

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

The Mosaic Company is the world's leading producer and marketer of concentrated potash and phosphate crop nutrients. Our mission is to help the world grow the food it needs. The combination of our substantial company-owned mineral reserves, our production capacity, geographic locations and worldwide supply chain and distribution network differentiates Mosaic from other crop nutrient companies. Net sales for calendar year 2022 were approximately \$19.1 billion. Our business engages in every phase of crop nutrition development, from the mining of resources to the production and distribution of crop nutrients, animal feed ingredients and industrial products for customers around the globe. Our customer base includes wholesalers, retail dealers and individual growers in approximately 40 countries.

Mosaic is committed to decarbonization and has a publicly stated net-zero targets. Additionally, we are committed to achieving sustainability targets, including our short-, mid- and long-term GHG targets.

At Mosaic, we think of sustainability broadly: as the ability to sustain our business, to prosper and deliver value to our myriad stakeholders over many years. Our ESG performance targets, progress toward which we report annually, allow us to stretch for meaningful long-term improvements in the areas that are most important to our business. While our emissions profile is relatively low compared to many of our industry peers, we have still prioritized greenhouse gas emissions reductions as part of our long-term ESG strategy – in part because we are determined to participate in solutions to address climate change, and because we understand the interdependencies between climate, water, land and biodiversity and how critical they are to our mission to help the world grow the food it needs. Our action on climate change is good for the environment; the communities and ecosystems in which we operate; and for the long-term financial health and viability of our company.

We are a signatory to the United Nations Global Compact and we support its ten universal principles including human rights, labor, environment and anti-corruption.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date

January 1 2022

End date

December 31 2022

Indicate if you are providing emissions data for past reporting years

No

Select the number of past reporting years you will be providing Scope 1 emissions data for

<Not Applicable>

Select the number of past reporting years you will be providing Scope 2 emissions data for

<Not Applicable>

Select the number of past reporting years you will be providing Scope 3 emissions data for

<Not Applicable>

C0.3

(C0.3) Select the countries/areas in which you operate.

Brazil
Canada
Paraguay
Peru
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-CH0.7

(C-CH0.7) Which part of the chemicals value chain does your organization operate in?

Row 1

Bulk organic chemicals

Please select

Bulk inorganic chemicals

Ammonia

Fertilizers

Other chemicals

Please select

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

| Indicate whether you are able to provide a unique identifier for your organization | Provide your unique identifier |
|--|--------------------------------|
| Yes, a Ticker symbol | MOS |

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

| Position of individual or committee | Responsibilities for climate-related issues |
|-------------------------------------|--|
| Board Chair | The Environmental Health, Safety, and Sustainable Development Committee (EHSS Committee) of the Mosaic Board of Directors (BoD) provides oversight of (and input to) our environmental, health, safety and sustainable development (EHSS) strategic vision and performance, including the safety and health of employees and contractors; environmental performance; the systems and processes designed to manage EHSS risks, commitments, public responsibilities and compliance; relationships with and any impact on communities with respect to EHSS matters; public policy and advocacy strategies related to EHSS issues; and achieving societal support of major projects. Climate-related issues are Mosaic's EHSS committee's oversight purview because the subject matter is most closely aligned with this committee's expertise and responsibilities. In 2021, the EHSS Committee provided input on Mosaic's GHG reduction strategy, which ultimately included providing support for Mosaic's net-zero greenhouse gas emissions targets, which we announced in December 2021. Other committees of the BoD may from time to time have input on climate-related issues, like the Audit Committee, which provides oversight of Mosaic's top enterprise risk management risks. |
| Chief Executive Officer (CEO) | The Senior Leadership Team (SLT) consisting as of January 1, 2022 of the CEO, President and Director; SVP – CFO ; SVP – Human Resources; SVP – North America; SVP, General Counsel and Corporate Secretary; SVP – Mosaic Fertilizantes; SVP – Government and Public Affairs; SVP – Commercial; SVP – Mosaic Fertilizantes; SVP – Supply Chain; SVP – Global Strategic Marketing, Head of China and India; and SVP – Strategy and Growth, review the EHSS Committee's recommendations in order to develop new companywide policies, initiatives, targets and goals. |

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.

| Frequency with which climate-related issues are a scheduled agenda item | Governance mechanisms into which climate-related issues are integrated | Scope of board-level oversight | Please explain |
|---|--|--------------------------------|---|
| Scheduled – all meetings | <ul style="list-style-type: none"> Reviewing and guiding annual budgets Overseeing major capital expenditures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Monitoring progress towards corporate targets Reviewing and guiding the risk management process | <Not Applicable> | In preparation for quarterly meetings with the EHSS Committee, Mosaic personnel prepare updates related to our ESG target performance (GHGs) for the EHSS Committee. In line with the mechanism of reviewing and guiding strategy and reviewing and guiding annual budgets, the EHSS Committee communicates with Mosaic’s management team on the development and oversight of climate-related targets (energy and GHGs) and the pathways (projects, CAPEX investments, production considerations) for achieving them. Because emissions-reduction targets are an instrument through which Mosaic strives for risk management and companywide performance improvement in climate-related areas, the EHSS Committee’s reviewing and guiding our targets strategy directly contributes to oversight of these issues. The Committee is also regularly kept apprised of regulatory developments pertaining to the implementation of a carbon tax that impacts our Saskatchewan, Canada facilities. |

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

| | Board member(s) have competence on climate-related issues | Criteria used to assess competence of board member(s) on climate-related issues | Primary reason for no board-level competence on climate-related issues | Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future |
|-------|---|---|--|---|
| Row 1 | Yes | The criteria we use to assess competence of board member(s) on climate-related issues is primarily experience with climate or energy matters, like policy or large-scale projects and initiatives; and skills or qualifications that are expressly relevant to climate matters. | <Not Applicable> | <Not Applicable> |

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee

Chief Executive Officer (CEO)

Climate-related responsibilities of this position

- Providing climate-related employee incentives
- Integrating climate-related issues into the strategy
- Monitoring progress against climate-related corporate targets
- Assessing climate-related risks and opportunities
- Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

Mosaic considers decarbonization a priority and as such climate-related responsibilities are a responsibility of the highest management level within the company. The process of monitoring climate-related issues and progress is undertaken through the ESG Steering committee which is tasked with regularly updating the CEO. The development of a Climate Transition Plan will be dependent on Chemicals Sector Decarbonization Guidance development.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

| | Provide incentives for the management of climate-related issues | Comment |
|-------|---|--|
| Row 1 | Yes | Performance measures for members of Mosaic’s executive and management teams and all salaried employees are based on financial and operational performance, including operating earnings, operating costs per tonne, incentive selling, general and administrative expenses and certain EHS metrics. Climate change is indirectly linked to compensation through operating cost savings that are achieved through site-specific initiatives and companywide programs aimed at reducing energy use and emissions. Further, annual incentive compensation is tied to climate through a management system effectiveness/risk reduction measure, the elements of which promote environmental, health, safety and sustainability behaviors and objectives. Sustainability performance, including reduction of GHGs and water withdrawals, are covered by the risk reduction program. |

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive

Corporate executive team

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Progress towards a climate-related target
Reduction in emissions intensity

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

Performance measures for members of Mosaic’s executive and management teams and all salaried employees are based on financial and operational performance, including operating earnings, operating costs per tonne, incentive selling, general and administrative expenses and certain EHS metrics. Climate change is indirectly linked to compensation through operating cost savings that are achieved through site-specific initiatives and companywide programs aimed at reducing energy use and emissions. Further, annual incentive compensation is tied to climate through a management system effectiveness/risk reduction measure, the elements of which promote environmental, health, safety and sustainability behaviors and objectives. Sustainability performance, including reduction of GHGs and water withdrawals, are covered by the risk reduction program.

Explain how this incentive contributes to the implementation of your organization’s climate commitments and/or climate transition plan

Mosaic is committed to a decarbonization strategy that includes aggressive targets, including a net zero carbon target. Climate change is indirectly linked to compensation through operating cost savings that are achieved through site-specific initiatives and companywide programs aimed at reducing energy use and emissions. Further, annual incentive compensation is tied to climate through a management system effectiveness/risk reduction measure, the elements of which promote environmental, health, safety and sustainability behaviors and objectives. Sustainability performance, including reduction of GHGs and water withdrawals, are covered by the risk reduction program.

