost | 6.6 | 7.9 |
| Actuarial loss | (22.8) | 7.9 |
| Currency fluctuations | (3.9) | (27.7) |
| Benefits paid | (1.7) | (1.7) |
| Plan Amendments | (17.3) | — |
| APBO at end of year | $ 58.0 | $ 96.8 |
| Change in plan assets: | | |
| Company contribution | $ 1.7 | $ 1.7 |
| Benefits paid | (1.7) | (1.7) |
| Fair value at end of year | $ — | $ — |
| Unfunded status of the plans as of the end of the year | $ (58.0) | $ (96.8) |
| Amounts recognized in the consolidated balance sheets: | | |
| Current liabilities | $ — | $ (1.7) |
| Noncurrent liabilities | (58.0) | (95.1) |
| Amounts recognized in accumulated other comprehensive (income) loss | | |
| Prior service costs (credits) | $ (14.8) | $ — |
| Actuarial loss | $ 16.1 | $ 42.6 |

## 18. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS) ("*AOCI*")

The following table sets forth the changes in AOCI by component during the years ended December 31, 2021, 2020 and 2019:

| *(in millions)* | Foreign Currency Translation Gain (Loss) | Net Actuarial Gain and Prior Service Cost | Amortization of Gain on Interest Rate Swap | Net Gain (Loss) on Marketable Securities Held in Trust | Total |
|---|---|---|---|---|---|
| Balance at December 31, 2018 | $ (1,547.4) | $ (105.3) | $ 0.4 | $ (4.8) | (1,657.1) |
| Other comprehensive income (loss) | 74.1 | (26.2) | 2.2 | 14.0 | 64.1 |
| Tax (expense) or benefit | (4.7) | 1.9 | (0.5) | (3.1) | (6.4) |
| Other comprehensive income (loss), net of tax | 69.4 | (24.3) | 1.7 | 10.9 | 57.7 |
| Addback: loss attributable to noncontrolling interest | 1.2 | — | — | — | 1.2 |
| Balance at December 31, 2019 | $ (1,476.8) | $ (129.6) | $ 2.1 | $ 6.1 | $ (1,598.2) |
| Other comprehensive income (loss) | (246.1) | 12.2 | 2.0 | 16.6 | (215.3) |
| Tax (expense) or benefit | (3.4) | 7.7 | (0.4) | (3.8) | 0.1 |
| Other comprehensive income (loss), net of tax | (249.5) | 19.9 | 1.6 | 12.8 | (215.2) |
| Addback: loss attributable to noncontrolling interest | 7.2 | — | — | — | 7.2 |
| Balance at December 31, 2020 | $ (1,719.1) | $ (109.7) | $ 3.7 | $ 18.9 | $ (1,806.2) |
| Other comprehensive income (loss) | (117.0) | 56.5 | 2.0 | (22.7) | (81.2) |
| Tax (expense) or benefit | 8.8 | (19.6) | (0.5) | 5.1 | (6.2) |
| Other comprehensive income (loss), net of tax | (108.2) | 36.9 | 1.5 | (17.6) | (87.4) |
| Addback: loss attributable to noncontrolling interest | 1.8 | — | — | — | 1.8 |
| Balance at December 31, 2021 | $ (1,825.5) | $ (72.8) | $ 5.2 | $ 1.3 | $ (1,891.8) |

## 19. SHARE REPURCHASES

In August 2021, our Board of Directors authorized a new $1.0 billion share repurchase program (the "***2021 Repurchase Program***"), replacing our 2015 Repurchase Program. The 2021 Repurchase Program allows the Company to repurchase shares of our Common Stock, through open market purchases, accelerated share repurchase arrangements, privately negotiated transactions or otherwise and has no set expiration date. In connection with this authorization, the remaining amount of $700 million authorized under 2015 Repurchase Program was terminated.

During the year ended December 31, 2021, under the 2021 Repurchase Program, we repurchased 11,200,371 shares of Common Stock for a total of approximately $410.9 million. This includes 8,544,144 shares we purchased in an underwritten secondary offering by Vale S.A. when they fully divested their interest in Mosaic.

The extent to which we repurchase our shares and the timing of any such repurchases depend on a number of factors, including market and business conditions, the price of our shares, and corporate, regulatory and other considerations.

## 20. SHARE-BASED PAYMENTS

The Mosaic Company 2014 Stock and Incentive Plan (the "***2014 Stock and Incentive Plan***") was approved by our stockholders and became effective on May 15, 2014. It permits up to 25 million shares of common stock to be issued under share-based awards granted under the plan. The 2014 Stock and Incentive Plan provides for grants of stock options, restricted stock, restricted stock units, performance units and a variety of other share-based and non-share-based awards. Our employees, officers, directors, consultants, agents, advisors and independent contractors, as well as other designated individuals, are eligible to participate in the 2014 Stock and Incentive Plan.

The Mosaic Company 2004 Omnibus Stock and Incentive Plan (the "***Omnibus Plan***"), which was approved by our stockholders and became effective in 2004 and subsequently amended, provided for the grant of shares and share options to employees for up to 25 million shares of common stock. While awards may no longer be made under the Omnibus Plan, it will remain in effect with respect to the awards that had been granted thereunder prior to its termination.

Mosaic settles stock option exercises, restricted stock units and certain performance units and performance shares with newly issued common shares. The Compensation Committee of the Board of Directors administers the 2014 Stock and Incentive Plan and the Omnibus Plan subject to their respective provisions and applicable law.

### *Stock Options*

Stock options are granted with an exercise price equal to the market price of our stock at the date of grant and have a ten-year contractual term. The fair value of each option award is estimated on the date of the grant using the Black-Scholes option valuation model. Stock options vest in equal annual installments in the first three years following the date of grant (graded vesting). Stock options are expensed on a straight-line basis over the required service period, based on the estimated fair value of the award on the date of grant, net of estimated forfeitures.