Entitled to incentive

Chief Executive Officer (CEO)

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Progress towards a climate-related target
Reduction in emissions intensity

Incentive plan(s) this incentive is linked to

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C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

| | From (years) | To (years) | Comment |
|-------------|--------------|------------|---|
| Short-term | 0 | 4 | The short-term time horizon is generally aligned with Mosaic's general strategic planning horizons. Specifically, the five-year planning process is considered "medium-term," so the time period less than five years is considered "short-term." |
| Medium-term | 5 | 9 | The medium-term time horizon is generally aligned with Mosaic's general strategic planning horizons. Specifically, the company's five-year planning process is considered "medium-term," so we are considering the five-to-nine year timeframe medium-term. |
| Long-term | 10 | 20 | The long-term time horizon is generally aligned with Mosaic's general strategic planning horizons. Specifically, the company's five-year planning process is considered "medium-term" (with a five to nine year timeframe considered medium term) so the horizon beyond that, including the company's 2030 vision, is considered "long-term." |

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

We define "substantive impact" as an impact, financial or non-financial, that could hinder our ability to achieve our strategy, or one that threatens Mosaic's ability to sustain our business or achieve business objectives. More specifically, though our definition of substantive varies by timing, financial condition and situation, for the purpose of this report, a financial impact to operational expenses (as just one example) quantified at \$160 million or more would be considered substantive. Similarly, for the purpose of this report, a greater than \$200 million impact on revenue would be considered substantive, although it may not meet the companywide threshold for materiality. In the context of climate-related risks, we consider risks across broad time horizons and assess other factors such as financial impact, likelihood, speed of onset impact on business and resources required to manage potential impacts. Regardless of speed of onset (which ranges from little or no warning to occurs over a year or more), if a risk is considered to have a major or severe impact on the results of our business, it would be considered substantive. Similarly, from a qualitative perspective, we would consider an impact substantive if it were an event a reasonable shareholder would consider when making an investment decision.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Mosaic includes climate-related risks and opportunities as part of a complex and multi-disciplinary companywide risk management process. Elements of the broad risk assessment process are conducted multiple times a year and applies to short, medium, and long-term time horizons (as defined in 2.1a). At the highest level, we identify climate change as an enterprise-level risk; thus, climate-related risks and opportunities – some of which are considered substantive, having met an impact threshold to operational expenses (as just one example) quantified at \$160 million or more or exceeding a \$200 million impact on revenue – are included in our Enterprise Risk Management (ERM) program alongside other similarly pressing enterprise-level risks. The methods we use in the ERM process include internal discussions with senior leadership about the risk landscape – including new/emerging risks to our direct operations as well as upstream and downstream in the value chain, changing risks, and the implications of these changes to our business and its ability to fulfill our strategic aims. External intelligence, including regular discussions with trusted subject matter experts and consultancies, is another method we use to monitor the megatrend (long-term) landscape and assess its impact to our company at all stages of the value chain. Insights from these methods are assessed in the context of respective risks and opportunities up to a quarterly basis (more than one time per year), depending on their significance, which is determined largely by factors such as probability, magnitude, speed of onset, resources required for management, and business impact. Risk “owners,” who are members of the senior leadership team, facilitate regular deep dive discussions about the highest risks with the Board of Directors. Any material climate-related risks and mitigating actions identified as “top” ERM risks are presented to the Board’s audit committee. This regular cadence of communication (a primary method of identification and assessment) about risks and the Board’s oversight of top risks contributes to our ability to maintain a strong risk management culture, promote transparency and mobilize necessary resources to address the risk or harness the opportunity. At an asset level, climate, including climate changes, and associated risks and opportunities that apply at asset levels are monitored regularly by teams at Mosaic including EHS, public affairs, enterprise risk management and market analysis using multiple methods: internal intelligence, market insights, external consultancies, and internal tools like an EHS risk register tool. Certain climate-related risks – namely physical risks that have the potential to impact our sites – are particularly well suited for our risk register tool, which is a specific method that identifies and scores (e.g., prioritizes) environmental and safety hazards by quantifying baseline, inherent and residual risk scores and collaborates with the workforce to implement operational controls to reduce or, ideally, in certain cases, eliminate the risk. Risk scores are calculated for each identified risk and take into consideration the severity of consequences expected, and the likelihood of exposure and any controls that have been implemented to reduce or eliminate the risk. Annual incentive compensation is tied to ESG through a risk reduction measure, which means annual compensation is based, in part, on the successful reduction/mitigation of the risk.

Additionally, as a complement to our standard risk identification processes, we recently initiated a companywide climate risk assessment and scenario analysis exercise as a discrete method to identify short-, medium- and long-term transition and physical risks to our sites, such as the threat of emerging regulations, sea level rise and other risks, and to assess the potential financial and production impacts on our operations – and to test the health of our cross-functional awareness of climate-related risks, how they cross over into other strategic areas, and their impacts to our business. The process, led by third-party subject matter experts, exposed a cross-functional group of senior managers and other leaders to new concepts and spurred conversation about how climate risk translates to company and strategic risk. The results of this assessment, which used qualitative and quantitative scenario analysis criteria, will help us further define, communicate and prioritize our response(s) to identified risks.

As for broadly responding to risks and opportunities, in general, it is the role of management to operate the business, including managing risks and opportunities. We make decisions about how to respond to climate-related risks (mitigate, transfer, accept or control) based on the results (assessed on significance factors described above) of the multi-disciplinary risk assessment process and scenario analysis. For example, a risk with especially high magnitude, probability and significance would warrant action ahead of risks that are assessed lower magnitude, probability and significance. Of note: besides the conceptual transfer of risk by purchasing insurance policies that temper our climate risk, to date, our decisions have primarily centered on mitigation and acceptance activities, so we offer a response that sheds light on those decisions. For example, as we can’t altogether control or eliminate physical risks associated with adverse weather and climate change, particularly given the nature of our business and location of our operations, there is an element of acceptance of the risk, although we are focused on mitigation first. Our typical method of mitigating physical risks is buttressing our facilities against climate-related physical threats and working in earnest to reduce our companywide greenhouse gas emissions footprint. We view emissions reductions as a measure that will strengthen our core business and deliver meaningful results in the form of risk reduction.

Likewise, the threat of transition risks, namely increased pricing of GHG emissions, is pressing enough that we are managing it by emphasizing mitigation strategies based on the significance of the risk and its potential impact (financial or strategic) on our business. For example, whereas currently, roughly 30% of our GHG emissions occur in jurisdictions that are currently subject to carbon taxes, the IEA’s Sustainable Development Scenario Report suggests that advanced economies will require a \$63/tonne carbon price in 2025 and a \$140/tonne carbon price in 2040. The impact of such a carbon tax on Mosaic’s emissions footprint would be significant, potentially even material from a financial perspective, therefore, we are working in earnest at our highest emitting sites to reduce our emissions footprint and thus our exposure to the global risk of carbon taxes. This general approach applies to our treatment of other transition risks.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

| | Relevance & Inclusion | Please explain |
|---------------------|---------------------------|--|
| Current regulation | Relevant, always included | Legal requirements and environmental regulations (driven by climate change) that Mosaic is subject to could adversely affect our business, financial condition and results of operations, and the results could be material to us. Accordingly, current regulatory risks are relevant to Mosaic's ongoing risk assessment process and are regularly included in Mosaic's broad consideration and analysis of climate-related risks. For example, future changes to air quality standards required us to start replacing catalysts at some of our Florida concentrates facilities in order to comply with new standards. Mosaic's EHS, public affairs and legal teams are responsible for interpreting and implementing these regulatory changes, while Mosaic's finance team coordinates cross-functionally with those groups to estimate the financial impact of such changes. |
| Emerging regulation | Relevant, always included | Mining and fertilizer manufacturing are energy- and emissions-intensive endeavors, and we are subject to complex laws and regulations. Accordingly, emerging climate regulations are relevant to Mosaic's ongoing risk assessment process and are regularly included in Mosaic's broad consideration and analysis of climate-related risks. For example, we are currently experiencing effects of indirect costs from a carbon tax in Canada associated with energy and transportation that are passed through to Mosaic. Similarly, we continue to monitor developments relating to environmental regulation (e.g. carbon tax, Clean Fuel Standard, etc.) that impacts our Saskatchewan, Canada potash facilities. A cross-functional team made up of public affairs, legal, EHS, finance and operations colleagues at Mosaic is currently working with the Saskatchewan Ministry of Environment, Environment and Climate Change Canada, industrial associations, and other government stakeholders as changes evolve in the associated a carbon and energy related regulatory and policy framework. |
| Technology | Relevant, always included | Regulatory changes could require process changes, operational modifications, installation of new technologies and research in the design of new equipment or technologies. For example, we may be required to make investments in technology, including burner replacements and additional heat recovery systems, in order to meet new regulatory requirements. This represents a risk to Mosaic in the form of potentially significant costs of equipment, or fines in the event that we are not compliant with regulations. Mosaic's finance team coordinates cross-functionally with EHS, legal and operations groups to estimate the financial impact of such changes. Accordingly, these risks are relevant to us and are regularly included in our consideration of climate-related risks. For example, future changes to air quality standards required us to start replacing catalysts at some of our Florida concentrates facilities in order to comply with new standards. Mosaic's EHS, public affairs and legal teams monitor for, interpret and implement regulatory changes while Mosaic's finance team coordinates cross-functionally with those groups to estimate the financial impact of such changes. |
| Legal | Relevant, always included | At this time, climate-related litigation claims have not been specifically notable to Mosaic because there have not been any climate-related legal claims against our company. However, we anticipate that this topic might be relevant to us in the future since the frequency of litigation by government and private parties against corporations is increasing and thus, it is a risk type we include in our organization's climate risk assessment. Furthermore, climate change litigation could have an impact on broad industry – for example, a decision adverse to an oil and gas company could result in a precedent that affects other industries and therefore, companies like Mosaic. We will continue to monitor legal precedent to assess this category's relevance to us. |
| Market | Relevant, always included | Market risks are relevant to Mosaic's ongoing risk assessment process and they are regularly included in Mosaic's broad consideration and analysis of climate-related risks. Mosaic's market analysis team monitors climate and growing regions, like the Midwest region of the United States, forecasting for climate-related events like droughts and floods, to determine their potential impact on fertilizer markets and Mosaic's financial performance. For example, a widespread flood might impact agricultural commodity (fertilizer or commodity crop) markets, which could in turn have a detrimental effect on Mosaic's annual net sales. Similarly, according to the Intergovernmental Panel on Climate Change, crop yields could decline 10-25% per degree of temperature rise, and this could present both a risk and an opportunity to Mosaic. Market risks are always included in Mosaic's assessment of climate-related risks and opportunities. |
| Reputation | Relevant, always included | Reputational risks are relevant to Mosaic's ongoing risk assessment process and they are regularly included in Mosaic's broad consideration and analysis of climate-related risks. For example, negative public perceptions of Mosaic or the mineral fertilizer industry that are a result of climate-related issues could potentially lead to reduced demand for goods, reduced revenue, or could negatively impact our profit. Similarly, climate-related issues could prompt permitting challenges that affect Mosaic's license to operate. Mosaic's EHS, legal and public affairs team regularly monitors issues and reputational vulnerabilities, assessing inputs such as media coverage and stakeholder perceptions of issues affecting our business. |
| Acute physical | Relevant, always included | Acute physical risks, such as hurricanes and acute seasonal flooding, are relevant to Mosaic's ongoing risk assessment process, and they are regularly included in Mosaic's broad consideration and analysis of climate-related risks. For example, Mosaic's market analysis team monitors climate and growing regions, like the Midwest region of the United States, forecasting for climate-related events like droughts and floods, to determine their potential impact on the markets and Mosaic's business performance. Our engineering, EHS and operations teams also regularly monitor acute physical risks. For example, our Phosphates facilities have a rainfall preparedness plan that forecasts how each of our concentrates facilities will perform with 30-percent above-normal rainfall rates. The plan, updated annually prior to the start of peak rainfall season, models the impact of above-average rainfall on a site's storage capacity and defines a contingency plan and necessary actions to mitigate potential risks. |
| Chronic physical | Relevant, always included | Chronic physical risks are relevant to Mosaic's ongoing risk assessment process and they are regularly included in Mosaic's broad consideration and analysis of climate-related risk. For example, Mosaic has approximately \$8 billion in physical assets in hurricane-prone areas. Widespread damage resulting in business interruption or facility closure to facilities within the zone(s) of risk could be detrimental to our operating activities and financial condition. Led by Mosaic's risk management group, we conduct annual property risk engineering assessments to identify and mitigate risk of loss associated with weather-related property damage or business interruption. |

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

| | |
|--------------------|---------------------------|
| Current regulation | Carbon pricing mechanisms |
|--------------------|---------------------------|

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

As Mosaic's mining and manufacturing operations are emissions-intensive, initiatives to limit greenhouse gas by taxation or financial penalties could restrict Mosaic's operating activities, require us to make changes in our operating activities that would increase our costs, reduce our efficiency or limit our output.

Canada's intended Nationally Determined Contribution (NDC) to the Paris Agreement 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 late 2018, the federal government implemented a federal carbon pricing

backstop system that applies in any province or territory that does not have a carbon pricing system in place by 2018. As of January 1, 2023, a carbon tax of \$65 per tonne now applies in Canada for any emitter not covered under the federal backstop program or approved provincial program. A revised plan was submitted by Saskatchewan to the federal government in 2022, which was subsequently approved in its entirety in November 2022. 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 legislations.

Our Canadian potash mines, located in the Province of Saskatchewan represent about 40% of Mosaic's total finished crop nutrient production tonnes and approximately 30% of total companywide emissions in 2022. One feature of the comprehensive tax on carbon emissions is a carbon levy charge from our electricity provider, which translates to increased indirect costs to our company (approximately \$2.9 million USD in 2022). Costs associated with the carbon levy are passed on from Mosaic's rail carriers in Canada, resulting in additional indirect costs to our company (approximately \$427,400 USD in 2022).

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3327400

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Ottawa's imposition of a carbon tax on GHG emissions from electricity in Saskatchewan has had an impact on Mosaic because our operations there rely on electricity from the local grid as a source of power. In 2022 we paid more than \$2.9 million USD in carbon levy funds to our electricity provider, translating to an increase in indirect costs to our company. Costs associated with the carbon levies are passed on from Mosaic's rail carriers in Canada, resulting in additional indirect costs to our company (approximately \$427,400 USD in 2022). The levies were in effect for all of 2022.

Canadian potash producers are already subject to higher tax rates, higher shipping costs and higher electricity costs than the world's other major potash producers. Implementation of a carbon tax in Canada places an additional economic hardship on Canadian potash producers, reducing their competitiveness and effectively suppressing the marketability of the world's most environmentally friendly potash; while adding to the advantages already enjoyed by the major overseas potash producers.

Cost of response to risk

125000

Description of response and explanation of cost calculation

We are responding to the risk of carbon pricing mechanisms, in part, by executing a strategy to reduce our emissions. The \$125,000 of response cost we are citing is the sum of the dryer flame shields project and the fees associated with our IMII membership as detailed below. At our Canadian Potash sites, where our electricity consumption is subject to carbon levy paid to the local electricity provider, we are reducing our Scope 2 emissions. In 2022, we completed projects at four Saskatchewan potash facilities that reduced our scope 2 emissions by roughly 5,000 tonnes CO2e per year. One project involved the installation of rotary fryer flame shields and end seals at one Potash site in Saskatchewan. This particular site is especially observant of electricity use and scope 2 savings opportunities because it accounts for ~73% of scope 2 emissions from Mosaic's Saskatchewan facilities. This project cost ~ \$45,000 and reduced the facility's scope 2 emissions by 2,900 tonnes CO2e/year. Costs included items such as equipment parts and installation. The timeframe for completing the dryer flame shields project was immediate (< 1 year) whereas the timeframe for the broader strategy to reduce our Scope 2 GHG emissions footprint is ongoing and longer-term in nature (>5 years). We are also responding to this risk by engaging associations and funding research that investigates new technologies that can deliver environmentally sustainable, secure and reliable, and cost-competitive energy that supports economic development and growth for our industry. As a specific example, in 2022 we invested ~\$80,000 in membership of International Minerals Innovation Institute (IMII) to research promising clean energy technologies. In 2022, our participation and membership fees helped fund important works streams including completing front end engineering studies focused on implementing industrial-scale battery technology and/or waste energy re-capture at a mine site in Saskatchewan, the initiation of an industry wide study of carbon sequestration potential in Saskatchewan, and working with cutting edge technology providers to assess feasibility of using their innovations in Mosaic operations.