Valuation Assumptions

Assumptions used to calculate the fair value of stock options awarded in 2017 are noted in the following table. There were no stock options granted or issued in 2021, 2020, or 2019. Expected volatility is based on the simple average of implied and historical volatility using the daily closing prices of the Company's stock for a period equal to the expected term of the option. The risk-free interest rate is based on the U.S. Treasury rate at the time of the grant for instruments of comparable life.

| | Year Ended December 31, 2017 |
|---|---|
| Weighted average assumptions used in option valuations: | |
| Expected volatility | 35.35 % |
| Expected dividend yield | 1.97 % |
| Expected term (in years) | 7 |
| Risk-free interest rate | 2.34 % |

A summary of the status of our stock options as of December 31, 2021, and activity during 2021, is as follows:

| | Shares (in millions) | Weighted Average Exercise Price | Weighted Average Remaining Contractual Term (Years) | Aggregate Intrinsic Value |
|---|---|---|---|---|
| Outstanding as of December 31, 2020 | 1.8 | $ 43.89 | | |
| Granted | — | — | | |
| Exercised | (0.1) | $ 29.21 | | |
| Cancelled | (0.6) | $ 58.56 | | |
| Outstanding as of December 31, 2021 | 1.1 | $ 38.47 | 3.4 | $ 6.5 |
| Exercisable as of December 31, 2021 | 1.1 | $ 38.47 | 3.4 | $ 6.5 |

The weighted-average grant date fair value of options granted during 2017 was $9.91. There were no options exercised during 2020 or 2019.

***Restricted Stock Units***

Restricted stock units are issued to various employees, officers and directors at a value equal to the market price of our stock at the date of grant. The fair value of restricted stock units is equal to the market price of our stock at the date of grant. Restricted stock units generally cliff vest after three years of continuous service and are expensed on a straight-line basis over the required service period, based on the estimated grant date fair value, net of estimated forfeitures.

A summary of the status of our restricted stock units as of December 31, 2021, and activity during 2021, is as follows:

| | Shares (in millions) | Weighted Average Grant Date Fair Value Per Share |
|---|---|---|
| Restricted stock units as of December 31, 2020 | 2.5 | $ 21.48 |
| Granted | 0.7 | 29.88 |
| Issued and cancelled | (0.8) | $ 26.15 |
| Restricted stock units as of December 31, 2021 | 2.4 | $ 22.44 |

***Performance Units***

During the years ended December 31, 2021, 2020 and 2019, 717,952, 1,309,170 and 603,856 total shareholder return ("***TSR***") performance units were granted, respectively. Final performance units are awarded based on the increase or decrease, subject to certain limitations, in Mosaic's share price from the grant date to the third anniversary of the award, plus dividends (a measure of total shareholder return or TSR). The beginning and ending stock prices are based on a 30 trading-day average stock price. Holders of the awards must be employed at the end of the performance period in order for any units to vest, except in the event of death, disability or retirement at or after age 60, certain changes in control or the exercise of Committee or Board discretion as provided in the related award agreements.

The fair value of each TSR performance unit is determined using a Monte Carlo simulation. This valuation methodology utilizes assumptions consistent with those of our other share-based awards and a range of ending stock prices; however, the expected term of the awards is three years, which impacts the assumptions used to calculate the fair value of performance units as shown in the table below. 262,308 of the TSR performance awards issued in 2021 are to be settled in cash, and are therefore accounted for as a liability with changes in value recorded through earnings during the service period. The remaining TSR performance units issued in 2021, and all of the 2020 and 2019 TSR performance units, are considered equity-classified fixed awards measured at grant-date fair value and not subsequently re-measured. All of the TSR performance units cliff vest after three years of continuous service and are expensed on a straight-line basis over the required service period, based on the estimated grant date fair value of the award net of estimated forfeitures.

A summary of the assumptions used to estimate the fair value of TSR performance units is as follows:

| | Years Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2020 | 2019 |
| Performance units granted | 717,952 | 1,309,170 | 603,856 |
| Average fair value of performance units on grant date | $ 27.91 | $ 13.52 | $ 25.87 |
| Weighted average assumptions used in performance unit valuations: | | | |
| Expected volatility | 58.26 % | 43.49 % | 33.70 % |
| Expected dividend yield | 0.68 % | 1.24 % | 0.72 % |
| Expected term (in years) | 3 | 3 | 3 |
| Risk-free interest rate | 0.32 % | 0.61 % | 2.43 % |

A summary of our performance unit activity during 2021 is as follows:

| | Shares (in millions) | Weighted Average Grant Date Fair Value Per Share |
|---|---|---|
| Outstanding as of December 31, 2020 | 2.6 | $ 18.27 |
| Granted | 0.7 | 27.91 |
| Issued and cancelled | (0.5) | $ 27.50 |
| Outstanding as of December 31, 2021 | 2.8 | $ 18.91 |

***Share-Based Compensation Expense***

We recorded share-based compensation expense of $63.5 million, $24.5 million and $31.6 million for 2021, 2020 and 2019, respectively. The tax benefit related to share exercises and lapses in the year was $6.5 million, $5.2 million and $6.7 million for 2021, 2020 and 2019, respectively.

As of December 31, 2021, there was $29.3 million of total unrecognized compensation cost related to options, restricted stock units and performance units and shares granted under the 2014 Stock and Incentive Plan and the Omnibus Plan. The unrecognized compensation cost is expected to be recognized over a weighted-average period of one year. No options vested in 2021, 2020 and 2019.

There was no cash received from exercises of share-based payment arrangements for 2021, 2020 or 2019. We received a tax benefit for tax deductions from options of $14.0 million, $3.3 million and $2.6 million in 2021, 2020 and 2019, respectively.

## 21. COMMITMENTS

We lease certain plants, warehouses, terminals, office facilities, railcars and various types of equipment under operating leases, some of which include rent payment escalation clauses, with lease terms ranging from one to 29 years. In addition to minimum lease payments, some of our office facility leases require payment of our proportionate share of real estate taxes and building operating expenses. Our future obligations under these leases are included in Note 3 of our Notes to Consolidated Financial Statements.

We also have purchase obligations to purchase goods and services, primarily for raw materials used in products sold to customers. In 2013, we entered into an ammonia supply agreement with CF (the "***CF Ammonia Supply Agreement***") that commenced in 2017, under which Mosaic agreed to purchase approximately 545,000 to 725,000 tonnes of ammonia per year at a price tied to the prevailing price of U.S. natural gas. The term of the contract may extend until December 31, 2032, although we have rights to terminate this contract at certain dates.

We have long-term agreements for the purchase of sulfur, which is used in the production of phosphoric acid, and natural gas, which is a significant raw material used primarily in the solution mining process in our Potash segment as well as in our phosphate concentrates plants. Also, we have agreements for capital expenditures primarily in our Potash segments related to our expansion projects.

A schedule of future minimum long-term purchase commitments, based on expected market prices as of December 31, 2021 is as follows:

| *(in millions)* | Purchase Commitments |
|---|---|
| 2022 | $ 5,687.1 |
| 2023 | 966.5 |
| 2024 | 619.8 |
| 2025 | 354.9 |
| 2026 | 298.4 |
| Subsequent years | 1,174.0 |
| | $ 9,100.7 |

Purchases made under long-term commitments in were $3.1 billion in 2021, and $1.9 billion in 2020 and 2019, respectively.