Comment

The \$125,000 of response cost we are citing is the sum of the dryer flame shields project and the fees associated with our IMII membership.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

| | |
|---------------------|---------------------------|
| Emerging regulation | Carbon pricing mechanisms |
|---------------------|---------------------------|

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Mosaic is subject to environmental regulations (some of which are driven by climate change) that could adversely affect our business, financial condition and results of operations, and the results could be material to us. There are various initiatives under consideration in the United States, Canada and internationally that, if adopted, 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 to us. In addition to the carbon price already established in Canada, which affects our three Canadian potash mines in Saskatchewan, we are anticipating the potential implementation of a price on carbon in the United States and Brazil, jurisdictions which, combined, account for approximately 65% of our companywide emissions. We are monitoring developments relating to the anticipated proposed 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.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

147000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Any agreement, regulation or program that limits or taxes direct and indirect GHG emissions from our facilities could increase operating costs directly and through suppliers. As of the date of this report, we are still monitoring regulatory developments and modeling their potential financial impacts on our business, so the figures we are providing at this stage are gross and simplified estimates. If we apply the International Energy Agency’s (IEA) 2021 recommended price of \$63 per tonne of CO2e generated to the direct emissions from our U.S. facilities (roughly 1.7 million tonnes), the impact would be greater than \$107 million. In Brazil – where our emissions are approximately 600,000 tonnes CO2e per year– assuming the same IEA price on carbon, the impact to us would be approximately \$40 million. We are citing the sum of these estimates for the U.S. and Brazil (\$107 million + \$40 million = \$147 million) as our potential impact figure for this particular risk.

Cost of response to risk

3500000

Description of response and explanation of cost calculation

Broadly, Mosaic proactively emphasizes energy efficiency in our operations as one way to manage or mitigate the potential risks of climate-related regulatory changes and resulting potential changes in technology requirements. Naturally, the less we emit, the less we are likely to be impacted by carbon pricing mechanisms; we also recognize the significant operating, financial and reputational efficiencies we stand to achieve by reducing emissions. As a specific example of our management efforts, the Mosaic Fertilizantes business in Brazil undertook projects to optimize processes, replace fuels and upgrade equipment, all as part of a strategy to reduce GHG emissions and improve efficiency of operations. One project in particular, which occurred at one of our phosphate mine sites in the state of Minas Gerais that produced approximately 400,000 tonnes of finished product in 2021, replaced heavy oil with vegetable oil. The result of this projects was reduced fuel use and emissions savings of approximately 12,000 tonnes CO2e. The costs for this initiative totaled approximately \$3,500,000 and we did not realize any annual savings as a result of having introduced the vegetable oil to the process. There are other projects and approaches under consideration, costs for which vary drastically; the \$3.5 million cited as part of this risk was derived from actual costs (equipment and engineering/contractor support) associated with specific projects completed in 2021 (still relevant for 2022 reporting period)

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

| | |
|----------------|--|
| Acute physical | Other, please specify (Increased severity and frequency of extreme weather events such as cyclones and floods) |
|----------------|--|

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The trend of increased floods, windstorms, hurricanes and other events as a result of climate change could affect Mosaic's business, particularly considering the location of our sites. More specifically, Mosaic has approximately \$8 billion in physical assets in hurricane-prone areas of Florida and Louisiana in the United States. Mosaic's insurance deductible for a covered Named Windstorm event is, at a minimum, \$100 million per occurrence for mines and fertilizer production facilities in North America (note was \$50 million in prior reporting year). Although our containments in these areas are built to withstand storms, additional sustained and increasingly intense hurricane activity could force a change in design standards for buildings, equipment, or containments. Similarly, a severe storm could cause physical damage to our facilities or business interruption. This could result in increased capital costs or costs per tonne of product.

Hurricane season in the US lasts from June 1 to November 30. As an example of materialized risk - on August 26, 2021, Hurricane Ida caused damage to two of our sites in Louisiana and both sites lost power for over 20 days. The resulting property damages exceeded our deductible, costing Mosaic approximately \$125 million. This figure represents costs associated with business interruption and property damage (electrical equipment and miscellaneous infrastructure, the roof on one site and significant damage to the warehouse at another site). We use this figure to demonstrate the potential financial impact of future losses. In 2022 Hurricane Ian impacted are Florida facilities. Hurricane Ian was a powerful Category 5 Atlantic Hurricane - the impacts to Mosaic will be summarized in our 2024 CDP report. In 2022 expense related to costs of goods sold resulting from the impact of Hurricane Ian on our phosphate operations totaled \$39 million.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

100000000

Potential financial impact figure – maximum (currency)

125000000

Explanation of financial impact figure

Mosaic's insurance deductible for a Named Windstorm event is, at a minimum, \$100 million per occurrence for mines and fertilizer production facilities in North America. Although our containments and facilities are built to withstand storms, additional sustained hurricane activity could force a change in design standards for buildings, equipment or containments. This could result in increased capital costs or costs per tonne of product. In the event of widespread damage as a result of a severe storm, we may face costs up to or exceeding our insurance deductible of \$100 million (Named Windstorm event). The deductible is stated as the lower threshold as this is the level at which Mosaic insurance coverage with amounts above covered. In 2021, Hurricane Ida caused damage to two of our sites in Louisiana, resulting in property damages that exceeded our deductible, costing Mosaic approximately \$125 million (corresponding to the upper threshold for potential financial impact, note was based on lower deductible at the time). This figure represents costs associated with business interruption and property damage (electrical equipment and miscellaneous infrastructure, the roof on one site and significant damage to the warehouse at another site). We use this figure to demonstrate the potential financial impact of future losses. Hurricane Idea was the second-most damaging hurricane to make landfall in the US state of Louisiana on record, behind Hurricane Katrina in 2005. Hurricane Ida (2021) directly impacted our production facilities; hence it is used for the upper threshold. Production impact and idle and plant costs are not included in this figure. More detail on impacts for Hurricane Ian which struck Florida in September 2022 will be provided in our 2024 CDP report. In 2022 expense related to costs of goods sold resulting from the impact of Hurricane Ian on our phosphate operations totaled \$39 million.

Cost of response to risk

30000000

Description of response and explanation of cost calculation

We manage these potential climate change risks by focusing on hurricane preparedness at all facilities that are within the zone of risk. Preparedness procedures and guidelines were in place in 2021 when Hurricane Ida made landfall in Louisiana as a category 4 storm and caused damage to two of Mosaic's concentrates sites. Both sites lost power for over 20 days. The cost associated with generators at one site was approximately \$170,000, which included the rental of three generators and miscellaneous service and parts line items. Beyond site preparedness as described above, and the practice of carrying ample global property insurance coverage to protect against property loss (premiums associated with which cost approximately \$28M/year), part of our strategy to manage hurricane risk is to conduct ongoing property risk engineering assessments to mitigate risks associated with property damage and business interruption. The types of actions that results from these assessments include improving existing flood and emergency response plans and redesigning roof structures to meet or exceed wind uplift requirements. The approximate cost of installing fasteners to secure roof panels as a way to reduce or avoid damage from hurricanes is \$150,000. This exact cost example is based on a project we completed in 2017 at one of our distribution sites and included the equipment and associated engineering/contractor support. As a result of installing these fasteners, the roof exceeded wind uplift requirements and thus, was theoretically less vulnerable to effects of hurricanes. In 2021 we continued planning for additional projects at one of our Florida sites that include wind mitigation plans, like constructing a motor control center above 100-year flood elevation requirements; and constructing a small storage building and replacing siding on a dock-side structure to meet new wind design requirements. The expected cost of these projects is approximately \$1.5 million. The costs associated replacing or redesigning roof structures and making enhancements to structures do not represent full costs associated with hurricane preparedness. The \$30M cited above is the rounded-up sum of property insurance premiums (\$28M/year) plus the expected costs of mitigation projects, like the construction of a motor control center above flood elevation requirements (\$1.5M), plus the cost of hurricane preparedness (\$170,000). These costs provided are relevant for 2022 reporting cycle.

Comment

Cost to risk listed is approximate insurance premium relevant in the year after Hurricane Ida (2021). In 2022 Hurricane Ian impacted are Florida facilities. Hurricane Ian was a powerful Category 5 Atlantic Hurricane. In 2022 expense related to costs of goods sold resulting from the impact of Hurricane Ian on our phosphate operations totaled \$39 million. More detail on the impacts to Mosaic will be summarized in our 2024 CDP report.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

| | |
|----------------|---------|
| Acute physical | Drought |
|----------------|---------|

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Mosaic is dependent on freshwater in our mining and production processes. Changes in precipitation resulting in droughts or water shortages in our operating geographies across North and South America, which could limit our allocation of water, could ultimately 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. We are opting to flesh out an example related to limited production output for this specific risk.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

19100000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Mosaic's 2022 net sales totaled approximately \$19.1 billion. A theoretical decrease in production output associated with a lack of critical water supplies that resulted in 1% lower sales companywide could translate to approximately \$191 million less revenue based on 2022 performance.