Most of our export sales of potash crop nutrients are marketed through a North American export association, Canpotex, which may fund its operations in part through third-party financing facilities. As a member, Mosaic or our subsidiaries are contractually obligated to reimburse Canpotex for their pro rata share of any operating expenses or other liabilities incurred. The reimbursements are made through reductions to members' cash receipts from Canpotex.

We incur liabilities for reclamation activities and Gypstack closures in our Florida and Louisiana operations where, in order to obtain necessary permits, we must either pass a test of financial strength or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. The surety bonds generally expire within one year or less but a substantial portion of these instruments provide financial assurance for continuing obligations and, therefore, in most cases, must be renewed on an annual basis. As of December 31, 2021, we had $645.7 million in surety bonds outstanding, of which $356.1 million is for reclamation obligations, primarily related to mining in Florida. In addition, included in the total amount is $249.7 million, reflecting our updated closure cost estimates, delivered to EPA as a substitute for the financial assurance provided through the Plant City Trust. The remaining balance in surety bonds outstanding of $39.9 million is for other matters.

## 22. CONTINGENCIES

We have described below the material judicial and administrative proceedings to which we are subject.

***Environmental Matters***

We have contingent environmental liabilities that arise principally from three sources: (i) facilities currently or formerly owned by our subsidiaries or their predecessors; (ii) facilities adjacent to currently or formerly owned facilities; and (iii) third-party Superfund or state equivalent sites. At facilities currently or formerly owned by our subsidiaries or their predecessors, the historical use and handling of regulated chemical substances, crop and animal nutrients and additives and by-product or process tailings have resulted in soil, surface water and/or groundwater contamination. Spills or other releases of regulated substances, subsidence from mining operations and other incidents arising out of operations, including accidents, have occurred previously at these facilities, and potentially could occur in the future, possibly requiring us to undertake or fund cleanup or result in monetary damage awards, fines, penalties, other liabilities, injunctions or other court or administrative rulings. In some instances, pursuant to consent orders or agreements with governmental agencies, we are undertaking certain remedial actions or investigations to determine whether remedial action may be required to address contamination. At other locations, we have entered into consent orders or agreements with appropriate governmental agencies to perform required remedial activities that will address identified site conditions. Taking into consideration established accruals of approximately $57.3 million and $61.4 million, as of December 31, 2021 and 2020, respectively, expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material effect on our business or financial condition. However, material expenditures could be required in the future to remediate the contamination at known sites or at other current or former sites or as a result of other environmental, health and safety matters. Below is a discussion of the more significant environmental matters.

*New Wales Water Loss Incident.* In August 2016, a sinkhole developed under one of the two cells of the Phase II Gypstack at our New Wales facility in Polk County, Florida, resulting in process water from the stack draining into the sinkhole. The incident was reported to the FDEP and EPA. In October 2016, our subsidiary, Mosaic Fertilizer, entered into a consent order

(the "***Order***") with the FDEP relating to the incident. Under the order, Mosaic Fertilizer agreed to, among other things: implement a remediation plan to close the sinkhole; perform additional monitoring of the groundwater quality and act to assess and remediate in the event monitored off-site water does not comply with applicable standards as a result of the incident; evaluate the risk of potential future sinkhole formation at the New Wales facility and at Mosaic Fertilizer's active Gypstack operations at the Bartow, Riverview and Plant City facilities with recommendations to address any identified issues; and provide financial assurance of no less than $40.0 million, which we have done without the need for any expenditure of corporate funds through satisfaction of a financial strength test and Mosaic parent guarantee. The Order did not require payment of civil penalties relating to the incident.

As of December 31, 2021, the sinkhole repairs were substantially complete. Additional expenditures could be required in the future for additional remediation or other measures in connection with the sinkhole including if, for example, FDEP or EPA were to request additional measures to address risks presented by the Gypstack. These expenditures could be material. In addition, we are unable to predict at this time what, if any, impact the New Wales water loss incident will have on future Florida permitting efforts.

*EPA RCRA Initiative.* We have certain financial assurance and other obligations under consent decrees and a separate financial assurance arrangement relating to our facilities in Florida and Louisiana. These obligations are discussed in Note 13 of our Notes to Consolidated Financial Statements.

*Florida Sulfuric Acid Plants.* On April 8, 2010, EPA Region 4 submitted an administrative subpoena to us under Section 114 of the Federal Clean Air Act (the "***CAA***") regarding compliance of our Florida sulfuric acid plants with the "New Source Review" requirements of the CAA. The request received by Mosaic appears to be part of a broader EPA national enforcement initiative focusing on sulfuric acid plants. On June 6, 2010, EPA issued a notice of violation to CF (the "***CF NOV***") with respect to "New Source Review" compliance at the Plant City Facility's sulfuric acid plants and the allegations in the CF NOV were not resolved before our 2014 acquisition of the Plant City Facility. CF has agreed to indemnify us with respect to any penalty EPA may assess as a result of the allegations in the CF NOV.

We have been engaged in settlement discussions with U.S. EPA and the DOJ, originating with the allegations of violations of Clean Air Act Prevention of Significant Deterioration ("***PSD***") permitting requirements at the Plant City sulfuric acid plants and encompassing injunctive relief regarding sulfur dioxide emissions across Mosaic's Florida sulfuric acid plant fleet. With the closure of Plant City fertilizer operations, there is no longer a need to reach resolution with the government on injunctive relief (i.e., reduction of sulfur dioxide emissions) at that facility. Furthermore, the DOJ has determined that there is no basis for proceeding with a settlement, as EPA and the Department have not currently alleged any violations of the Clean Air Act PSD permitting requirements at any other of Mosaic's Florida sulfuric acid plants. On July 24, 2020, the DOJ filed a complaint against CF and stipulation of settlement, including a $550,000 civil penalty, concluding enforcement against CF related to the CF NOV.

We cannot predict at this time whether EPA and DOJ will initiate an enforcement action in the future with respect to "New Source Review" compliance at our Florida sulfuric acid plants or what its scope would be, or what the range of outcomes might be with respect to such a potential enforcement action.

*Uncle Sam Gypstack*. In January 2019, we observed lateral movement of the north slope of the active phosphogypsum stack at the Uncle Sam facility in Louisiana, designated Stack 4. The observation was reported to the Louisiana Department of Environmental Quality and the U.S. EPA. We continue to provide updates to the agencies on the movement, which has slowed following actions we have taken, which include reducing process water volume stored atop the stack to reduce the active load causing the movement; constructing a stability berm at the base of the slope to increase resistance; and removing gypsum from the north side to the south side. These steps have improved slope stability, reduced slope movement and reduced our capacity to store process water. There has been no loss of containment resulting from the movement observed, and none is expected. Although continued lateral movement on the north slope could have a material effect on our future operations at that facility, we cannot predict the prospective impact on our results of operations at this time.

*Other Environmental Matters.* Superfund and equivalent state statutes impose liability without regard to fault or to the legality of a party's conduct on certain categories of persons who are considered to have contributed to the release of "hazardous substances" into the environment. Under Superfund, or its various state analogues, one party may, under certain circumstances, be required to bear more than its proportionate share of cleanup costs at a site where it has liability if payments cannot be obtained from other responsible parties. Currently, certain of our subsidiaries are involved or concluding involvement at several Superfund or equivalent state sites. Our remedial liability from these sites, alone or in the aggregate,

currently is not expected to have a material effect on our business or financial condition. As more information is obtained regarding these sites and the potentially responsible parties involved, this expectation could change.

We believe that, pursuant to several indemnification agreements, our subsidiaries are entitled to at least partial, and in many instances complete, indemnification for the costs that may be expended by us or our subsidiaries to remedy environmental issues at certain facilities. These agreements address issues that resulted from activities occurring prior to our acquisition of facilities or businesses from parties including, but not limited to, ARCO (BP); Beatrice Fund for Environmental Liabilities; Conoco; Conserv; Estech, Inc.; Kaiser Aluminum & Chemical Corporation; Kerr-McGee Inc.; PPG Industries, Inc.; The Williams Companies; CF; and certain other private parties. Our subsidiaries have already received and anticipate receiving amounts pursuant to the indemnification agreements for certain of their expenses incurred to date as well as future anticipated expenditures. We record potential indemnifications as an offset to the established accruals when they are realizable or realized. The failure of an indemnitor to fulfill its obligations could result in future costs that could be material.

***Louisiana Parishes Coastal Zone Cases***

Several Louisiana parishes and the City of New Orleans have filed lawsuits against hundreds of oil and gas companies seeking regulatory, restoration and compensatory damages in connection with historical oil, gas and sulfur mining and transportation operations in the coastal zone of Louisiana. Mosaic is the corporate successor to certain companies which performed these types of operations in the coastal zone of Louisiana. Mosaic has been named in two of the lawsuits filed to date. In addition, in several other cases, historical oil, gas and sulfur operations which may have been related to Mosaic's corporate predecessors have been identified in the complaints. Based upon information known to date, Mosaic has contractual indemnification rights against third parties for any loss or liability arising out of these claims pursuant to indemnification agreements entered into by Mosaic's corporate predecessor(s) with third parties. There may also be insurance contracts which may respond to some or all of the claims. However, the financial ability of the third-party indemnitors, the extent of potential insurance coverage and the extent of potential liability from these claims is currently unknown.

In September 2019, counsel for several of the parishes announced that an agreement had been reached to settle the claims against Mosaic and its corporate predecessors, subject to approval by the participating parishes and the State of Louisiana. In connection with that settlement agreement, the proposed settlement payment obligations would be paid by third-party indemnitors.

***North America Phosphate Operations***

Denial of the permits sought at any of our mines, issuance of the permits with cost-prohibitive conditions, substantial delays in issuing the permits, legal actions that prevent us from relying on permits or revocation of permits may create challenges for us to mine the phosphate rock required to operate our Florida and Louisiana phosphate plants at desired levels or increase our costs in the future.

***Brazil Legal Contingencies***

Our Brazilian subsidiaries are engaged in a number of judicial and administrative proceedings regarding labor, environmental, mining and civil claims that allege aggregate damages and/or fines of approximately $706.2 million. We estimate that our probable aggregate loss with respect to these claims is approximately $56.7 million, which is included in our accrued liabilities in our Consolidated Balance Sheets at December 31, 2021.

Approximately $548.3 million of the maximum potential loss relates to labor claims, such as in-house and third-party employees' judicial proceedings alleging the right to receive overtime pay, additional payment due to work in hazardous conditions, risk premium, profit sharing, additional payment due to night work, salary parity and wage differences. We estimate that our probable aggregate loss regarding these claims is approximately $49.5 million, which is included in accrued liabilities in our Consolidated Balance Sheets at December 31, 2021.

Based on Brazil legislation and the current status of similar labor cases involving unrelated companies, we believe we have recorded adequate loss contingency reserves sufficient to cover our estimate of probable losses. If the status of similar cases involving unrelated companies were to adversely change in the future, our maximum exposure could increase and additional accruals could be required.

The environmental judicial and administrative proceedings claims allege aggregate damages and/or fines of approximately $19.0 million; however, we estimate that our probable aggregate loss regarding these claims is approximately $4.9 million, which has been accrued at December 31, 2021.

Our Brazilian subsidiaries also have certain other civil contingent liabilities with respect to judicial, administrative and arbitration proceedings and claims related to contract disputes, pension plan matters, real state disputes, regulatory issues and other civil matters arising in the ordinary course of business. These claims allege aggregate damages of approximately $138.8 million. We estimate that the probable aggregate loss with respect to these matters is approximately $2.3 million.

***Uberaba Judicial Settlement***

In 2013, the Federal Public Prosecutor filed a public civil action requesting that the Company adopt several measures to mitigate soil and water contamination related to the Gypstack at our Uberaba facility, located in the State of Minas Gerais, including compensation for the alleged social and environmental damages. In 2014, our predecessor subsidiary in Brazil entered into a judicial settlement with the Federal Public Prosecutor, the State of Minas Gerais public prosecutor and the federal environmental agency. Under this agreement, we agreed to implement remediation measures such as: constructing a liner under the Gypstack water ponds and lagoons, and monitoring the groundwater and soil quality. We also agreed to create a private reserve of natural heritage and to pay compensation in the amount of approximately $0.3 million, which was paid in July 2018. We are currently acting in compliance with our obligations under the judicial settlement and expect them to be completed by December 31, 2025.

***Brazil Tax Contingencies***

Our Brazilian subsidiaries are engaged in a number of judicial and administrative proceedings relating to various non-income tax matters. We estimate that our maximum potential liability with respect to these matters is approximately $380.0 million, of which $182.7 million is subject to an indemnification agreement entered into with Vale S.A in connection with the Acquisition.

Approximately $236.8 million of the maximum potential liability relates to a Brazilian federal value added tax, PIS and COFINS, and tax credit cases, while the majority of the remaining amount relates to various other non-income tax cases. The maximum potential liability can increase with new audits. Based on Brazil legislation and the current status of similar tax cases involving unrelated taxpayers, we believe we have recorded adequate loss contingency reserves sufficient to cover our estimate of probable losses, which are immaterial. If the status of similar tax cases involving unrelated taxpayer changes in the future, additional accruals could be required.