Cost of response to risk

6620000

Description of response and explanation of cost calculation

We are committed to responsible water use. We manage the potential risk of extreme changes in precipitation patterns, more specifically drought, by recycling high percentages of the water used in our operations and by exploring the use of alternative water sources like reclaimed water, where possible. We have also invested in reverse osmosis (RO) technology, which reduces our reliance on freshwater resources. For example, as part of their larger water conservation efforts, Mosaic's Bartow facility uses reverse osmosis to produce more than 250 gallons per minute of treated water back for use at the facility's sulfuric acid plant, thereby reducing freshwater needs by the same amount. It cost approximately \$6.6 million to run the reverse osmosis plant at our Bartow facility in 2022. These cost estimates represent contract services, production materials, rental of equipment, electricity and required repairs and supplies for the year. Another site in Florida introduced a method to reduce reliance on groundwater resources by recycling water for use in the acid wash (flotation) process, as quality parameters allow. The project cost approximately \$20,000 and reduced water use by more than 250 million gallons/year. Figures represent the cost of installing a valve and piping to tap into the recycled water. Mosaic personnel (engineers and maintenance colleagues) completed the work so there were no incremental contractor costs associated with this initiative.

The cost of response cited represents the sum of project costs for both initiatives in 2022. These specific initiatives represent an example of our response to managing the broad risk of drought or water shortages to our direct operations. As water management efforts are ongoing, we can anticipate similar costs moving forward and we are using these initiatives to estimate the cost of our response to this risk. An example of the cost of risk is provided as the operational cost of an existing RO-based treatment system.

Comment

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

| | |
|------------------|--|
| Chronic physical | Changing precipitation patterns and types (rain, hail, snow/ice) |
|------------------|--|

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Potential climate change risks that contribute to adverse and increasingly severe weather conditions, including the impact of changes in rainfall patterns and projected increases in temperature, could have a negative impact on Mosaic in the form of decreased demand for our finished crop nutrient products. Even longer-term, changing precipitation and temperature patterns could make certain growing regions permanently less productive, thus affecting demand for Mosaic's core fertilizer products. As a specific example, some models project that climate change will contribute to a decline in yields in key growing regions in the United States, where approximately 30% of Mosaic's net sales originated in 2022 (please note, this estimate is for net sales from the United States in total and not a reference to a specific at-risk growing region).

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

191000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Mosaic's 2022 net sales totaled approximately \$19.1 billion. A theoretical decrease in demand for our products that resulted in 1% lower sales companywide could translate to approximately \$191 million less revenue based on 2022 performance.

Cost of response to risk

52300000

Description of response and explanation of cost calculation

Mosaic's market analysis team continually monitors climate and growing regions, forecasting for climate-related events like droughts, floods and severe weather events, to determine their potential impact on the markets, our production, and Mosaic's overall financial performance. As another strategy to manage this risk, we are investing in research and product development and partnership opportunities to study and maximize the performance of Mosaic's fertilizer product portfolio in diverse, changing and stressful soil and climatic environments. For example, Mosaic's agronomic research program focuses on methods to build resilient soils with soil health, 4R nutrient stewardship and balanced crop nutrition initiatives. Our data from lab, greenhouse, and field research consistently demonstrates that healthy soils achieve enhanced productivity and profitability, especially in climate-induced stressful growing conditions. In 2022 we conducted approximately 2300 small plot trials in Argentina, Brazil, Chile, China, Canada, India, Latin America (Mexico to Peru), Turkey and the United States. These activities cost approximately \$3 million in 2022 and the same in 2021. Also, in 2021 we announced a new agreement (bringing the total to three) to develop and launch agricultural solutions, including a nutrient efficiency product and a nitrogen-fixing microbial product, that contribute to soil health in diverse applications and have positive environmental benefits. In the last three years (including 2022) our total cumulative invested approximately \$52.3 million in R&D agreements, equity investments and venture capital investments progressing this work to develop new agricultural solutions.

Comment**Identifier**

Risk 6

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

| | |
|--------|---|
| Market | Other, please specify (Decreased supply of key raw materials) |
|--------|---|

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Energy companies are beginning to transition away from oil to other forms of low-carbon energy. As a result, reduced oil refinery operating rates in the U.S. could result in decreased availability of molten sulfur, which could increase costs of sulfur procurement or decrease availability of sulfur, an essential raw material input for Mosaic's phosphate fertilizer production operations. While we have not yet become subject to such results in the sulfur procurement markets due to the transition away from oil, exceptionally cold weather did result in refinery closures in 2020 and 2021, which affected sulfur supplies in 2021 and constrained Mosaic's production of finished crop nutrient products in the first half of the year. Using these 2021 refinery closures as an example, we can project that if it becomes necessary to procure sulfur at higher costs, and if we are unable to pass those costs on in our product prices, or if we are unable to procure sulfur at volumes necessary for our operations, such events could have a material adverse effect on our phosphate business, and/or our financial condition or operating results. For context, in 2022 in United States we used approximately 3.4 million long tons of sulfur to produce crop nutrient products.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

20000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In early 2021 we realized higher raw material costs, primarily for sulfur, because of oil refinery closures in late 2020 and early 2021 due to lower fuel demand and extreme cold weather in the gulf region in the first quarter of 2021. Drawing from the experience from these events (which contributed to an approximately 250,000 tonnes reduction of production in Q1 2021) to demonstrate the potential impact of low sulfur supplies in the future, results in a hypothetical impact of approximately \$20 million. We arrived at this figure by assuming a 250,000-tonne reduction in production multiplied by the Q1 2021 average finished product selling price of \$477 and applying a gross margin of 17%. This cost analysis is still relevant for 2022.

Cost of response to risk

10000000

Description of response and explanation of cost calculation

Deployment of a diverse supply chain strategy is one way we mitigate the potential risk of high raw material costs and disruptions in raw materials supply. Specifically, dedicated sulfur transportation barges and tugs and a 50% ownership interest in a company that has sulfur transportation and terminaling businesses in the Gulf of Mexico (2022), position Mosaic to source an adequate, flexible and cost-effective supply of sulfur, our third key input, to our Florida and Louisiana phosphate production facilities. Further, we believe that our investments in sulfur logistical and melting assets continue to afford us a competitive advantage compared to other producers in cost and access to sulfur in that we can supplement our need for molten sulfur with prilled sulfur. The cost of our operation of the sulfur melter in 2021 was approximately \$10 million (still relevant in 2022), which represented utilities, process chemicals, people costs (payroll), contract labor, maintenance, repair costs and other costs. It excludes depreciation.

Comment

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**Identifier**

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

Climate change is expected to have significant effects on agricultural systems as more frequent and more severe weather events threaten agricultural productivity, and thus food security and nutrition for a growing population. This increased pressure on stakeholders to maintain agricultural productivity despite an increase in abiotic stressors driven by climate change (heat, drought, floods, etc.) presents an opportunity to Mosaic in the form of new and emerging product markets (and thus a financial benefit from new revenue sources). For example, Brazil, one of Mosaic's key markets, representing net sales of approximately \$8.3 billion in 2022 leads the world in production of key staple crops including soybean and corn. As the climate changes, warmer and drier climatic conditions in Brazil could threaten the stability of that critical food supply. Biologicals, including some of the products we are developing, are gaining attention as a means to address the resilience of cropping systems in the face of changing climate regimes, persistent pests, changing precipitation patterns, etc., and could be critical to agriculture in markets like Brazil. As such, ensuring Mosaic has product suite that can be used for climate change impact response is a material opportunity for our earnings. If Mosaic captures 5% of the microbials segment of the biologicals market, estimated at approximately \$1.2 billion by 2027, the result could be upwards of \$60 million in earned revenue annually, which is the stated opportunity number. Mosaic invests in research and innovative products to unlock a farm's fullest potential and enhanced response to climate stress. We've developed biological products that enhance the relationship between soil and crop nutrients. As an additional Brazilian example, where approximately 60 percent of pastureland is considered degraded to some extent, we launched MPasto Nitro, a high concentration nitrogen fertilizer containing stabilized urea with a urease inhibitor. Developed to address the health and recovery of chemical and biological properties of the soil on pastureland, MPasto Nitro optimizes use of the land and promotes livestock intensification, which translates to greater productivity and more efficient use of natural resources — thus reducing the impact of livestock systems on the environment and enabling better economic returns. MPasto Nitro is associated with 30 percent fewer GHGs when compared to traditional fertilizers.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

60000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Mosaic is evaluating and developing technologies with nutrient release profiles that align more closely with crop needs and are more suitable for changes in weather patterns. Market research purchased by Mosaic suggests that the size of the biologicals market is expected to grow to roughly \$3 billion by 2027. The solutions Mosaic is developing are part of a subset of the biologicals market, referred to as microbials. If Mosaic captures 5% of the microbials segment of the biologicals market, estimated at approximately \$1.2 billion by 2027, the result could be upwards of \$60 million in earned revenue annually.

Cost to realize opportunity

52300000

Strategy to realize opportunity and explanation of cost calculation

In order to manage important market opportunities like this one, in 2019 we formed a strategy and growth team, led by a Senior Vice President that reports directly to Mosaic's CEO, to pursue diverse opportunities and yield mutual benefits for Mosaic and its customers. The group is exploring products and solutions that address myriad agricultural challenges, some of which are driven by increasing climate-related risks and opportunities, like a plant's ability to thrive in increasingly stressful conditions (drought, changing temperatures, etc.). In the last three years (including 2022) our total cumulative invested was approximately \$52.3 million in R&D agreements, equity investments and venture capital investments progressing this work to develop new agricultural solutions, which is the value we are citing as the cost to realize this opportunity. In 2021 we announced a new agreement to develop and launch agricultural solutions, including a nutrient efficiency product and a nitrogen-fixing microbial product (microbials), that contribute to soil health in diverse applications and have positive environmental benefits. We anticipates solutions like these becoming increasingly important to global food security as pressure builds on agricultural stakeholders to maintain agricultural productivity despite an increase in abiotic stressors driven by climate change (heat, drought, floods, etc.). Some of the opportunities associated with this strategy could be realized in the short-term (within four years), namely the commercialization of new product solutions, but as noted above, the potential impact figure is based on market research out to 2027 (considered medium-term based), which is the year the market is expected to reach \$1.2 billion.

In Brazil, where approximately 60 percent of pastureland is considered degraded to some extent, we launched MPasto Nitro in 2020, a high concentration nitrogen fertilizer containing stabilized urea with a urease inhibitor. MPasto Nitro optimizes use of the land and promotes livestock intensification, which translates to greater productivity and

more efficient use of natural resources — thus reducing the impact of livestock systems on the environment and enabling better economic returns. MPasto Nitro is associated with 30 percent fewer GHGs when compared to traditional fertilizers used for pasture fertilization.

Comment

Mosaic promotes the use of agricultural best practices by supporting research and advancing educational outreach on practices that minimize GHG emissions and other environmental impacts associated with the use of crop nutrient products. Further, Mosaic supports the minimization of GHG emissions and other environmental impacts from the global food supply by encouraging stakeholders to enhance their understanding, adoption and promotion of 4R Nutrient Stewardship. In Brazil, Mosaic Fertilizantes partners with Embrapa (Brazil's Agricultural Research Company) in the Bifequali Tech Transfer Program, which aims at educating farmers and ranchers on best practices to use fertilizer in pastureland, thus promoting integrated crop-livestock systems that reduces GHG emission from livestock production.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Mosaic sells its products to customers in 40 countries and is one of the world's largest suppliers of crop nutrients. Changes in the length of growing seasons in certain regions, like portions of Canada, may increase the productivity (and therefore planting demand) of some crops, which could improve the productivity of agriculture and result in an increased demand for agricultural inputs like the crop nutrients Mosaic supplies as its core business. For reference, our net sales to Canada in 2022 were approximately \$966 million, or roughly 5% of companywide net sales in 2021. In a scenario where certain growing region could become more productive due to climate change, Mosaic could see increased demand for crop nutrients, namely higher-yield fertilizer products like MicroEssentials® and other performance products such as our PowerCoat biological fertilizer complement, and the increased demand could have a positive effect on our operating results and financial condition. The effects could be significant to us. Note the 2021 data application is still relevant in 2022 so has not been updated for the reporting year. Increasing extremes of temperature and precipitation impede plant growth, decrease yields, and lead to soil erosion. We are committed to developing nutrients that help crops become more resistant to weather extremes and help farmers maximize the efficiency of their farmland. As an example - our PowerCoat Biological Fertilizer Complement has been developed to optimize yield potential and nutrient use efficiency. PowerCoat® contains strains of naturally occurring PGPR Plant Growth Promoting Rhizobacteria formulated to be used alongside fertilizer to improve nutrient utilization for greater plant growth and vigor, helping maximize growth and resiliency.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

300000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Our company had sales of approximately \$3 billion of performance products, a category which includes MicroEssentials®, during 2022. A hypothetical increase of 10% in sales volume of specialty products, including MicroEssentials®, from 2021 levels could result in over \$300 million in added revenue (calculated by multiplying 2022 performance product sales of \$3 billion from Form 10-K by 110%).

Cost to realize opportunity

3000000

Strategy to realize opportunity and explanation of cost calculation

Mosaic's balanced approach to crop nutrition is a strategy to manage potential opportunities driven by the effects of climate change, such as change in temperature and the length of growing season. Mosaic has established relationships with key universities and research organizations around the globe to develop and test innovative products like our MicroEssentials® line, which features crop nutrient blends specially designed for the soils of various parts of the world. In 2022 we conducted approximately 2300 small plot trials in Argentina, Brazil, Chile, China, Canada, India, Northern Latin America (Mexico to Peru), Turkey and the United States. The benefits of small plot trials and research are data and outcomes we can use to inform Mosaic's agronomy activities and our sales/commercial strategy, which could ultimately contribute to higher sales of performance products. For example, we are analyzing the potential benefits of synergy of Mosaic's phosphate and potash performance products in different soils to support our product portfolio; we are also assessing micronutrient addition and their uptake in various soil conditions. The cost associated with conducting more than 2300 trials in 2022 was approximately \$3 million.

Comment

The reference to sales volumes in Canada excludes volumes sold through Canpotex.

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan

No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a climate transition plan within two years

Publicly available climate transition plan

<Not Applicable>

Mechanism by which feedback is collected from shareholders on your climate transition plan

<Not Applicable>

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

Attach any relevant documents which detail your climate transition plan (optional)

<Not Applicable>

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future

We use energy and generate greenhouse gas and other emissions in the mining, production, distribution and customers do the same when using our crop nutrient products. Climate change poses risks to the health and wellbeing of the society, and it creates risk for our business. We are managing this priority by:

- Reducing our companywide greenhouse gas emissions
- Improving energy efficiency and maximize production and internal use of cogenerated electricity
- Promoting product education following the 4R of nutrient stewardship principles

The development of a transition plan is dependent on Chemicals Sector Decarbonization Guidance development.

Mosaic has an ambitious net-zero target that applies to our Scope 1 and 2 emissions. The pathway for achieving these reductions, though not validated by the science-based targets initiative per their requirements, includes initiatives that will reduce our absolute emissions significantly; we communicate with our stakeholders on these plans regularly. We also participated in the Assessing low-Carbon Transition (ACT) initiative development process and provided input on a sectoral decarbonization approach for the chemicals sector. Put simply, we are engaged in this space however, we need to receive finalized Chemical Sectoral Decarbonization guidance to develop a 1.5 °C transition plan.

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

| | Use of climate-related scenario analysis to inform strategy | Primary reason why your organization does not use climate-related scenario analysis to inform its strategy | Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future |
|-------|---|--|---|
| Row 1 | Yes, qualitative and quantitative | <Not Applicable> | <Not Applicable> |

C3.2a

(C3.2a) Provide details of your organization’s use of climate-related scenario analysis.