***Other Claims***

We also have certain other contingent liabilities with respect to judicial, administrative and arbitration proceedings and claims of third parties, including tax matters, arising in the ordinary course of business. We do not believe that any of these contingent liabilities will have a material adverse impact on our business or financial condition, results of operations, and cash flows.

## 23. RELATED PARTY TRANSACTIONS

We enter into transactions and agreements with certain of our non-consolidated companies and other related parties from time to time. As of December 31, 2021 and December 31, 2020, the net amount due from our non-consolidated companies totaled $63.0 million and $55.9 million, respectively. These amounts include a long-term indemnification asset of approximately $21.0 million from Vale S.A. for reimbursement of pension plan obligations.

The Consolidated Statements of Earnings included the following transactions with our non-consolidated companies:

| | Years Ended December 31, | | |
|---|---|---|---|
| *(in millions)* | 2021 | 2020 | 2019 |
| Transactions with non-consolidated companies included in net sales | $ 1,120.9 | $ 819.6 | $ 969.5 |
| Transactions with non-consolidated companies included in cost of goods sold | $ 1,483.8 | $ 950.1 | $ 1,057.7 |

As part of the MWSPC joint venture, we market approximately 25% of the MWSPC production, for which approximately $12.2 million, $8.5 million and $8.3 million is included in revenue for the years ended December 31, 2021, 2020 and 2019, respectively.

In November 2015, we agreed to provide funds to finance the purchase and construction of two articulated tug and barge units, intended to transport anhydrous ammonia for our operations, through a bridge loan agreement with Gulf Marine Solutions, LLC ("***GMS***"). GMS is a wholly owned subsidiary of Gulf Sulphur Services Ltd., LLLP ("***Gulf Sulphur***

***Services***"), an entity in which we and a joint venture partner, Savage Companies ("***Savage***"), each indirectly own a 50% equity interest and for which a subsidiary of Savage provides operating and management services. GMS provided these funds through draws on the Mosaic bridge loan and through additional loans from Gulf Sulphur Services. We are the primary beneficiary of GMS, a variable interest entity, and consolidate GMS's operations in our Phosphates segment.

On October 24, 2017, a lease financing transaction was completed with respect to the completed tug and barge unit, and, following the application of proceeds from the transaction, all outstanding loans made by Gulf Sulphur Services to GMS, together with accrued interest, were repaid, and the bridge loans related to the first unit's construction were repaid. As of December 31, 2021 and December 31, 2020, there were outstanding bridge loans of $74.7 million relating to the cancelled second barge and the remaining tug, which bridge loans are eliminated in consolidation. Reserves against the bridge loans of approximately $54.2 million were established in 2018 and remain unchanged. The construction of the remaining tug, funded by the bridge loan advances in excess of the reserves, is recorded within construction in-progress within our consolidated balance sheet. Several subsidiaries of Savage operate vessels utilized by Mosaic under time charter arrangements, including the ammonia tug and barge unit.

## 24. BUSINESS SEGMENTS

The reportable segments are determined by management based upon factors such as products and services, production processes, technologies, market dynamics, and for which segment financial information is available for our chief operating decision maker.

For a description of our business segments see Note 1 of our Notes to Consolidated Financial Statements. We evaluate performance based on the operating earnings of the respective business segments, which includes certain allocations of corporate selling, general and administrative expenses. The segment results may not represent the actual results that would be expected if they were independent, stand-alone businesses. Intersegment eliminations, including profit on intersegment sales, mark-to-market gains/losses on derivatives, debt expenses, Streamsong Resort® results of operations and the results of the China and India distribution business are included within Corporate, Eliminations and Other. As of January 1, 2019, certain selling, general and administrative costs that are not controllable by the business segments are no longer allocated to segments and are included within Corporate, Eliminations and Other.

Segment information for the years 2021, 2020 and 2019 is as follows:

| *(in millions)* | Phosphates | Potash | Mosaic Fertilizantes | Corporate, Eliminations and Other (a) | Total |
|---|---|---|---|---|---|
| **Year Ended December 31, 2021** | | | | | |
| Net sales to external customers | $ 3,889.7 | $ 2,587.9 | $ 5,088.5 | $ 791.3 | $ 12,357.4 |
| Intersegment net sales | 1,033.2 | 38.9 | — | (1,072.1) | — |
| Net sales | 4,922.9 | 2,626.8 | 5,088.5 | (280.8) | 12,357.4 |
| Gross margin | 1,305.4 | 1,057.5 | 842.7 | (5.3) | 3,200.3 |
| Canadian resource taxes | — | 259.5 | — | — | 259.5 |
| Gross margin (excluding Canadian resource taxes) | 1,305.4 | 1,317.0 | 842.7 | (5.3) | 3,459.8 |
| Impairment, restructuring and other expenses | — | 158.1 | — | — | 158.1 |
| Operating earnings | 1,179.8 | 836.6 | 745.9 | (293.8) | 2,468.5 |
| Capital expenditures | 649.9 | 410.1 | 216.1 | 12.5 | 1,288.6 |
| Depreciation, depletion and amortization expense | 428.7 | 267.8 | 101.2 | 15.2 | 812.9 |
| Equity in net earnings of nonconsolidated companies | 5.4 | — | — | 2.4 | 7.8 |
| **Year Ended December 31, 2020** | | | | | |
| Net sales to external customers | $ 2,543.5 | $ 1,988.6 | $ 3,481.6 | $ 668.0 | $ 8,681.7 |
| Intersegment net sales | 572.9 | 30.7 | — | (603.6) | — |
| Net sales | 3,116.4 | 2,019.3 | 3,481.6 | 64.4 | 8,681.7 |
| Gross margin | 125.5 | 468.3 | 419.6 | 51.5 | 1,064.9 |
| Canadian resource taxes | — | 146.1 | — | — | 146.1 |
| Gross margin (excluding Canadian resource taxes) | 125.5 | 614.4 | 419.6 | 51.5 | 1,211.0 |
| Operating earnings | (147.1) | 401.5 | 346.5 | (188.0) | 412.9 |
| Capital expenditures | 538.1 | 478.2 | 144.9 | 9.4 | 1,170.6 |
| Depreciation, depletion and amortization expense | 443.4 | 282.4 | 105.7 | 16.1 | 847.6 |
| Equity in net (loss) earnings of nonconsolidated companies | (94.1) | — | — | 0.3 | (93.8) |
| **Year Ended December 31, 2019** | | | | | |
| Net sales to external customers | $ 2,416.6 | $ 2,081.7 | $ 3,782.8 | $ 625.2 | $ 8,906.3 |
| Intersegment net sales | 824.7 | 32.1 | — | (856.8) | — |
| Net sales | 3,241.3 | 2,113.8 | 3,782.8 | (231.6) | 8,906.3 |
| Gross margin | (82.3) | 616.8 | 290.1 | 72.7 | 897.3 |
| Canadian resource taxes | — | 174.6 | — | — | 174.6 |
| Gross margin (excluding Canadian resource taxes) | (82.3) | 791.4 | 290.1 | 72.7 | 1,071.9 |
| Impairment, restructuring and other expenses | 931.6 | 530.5 | — | — | 1,462.1 |
| Operating earnings | (1,131.1) | 45.8 | 132.5 | (142.1) | (1,094.9) |
| Capital expenditures | 545.2 | 540.1 | 182.3 | 4.6 | 1,272.2 |
| Depreciation, depletion and amortization expense | 430.1 | 296.3 | 135.8 | 20.5 | 882.7 |
| Equity in net (loss) earnings of nonconsolidated companies | (60.1) | — | — | 0.7 | (59.4) |
| Total assets as of December 31, 2021 | $ 8,776.4 | $ 8,312.8 | $ 4,908.2 | $ 39.0 | $ 22,036.4 |
| Total assets as of December 31, 2020 | 7,022.1 | 7,614.8 | 4,127.7 | 1,025.2 | 19,789.8 |
| Total assets as of December 31, 2019 [(b)] | 7,183.5 | 7,219.2 | 3,974.9 | 920.9 | 19,298.5 |