| Climate-related scenario | | Scenario analysis coverage | Temperature alignment of scenario | Parameters, assumptions, analytical choices |
|----------------------------|--------------------------------|----------------------------|-----------------------------------|---|
| Physical climate scenarios | RCP 2.6 | Company-wide | <Not Applicable> | <p>Mosaic is taking a proactive approach to reductions in GHG emissions, with an emphasis on technology and improving energy efficiency with behavioral changes, process improvements, equipment upgrades and bold solutions. GHG emissions reductions resulting from the energy saving initiatives equal approximately 40,000 tonnes of CO2e, the equivalent of taking more than 8,000 average United States cars off the road for a year. In late 2021, we announced targets to reach net-zero GHG emissions in our Florida operations by 2030 and companywide by 2040. Our pathway focuses foremost on mitigation of emissions from our operations, and we are exploring opportunities to leverage nature-based solutions on our significant landholdings.</p> <p>The inputs to the scenario analysis were individual site latitude and longitude; impact metrics for each site like finished product production, throughput for distribution sites and employees per site; summaries of mitigation strategies; and company production forecasts. We selected the highest-scored physical and transition global risks from a climate risk assessment for each scenario analysis. The timelines we considered were 2030 and 2050. The 2030 timeline is relevant given its proximity to Mosaic’s five-year planning period, which we use for capital and strategic planning; however, it is limiting in the context of this exercise in that many long-term physical risks will not materialize within the time window. As such, we selected the 2050 timeline to model the impact of longer-term nature of chronic physical risks and transition risks on Mosaic’s business. Conversely, transition risks, particularly those related to emerging regulation, are likely to materialize much sooner, so for that reason, the 2030 timeline is relevant. The risk assessment and scenario analysis considered Mosaic’s direct operations; upstream and downstream supply chains; and market for products.</p> |
| Physical climate scenarios | RCP 6.0 | Company-wide | <Not Applicable> | <p>Mosaic is taking a proactive approach to reductions in GHG emissions, with an emphasis on technology and improving energy efficiency with behavioral changes, process improvements, equipment upgrades and bold solutions. GHG emissions reductions resulting from the energy saving initiatives equal approximately 40,000 tonnes of CO2e, the equivalent of taking more than 8,000 average United States cars off the road for a year. In late 2021, we announced targets to reach net-zero GHG emissions in our Florida operations by 2030 and companywide by 2040. Our pathway focuses foremost on mitigation of emissions from our operations, and we are exploring opportunities to leverage nature-based solutions on our significant landholdings.</p> <p>The inputs to the scenario analysis were individual site latitude and longitude; impact metrics for each site like finished product production, throughput for distribution sites and employees per site; summaries of mitigation strategies; and company production forecasts. We selected the highest-scored physical and transition global risks from a climate risk assessment for each scenario analysis. The timelines we considered were 2030 and 2050. The 2030 timeline is relevant given its proximity to Mosaic’s five-year planning period, which we use for capital and strategic planning; however, it is limiting in the context of this exercise in that many long-term physical risks will not materialize within the time window. As such, we selected the 2050 timeline to model the impact of longer-term nature of chronic physical risks and transition risks on Mosaic’s business. Conversely, transition risks, particularly those related to emerging regulation, are likely to materialize much sooner, so for that reason, the 2030 timeline is relevant. The risk assessment and scenario analysis considered Mosaic’s direct operations; upstream and downstream supply chains; and market for products.</p> |
| Transition scenarios | IEA SDS | Company-wide | <Not Applicable> | <p>Mosaic is taking a proactive approach to reductions in GHG emissions, with an emphasis on technology and improving energy efficiency with behavioral changes, process improvements, equipment upgrades and bold solutions. GHG emissions reductions resulting from the energy saving initiatives equal approximately 40,000 tonnes of CO2e, the equivalent of taking more than 8,000 average United States cars off the road for a year. In late 2021, we announced targets to reach net-zero GHG emissions in our Florida operations by 2030 and companywide by 2040. Our pathway focuses foremost on mitigation of emissions from our operations, and we are exploring opportunities to leverage nature-based solutions on our significant landholdings.</p> <p>The inputs to the transition scenario analysis were individual site latitude and longitude; impact metrics for each site like finished product production, throughput for distribution sites and employees per site; summaries of mitigation strategies; and company production forecasts. We selected the highest-scored physical and transition global risks from a climate risk assessment for each scenario analysis. The timelines we considered were 2030 and 2050. The 2030 timeline is relevant given its proximity to Mosaic’s five-year planning period, which we use for capital and strategic planning; however, it is limiting in the context of this exercise in that many long-term physical risks will not materialize within the time window. As such, we selected the 2050 timeline to model the impact of longer-term nature of chronic physical risks and transition risks on Mosaic’s business. Conversely, transition risks, particularly those related to emerging regulation, are likely to materialize much sooner, so for that reason, the 2030 timeline is relevant. The risk assessment and scenario analysis considered Mosaic’s direct operations; upstream and downstream supply chains; and market for products.</p> |
| Transition scenarios | IEA STEPS (previously IEA NPS) | Company-wide | <Not Applicable> | <p>Mosaic is taking a proactive approach to reductions in GHG emissions, with an emphasis on technology and improving energy efficiency with behavioral changes, process improvements, equipment upgrades and bold solutions. GHG emissions reductions resulting from the energy saving initiatives equal approximately 40,000 tonnes of CO2e, the equivalent of taking more than 8,000 average United States cars off the road for a year. In late 2021, we announced targets to reach net-zero GHG emissions in our Florida operations by 2030 and companywide by 2040. Our pathway focuses foremost on mitigation of emissions from our operations, and we are exploring opportunities to leverage nature-based solutions on our significant landholdings.</p> <p>The inputs to the scenario analysis were individual site latitude and longitude; impact metrics for each site like finished product production, throughput for distribution sites and employees per site; summaries of mitigation strategies; and company production forecasts. We selected the highest-scored physical and transition global risks from a climate risk assessment for each scenario analysis. The timelines we considered were 2030 and 2050. The 2030 timeline is relevant given its proximity to Mosaic’s five-year planning period, which we use for capital and strategic planning; however, it is limiting in the context of this exercise in that many long-term physical risks will not materialize within the time window. As such, we selected the 2050 timeline to model the impact of longer-term nature of chronic physical risks and transition risks on Mosaic’s business. Conversely, transition risks, particularly those related to emerging regulation, are likely to materialize much sooner, so for that reason, the 2030 timeline is relevant. The risk assessment and scenario analysis considered Mosaic’s direct operations; upstream and downstream supply chains; and market for products.</p> |

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

The questions we sought to answer when undertaking scenario analysis were, broadly: a. how, and in what time frame (2030 or 2050), are physical risks most likely to materialize, and how are they expected to affect our companywide operations; b. to which perils are we most objectively vulnerable; and c. companywide, which transition risks are most pressing to our business, and how vulnerable are we to emerging prices on carbon in our operating jurisdictions?

Results of the climate-related scenario analysis with respect to the focal questions

Climate-related physical scenario analysis results indicated that hurricanes are the peril representing the greatest risk to our global operations. Not surprisingly, there is significant hurricane risk related to our Florida and Louisiana sites (eight mining and production facilities in total) in both of the time periods analyzed (2030 and 2050), per the focal questions. Physical risks in general are highest for our US operations and most likely to materialize in the 2050 timeframe. The most significant transition risk is the potential or current implementation of carbon pricing in the countries where we have operations. This risk is concentrated in the U.S., where a carbon pricing structure is under consideration and where most of our emissions occur, although the proposed pricing structure is still uncertain; and in Canada, where a carbon pricing structure is already in place (and subject to change with regular regulatory review). In the context of our focal questions, the potential annual impact of penalties on our scope 1 emissions under a Sustainable Development Scenario over the 2030 and 2050 time horizons is \$384 million and \$547 million per year. Another transition risk that could potentially affect our operations is the increased cost of raw materials, specifically related to volatility in ammonia and sulfur availability and prices – two key inputs to the phosphate manufacturing process.

The results of both the physical and transition scenario analyses have informed our decisions and actions in a few key ways: a) by elevating climate-related risks to site risk registers, which will help inform our approach for buttressing facilities against climate-related physical threats; and 2) by reinforcing the strategic imperative of activities such as generation of low-carbon energy through cogeneration from waste heat at our facilities, and in the company’s investment of significant capital in the development of Esterhazy K3, a potash mine expansion that is expected to deliver significant risk reduction, operational and GHG reduction benefits to our company. Our new Esterhazy K3 potash mine approached its full operating capacity in 2022 (project was started in 2009). The megaproject was delivered early and on budget and is now one of the world’s largest and most efficient potash mines.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