(a) The "Corporate, Eliminations and Other" category includes the results of our ancillary distribution operations in India and China. For the years ended December 31, 2021, 2020 and 2019, distribution operations in India and China had revenues of $730.1 million, $639.4 million, and $575.6 million, respectively and gross margins of $141.6 million, $58.7 million, and $27.3 million, respectively.

(b) In 2019, we recorded an impairment of goodwill in Phosphates of $588.6 million, which reduced the total asset balance.

Financial information relating to our operations by geographic area is as follows:

| (in millions) | Years Ended December 31, 2021 | 2020 | 2019 |
|---|---|---|---|
| *Net sales[(a)]:* | | | |
| Brazil | $ 5,002.2 | $ 3,377.1 | $ 3,675.1 |
| Canpotex[(b)] | 1,089.6 | 795.2 | 952.5 |
| Canada | 794.9 | 547.5 | 602.0 |
| China | 396.0 | 334.2 | 225.3 |
| India | 340.3 | 318.4 | 347.1 |
| Colombia | 135.1 | 93.4 | 82.8 |
| Paraguay | 113.8 | 94.3 | 102.9 |
| Japan | 112.4 | 58.8 | 33.0 |
| Argentina | 101.3 | 121.0 | 116.3 |
| Mexico | 93.6 | 77.1 | 117.8 |
| Australia | 64.8 | 85.1 | 91.3 |
| Peru | 40.0 | 62.0 | 89.3 |
| Dominican Republic | 29.8 | 17.1 | 17.3 |
| Honduras | 22.3 | 31.0 | 11.7 |
| Thailand | 18.1 | 21.2 | 24.8 |
| Other | 73.9 | 75.0 | 84.3 |
| Total international countries | 8,428.1 | 6,108.4 | 6,573.5 |
| United States | 3,929.3 | 2,573.3 | 2,332.8 |
| Consolidated | $ 12,357.4 | $ 8,681.7 | $ 8,906.3 |

(a) Revenues are attributed to countries based on location of customer.

(b) Canpotex is the export association of two Saskatchewan potash producers. The net sales of potash from Mosaic to Canpotex included in our consolidated financial statements in the Net Sales line represent Mosaic's sales of potash to Canpotex, and are recognized upon delivery to the unrelated third-party customer. Canpotex sales to the ultimate third-party customers are approximately: 30% to customers based in Brazil, 14% to customers based in Indonesia, 11% to customers based in China, 6% to customers based in India, and 39% to customers based in the rest of the world.

| (in millions) | December 31, 2021 | 2020 |
|---|---|---|
| *Long-lived assets:* | | |
| Canada | $ 5,012.2 | $ 4,998.5 |
| Brazil | 2,011.0 | 1,904.1 |
| Other | 1,285.0 | 1,324.8 |
| Total international countries | 8,308.2 | 8,227.4 |
| United States | 6,233.6 | 5,688.8 |
| Consolidated | $ 14,541.8 | $ 13,916.2 |

Excluded from the table above as of December 31, 2021 and 2020, are goodwill of $1,172.2 million and $1,173.0 million and deferred income taxes of $997.1 million and $1,179.4 million, respectively.

Net sales by product type for the years 2021, 2020 and 2019 are as follows:

| *(in millions)* | Years Ended December 31, 2021 | 2020 | 2019 |
|---|---|---|---|
| *Sales by product type:* | | | |
| Phosphate Crop Nutrients | $ 3,552.7 | $ 2,477.0 | $ 2,541.3 |
| Potash Crop Nutrients | 3,367.9 | 2,566.7 | 2,716.8 |
| Crop Nutrient Blends | 1,800.0 | 1,232.7 | 1,415.7 |
| Performance Products[(a)] | 1,973.6 | 1,370.8 | 1,193.6 |
| Phosphate Rock | 75.5 | 42.0 | 53.6 |
| Other[(b)] | 1,587.7 | 992.5 | 985.3 |
| | $ 12,357.4 | $ 8,681.7 | $ 8,906.3 |

(a) Includes sales of MicroEssentials®, K-Mag®, Aspire® and Sus-Terra™
(b) Includes sales of industrial potash, feed products, nitrogen and other products.

## 25. MINE CLOSURE COSTS

Due to increased brine inflows, on June 4, 2021, the Company made the decision to accelerate the timing of the shutdown of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan potash mine. Closing the K1 and K2 shafts are key pieces of the transition to the K3 shaft, but the timeline for the closure was accelerated by approximately nine months. In 2021, we had pre-tax costs of $158.1 million related to the permanent closure of these facilities. These costs consisted of $109.9 million related to the write-off of fixed assets, $37.1 million related to AROs, and $11.1 million related to inventory and other reserves. In the third quarter of 2021, we resumed production at our previously idled Colonsay potash mine to offset a portion of the production lost by the early closure of the K1 and K2 shafts at Esterhazy.

On January 28, 2020, we announced that we intend to keep our Colonsay, Saskatchewan potash mine idled for the foreseeable future. The mine was placed in care and maintenance mode, employing minimal staff and allowing for resumption of operations when needed to meet customers' needs. For the year ended December 31, 2019, we recorded pre-tax costs of approximately $529.7 million in impairment, restructuring and other expenses in our Consolidated Statement of Earnings (Loss), related to this idling. These costs consisted of approximately $493 million related to the write-off of fixed assets, $27 million related to severance and other employee costs, and $10 million related to the write-off of maintenance, repair, and operating inventories. The write-off is principally the carrying value of the 2013 expansion project, which increased Colonsay's operating capacity to 2.1 million tonnes. Colonsay had been operating with a modified 1.5 million tonnes capacity since 2016.

On June 18, 2019, we announced the permanent closure of the Plant City Facility. We temporarily idled the Plant City Facility in the fourth quarter of 2017, as it was one of our higher cost phosphate facilities. For the year ended December 31, 2019, we recognized pre-tax costs of $341.3 million in impairment, restructuring and other expenses in our Consolidated Statement of Earnings (Loss), related to the permanent closure of this facility. These costs consisted of approximately $210 million related to the write-off of fixed assets, $110 million related to asset retirement obligations and $21 million related to inventory and other reserves.

## 26. SUBSEQUENT EVENTS

Subsequent to December 31, 2021, our Board of Directors approved an accelerated share repurchase ("***ASR***") of $400 million which is expected to be initiated in February 2022. This ASR will exhaust most of the remaining share repurchase authorization established in the 2021 Repurchase Program. Following the completion of the current authorization, our Board of Directors also approved the establishment of a new $1.0 billion share repurchase authorization, which will go into effect following completion of this ASR. The Board of Directors has also approved a regular dividend increase to $0.60 per share annually from $0.45, beginning with the second quarter 2022 payment.

**Management's Report on Internal Control Over Financial Reporting**

The Company's management is responsible for establishing and maintaining effective internal control over financial reporting, as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. The Company's internal control system is a process designed to provide reasonable assurance to our management, Board of Directors and stockholders regarding the reliability of financial reporting and the preparation and fair presentation of our consolidated financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles (U.S. GAAP), and includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. GAAP, and that receipts and expenditures are being made only in accordance with authorizations from our management and Board of Directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our 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.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2021. In assessing the effectiveness of our internal control over financial reporting as of December 31, 2021 management used the control criteria framework of the Committee of Sponsoring Organizations (COSO) of the Treadway Commission published in its report entitled *Internal Control—Integrated Framework (2013).* Based on their evaluation, management concluded that the Company's internal control over financial reporting was effective as of December 31, 2021. KPMG LLP, the independent registered public accounting firm that audited the financial statements included in this annual report, has issued an auditors' report on the Company's internal control over financial reporting as of December 31, 2021.

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*This section is not part of the 10-K*

# Reconciliation of Non-GAAP Financial Measures

This document includes the presentation of non-GAAP adjusted EBITDA, referred to as a non-GAAP financial measure. Generally, a non-GAAP financial measure is a supplemental numerical measure of a company's performance, financial position or cash flows that either excludes or includes amounts that are not normally excluded or included in the most directly comparable measure calculated and presented in accordance with U.S. generally accepted accounting principles, or GAAP. Non-GAAP financial measures should not be considered as substitutes for, or superior to, measures of financial performance prepared in accordance with GAAP. In addition, because non-GAAP measures are not determined in accordance with GAAP, they are thus susceptible to varying interpretations and calculations and may not be comparable to other similarly titled measures of other companies. Adjusted metrics, including adjusted EBITDA are calculated by excluding the impact of notable items from the GAAP measure. Notable items impact on adjusted EBITDA is pretax. Management believes that these adjusted measures provide securities analysts, investors, management and others with useful supplemental information regarding our performance by excluding certain items that may not be indicative of, or are unrelated to, our core operating results. Management utilizes these adjusted measures in analyzing and assessing Mosaic's overall performance and financial trends, for financial and operating decision-making, and to forecast and plan for future periods. These adjusted measures also assist our management in comparing our and our competitors' operating results. We are not a quantitative reconciliation of forward-looking adjusted EBITDA because we are unable to predict with reasonable certainty our notable items without unreasonable effort. Historically, our notable items have included, but are not limited to, foreign currency transaction gain or loss, unrealized gain or loss on derivatives, acquisition-related fees, discrete tax items, contingencies and certain other gains or losses. These items are uncertain, depend on various factors, and could have a material impact on U.S. GAAP reported results for the guidance period. Reconciliations for Non-GAAP financial measures contained in this document are found below.

## Reconciliation of Non-GAAP Measures

| **Consolidated Earnings *(in millions)*** | **2021** | **2020** |
|---|---|---|
| Consolidated net earnings attributable to Mosaic | $1,631 | $666 |
| Less: Consolidated interest expense, net | (169) | (180) |
| Plus: Consolidated depreciation, depletion and amortization | 813 | 846 |
| Plus: Accretion expense | 72 | 66 |
| Plus: Share-based compensation expense | 30 | 17 |
| Plus: Consolidated provision for (benefit from) income taxes | 598 | (578) |
| Less: Equity in net earnings (loss) of nonconsolidated companies, net of dividends | 8 | (94) |
| Plus: Notable items | 280 | 272 |
| Adjusted EBITDA | $3,585 | $1,563 |

| **Potash Earnings *(in millions)*** | **2021** | **2020** |
|---|---|---|
| Operating earnings | $837 | $402 |
| Plus: Depreciation, depletion and amortization | 268 | 280 |
| Plus: Accretion expense | 10 | 8 |
| Plus: Foreign exchange gain (loss) | 8 | 27 |
| Plus: Other income (expense) | - | 4 |
| Plus: notable items | 163 | 1 |
| Adjusted EBITDA | $1,286 | $722 |

| **Phosphate Earnings *(in millions)*** | **2021** | **2020** |
|---|---|---|
| Operating earnings (loss) | $1,180 | $(147) |
| Plus: Depreciation, depletion and amortization | 429 | 442 |
| Plus: Accretion expense | 48 | 48 |
| Plus: Foreign exchange gain (loss) | 9 | 16 |
| Plus: Other income (expense) | 8 | 11 |
| Less: Earnings (loss) from consolidated noncontrolling interests | 6 | 4 |
| Plus: Notable items | 61 | 170 |
| Adjusted EBITDA | $1,729 | $536 |

| **Mosaic Fertilizantes Earnings *(in millions)*** | **2021** | **2020** |
|---|---|---|
| Operating earnings | $745 | $347 |
| Plus: Depreciation, depletion and amortization | 101 | 105 |
| Plus: Accretion expense | 14 | 12 |
| Plus: Foreign exchange gain (loss) | (70) | (102) |
| Plus: Other income (expense) | (6) | (5) |
| Less: Earnings (loss) from consolidated noncontrolling interests | (1) | 2 |
| Plus: Notable items | 36 | 118 |
| Adjusted EBITDA | $821 | $473 |

# Board of Directors

**GREGORY L. EBEL**
Chairman of Enbridge, Inc.
Chairman of The Mosaic Company

Committees: Audit; Corporate Governance and Nominating

**CHERYL K. BEEBE**
Retired Chief Financial Officer of Ingredion Incorporated

Committees: Audit (Chair); Corporate Governance and Nominating

**OSCAR P. BERNARDES**
Managing Partner of Yguaporã Consultoria e Empreendimentos Ltda.

Committees: Audit; Compensation

**TIMOTHY S. GITZEL**
President and Chief Executive Officer of Cameco Corporation

Committees: Compensation (Chair); Audit

**DENISE C. JOHNSON**
Group President, Resources Industries Group of Caterpillar, Incorporated

Committees: Compensation; Environmental, Health, Safety and Sustainable Development

**EMERY N. KOENIG**
Retired Vice Chairman and Chief Risk Officer of Cargill, Incorporated

Committees: Environmental, Health, Safety and Sustainable Development (Chair); Corporate Governance and Nominating

**JAMES "JOC" C. O'ROURKE**
President and Chief Executive Officer of The Mosaic Company

**DAVID T. SEATON**
Former Chairman and Chief Executive Officer of Fluor Corporation

Committees: Audit; Compensation

**STEVEN M. SEIBERT**
Attorney at The Seibert Law Firm

Committees: Corporate Governance and Nominating; Environmental, Health, Safety and Sustainable Development

**LUCIANO SIANI PIRES**
Executive Vice President of Strategy and Business Development of Vale S.A.

Committee: Environmental, Health, Safety and Sustainable Development

**GRETCHEN H. WATKINS**
President of Shell USA, Inc. and Executive Vice President Global Shales

Committees: Compensation; Environmental, Health, Safety and Sustainable Development

**KELVIN R. WESTBROOK**
President and Chief Executive Officer of KRW Advisors, LLC

Committees: Corporate Governance and Nominating (Chair); Environmental, Health, Safety and Sustainable Development

# Executive Officers

**JAMES "JOC" C. O'ROURKE**
President and Chief Executive Officer

**BRUCE M. BODINE**
Senior Vice President – North America

**CLINT C. FREELAND**
Senior Vice President and Chief Financial Officer

**MARK J. ISAACSON**
Senior Vice President, General Counsel and Corporate Secretary

**CHRISTOPHER A. LEWIS**
Senior Vice President – Human Resources

**BENJAMIN J. PRATT**
Senior Vice President – Government and Public Affairs

**WALTER F. PRECOURT III**
Senior Vice President – Strategy and Growth

**CORRINE D. RICARD**
Senior Vice President – Mosaic Fertilizantes

**KAREN A. SWAGER**
Senior Vice President – Supply Chain

**YIJUN "JENNY" WANG**
Senior Vice President – Global Strategic Marketing, Head of China and India

# SHAREHOLDER INFORMATION

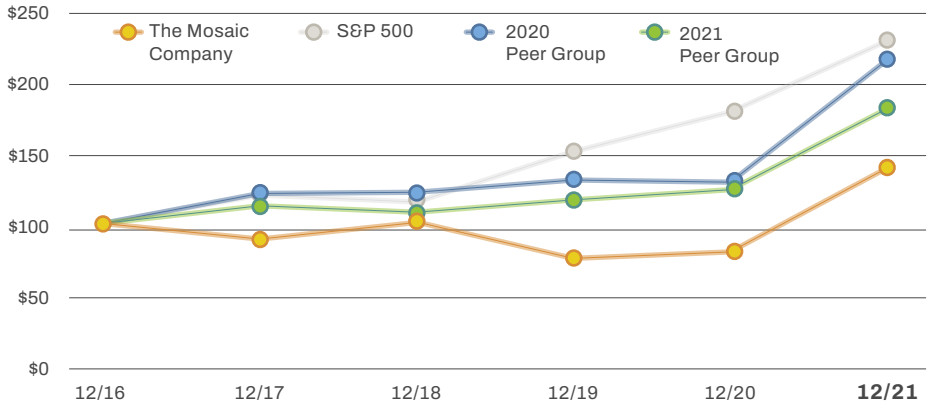
## Safe Harbor

Certain statements in this report that are neither reported financials nor other historical information are forward-looking statements. Such forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results and Mosaic's plans and objectives to differ materially from those expressed in the forward-looking statements. Additional information about such risks and uncertainties is set forth in our reports filed with the Securities and Exchange Commission.

## Shareholder Return Information

The following performance graph compares the cumulative total return on our common stock for a period beginning December 31, 2016, with the cumulative total return of the Standard & Poor's 500 Stock Index, and a peer group of companies selected by us. Our 2021 peer group for the period beginning on December 31, 2016 and ending on December 31, 2017 is comprised of Agrium Inc., CF Industries Holdings, Inc., ICL Group Ltd., K+S Aktiengesellschaft, Potash Corporation of Saskatchewan Inc. and Yara International ASA; and, for the period beginning on January 1, 2018 and ending on December 31, 2021, it is comprised of Nutrien Ltd. (the successor to Agrium Inc. and Potash Corporation of Saskatchewan Inc.), CF Industries Holdings Inc., ICL Group, Ltd., K+S Aktiengesellschaft and Yara International ASA. We expanded our 2021 peer group to include ICL Group Ltd., K+S Aktiengesellschaft and Yara international ASA to provide a more comprehensive reflection of our global competitors. Our stock price performance differs from that of our peer group during some periods due to differences in the market segments in which we compete or in the level of our participation in such segments compared to other members of the peer group. In accordance with Standard & Poor's policies, companies with less than a majority of their stock publicly traded are not included in the S&P 500 Index. The comparisons set forth below assume an initial investment of $100 and reinvestment of dividends or distributions.

**COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN***
AMONG THE MOSAIC COMPANY, S&P 500 AND PEER GROUP INDEX




*$100 invested on 12/31/16 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.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Mosaic's 10-K Report, filed in February 2022 with the Securities and Exchange Commission, is available to shareholders and interested parties without charge by contacting Paul Massoud.

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www.Mosaicco.com/2021AnnualReport

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