| | Have climate-related risks and opportunities influenced your strategy in this area? | Description of influence |
|---------------------------------|---|--|
| Products and services | Yes | Climate-related risks and opportunities related to meeting the evolving needs of customers and growers, such as reducing the impact of crop nutrients on the environment, have influenced our product development strategy. Recently, Mosaic made the strategic decision to formalize the companywide priority to “Grow and Strengthen Our Product Portfolio.” As a result, Mosaic’s newly formed strategy and growth team, led by a Senior Vice President that reports directly to Mosaic’s CEO, was established to pursue diverse opportunities and yield mutual benefits for Mosaic and its customers. The group is exploring products and solutions that address myriad agricultural challenges, some of which are driven by increasing climate-related risks and opportunities, like a plant’s ability to thrive in increasingly stressful conditions (drought, changing temperatures, etc.). In the last three years our Mosaic has invested cumulatively approximately \$52.3 million in R&D agreements, equity investments and venture capital investments to progress this work (including 2022). Some of the opportunities associated with this strategy could be realized in the short-term (within four years), namely the commercialization of new product solutions. |
| Supply chain and/or value chain | Yes | Agriculture is susceptible to climate impacts in many ways, particularly as it relates to downstream use of our products because the use of crop nutrient products contributes to climate change, primarily through the release of N2O from the application of nitrogen-based fertilizers. It is in this context that climate-related risks and opportunities have influenced our strategy across the value chain. We know it is important to contribute to solutions that address climate change, and that is why we are adapting our product portfolio and seeking opportunities to bring products to market that help the users of our products – growers – reduce the impact of their activities on the environment. As a specific example, in 2020, Mosaic announced a partnership with BioConsortia to collaborate on new nitrogen-fixing microbial products, which naturally “fix” atmospheric nitrogen, converting it to ammonia and making it available to crops during the growing season, thereby reducing growers’ reliance on the addition of synthetic nitrogen fertilizers. We progressed this partnership in 2022. Pressure on the agricultural value chain to minimize the impact of agriculture on the environment is increasing and products like nitrogen fixing microbial projects are one promising solution; accordingly, we are anticipating the release of other biological products within the next four years (short-term). Other risks, such as the risk of widespread changes in location and productivity of growing regions will materialize more slowly and thus, our response to them is longer-term in nature. |
| Investment in R&D | Yes | Mosaic has made the strategic decision to establish relationships with key universities, technology development companies and research organizations around the globe to develop and test innovative products like our MicroEssentials® line. Mosaic invests in research partnerships that focus on soil chemistry and fertilizer technology and develop innovative fertilizer formulations to improve nutrient use efficiency in a variety of climate regimes, which could potentially allow for growing crops in increasingly stressful growing conditions. Climate risks and opportunities have shaped the extent to which we invest in certain research partnerships on an annual (short-term) basis; they have also shaped the nature of our ongoing (longer-term) research. As an example of a notable strategic decision in this area, in the last three years our Mosaic has invested cumulatively approximately \$52.3 million in R&D agreements, equity investments and venture capital investments to progress this work (including 2022) related to efforts to grow and strengthen our product portfolio. Some of our R&D investments were related to development of products such as nitrogen-fixing microbial products, which help promote more sustainable farming practices while also solving for the world’s increasing demand in food supply. |
| Operations | Yes | In anticipation of changing weather patterns, potential shortages of water, the possibility of increasing energy costs and possible carbon/energy taxes and their potential effects on our business, Mosaic employs a strategy that focuses on operational excellence and we have made strategic decisions about our operating activities in order to address operating efficiency and resource management. The most substantial strategic decision in this area in 2021 was our announcement of new companywide net-zero targets emissions by 20% per tonne of finished product by 2025. The target will affect our individual facilities (operations), who will be responsible for executing strategies to reduce emissions. Further, in 2021 and 2022 we advanced key initiatives in our pathway to net-zero. For example, we are exploring carbon capture and sequestration (CCS) at our highest emitting site in Louisiana, which could reduce emissions by up to 500,000 tonnes/year. We are also exploring CCS at another site in Saskatchewan. |

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

| | Financial planning elements that have been influenced | Description of influence |
|-------|---|---|
| Row 1 | Revenues Indirect costs Capital expenditures Capital allocation Access to capital Assets | <p>Revenues: As part of our annual financial planning process, for example, a widespread flood or inclement weather might impact agricultural commodity markets, which could in turn affect Mosaic's annual sales. Adverse weather may also cause a loss of production and may disrupt our supply chain or adversely affect delivery of products to customers, which may also have an impact on revenues. In the second half of 2022, we experienced production impacts related to Hurricane Ian, which made landfall as a category 5 near our Florida sites. One impact was on the sale of inventory related to Hurricane Ian idle costs, which resulted in an approximately \$39 million negative impact to our 2022 revenue.</p> <p>Indirect costs: One of the consequences of the carbon tax in Canada is pass-through costs to Mosaic from third parties. Our Canadian potash mines, located in the Province of Saskatchewan represent about 40% of Mosaic's total finished crop nutrient production tonnes and approximately 30% of total companywide emissions in 2022. One feature of the comprehensive tax on carbon emissions is a carbon levy charge from our electricity provider, which translates to increased indirect costs to our company (approximately \$2.9 million USD in 2022). Costs associated with the carbon levy are passed on from Mosaic's rail carriers in Canada, resulting in additional indirect costs to our company (approximately \$427,400 USD in 2022).</p> <p>Direct costs, capital expenditures (CapEx): We consider EHS laws and regulations, some of which are climate-related, and their effect(s) on operating costs and capital expenditures. Severe climate-related events, including hurricanes, have in the past, and may in the future, adversely affect our operations, resulting in increased direct costs or decreased production. These impacts are part of our broad financial planning process on an annual basis. Mosaic's market analysis team monitors climate and growing regions, forecasting for climate-related events like droughts, floods and severe weather events, to determine their potential impact on the markets, our production and Mosaic's overall financial performance. As another example that has an impact on our operating costs, Mosaic forecasts the financial implications of carbon pricing mechanisms in Canada. Our evaluation is considering the operating cost impacts of direct energy consumption as well as indirect impacts of how the tax is passed on to Mosaic from third parties. In 2022 we continued to see price increases for electricity consumption at our Saskatchewan facilities as a result of these changing regulations. Specifically, we paid more than \$2.9 million USD in the form of carbon levy funds to the utility provider in Saskatchewan in 2022— charges that are tied directly to Mosaic's electricity consumption due to pass-through costs from the utility. This impact on our operating costs is considered low magnitude. This example is still relevant to the reporting year. We also consider availability of CapEx for projects that could improve our environmental performance, including energy or GHG efficiency. As an example, Mosaic is assessing changes in emission allowances that should be effective by 2023 that will have an impact on some of our Phosphate concentrate facilities. Current equipment may not meet emissions requirements and we have initiated projects requiring capital expenditures to replace or upgrade catalysts at the affected facilities. The approximate cost per catalyst replacement is \$2 million and these anticipated costs, as well as the timeline for replacing the catalysts, are part of Mosaic's capital expenditures planning process. As another example, Mosaic is assessing changes in boiler emission allowances that will be effective in 2026 that will have significant impact on one of our Saskatchewan potash mines. Current boilers may not meet emissions requirements and we are exploring options, including equipment alterations that would require capital investments (thus affecting capital allocation), in order to meet compliance standards. A capital project team has been assembled to conduct detailed analyses to assess solutions and the potential cost implications, but based on preliminary estimates, the financial impact could be more than \$73 million. This impact on our capital expenditures is considered high magnitude. Moreover, these costs impact Mosaic's ability to remain competitive against other global fertilizer and mining companies that operate in lower-cost jurisdictions without similar carbon tax or environmental costs.</p> <p>Capital allocation: Climate-related risks and opportunities have influenced our approach to capital allocation because many of the emissions-reductions opportunities we have identified will require capital investments. At the same time, these initiatives can be hard to justify because they don't meet traditional financial hurdle criteria. As a result, we are exploring a capital allocation designation for ESG projects to help drive the investments necessary to reduce our GHG emissions. As noted, the lower our emissions, the less exposed we are to the threat of carbon pricing in our global operations – a risk we have identified through scenario analysis that affects us in the short- and long-term horizons. Capital budgets planning horizon is approximately five years long (medium-term); however, the decision to formalize a capital allocation is likely to happen within a year (short-term).</p> <p>Access to capital: At this time, our identified risks related to climate change have not had an impact on our company's access to capital. However, Mosaic understands that climate-related issues can possibly have an impact on a company's credit score, which could, in turn, affect long-term access to debt capital. Similarly, we understand that external perceptions of Mosaic's ESG performance by the investor community, including elements related to climate, could have a positive or negative impact on our access to equity capital. We are employing adaptation and mitigation strategies at our operations and regularly engaging financial stakeholders in order to minimize or avoid negative impacts, and to impart an understanding of the criticality of fertilizer to sustainable food security. We are also contemplating the use of "green" financial instruments, tied to our sustainability performance, to further drive company progress toward ESG targets and to access lower borrowing interest rates.</p> |

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

| | Identification of spending/revenue that is aligned with your organization's climate transition | Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy |
|-------|--|---|
| Row 1 | No, but we plan to in the next two years | <Not Applicable> |

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Is this a science-based target?

No, but we anticipate setting one in the next two years

Target ambition

<Not Applicable>

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Intensity metric

Metric tons CO2e per metric ton of product

Base year

2015

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

0.17924

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

0.07639

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.25563

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2025

Targeted reduction from base year (%)

20

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

% change anticipated in absolute Scope 1+2 emissions

-12.24

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

0.1659

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

0.0587

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.22467

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

In 2020, we announced a target to reduce our combined Scope 1 and Scope 2 GHG emissions by 20% per tonne of finished product by 2025. Current GHG reduction targets are based on internal operational performance and cover Scope 1 and 2 emissions from operations in North and South America, including facilities acquired in our Mosaic Fertilizantes business in early 2018. Our GHG target, although not recognized by the Science Based Targets Initiative for being in line with their particular methodology, was developed with science-based models that take company and industry-specific factors into account. Our GHG target does not include Scope 3 emissions at this time. However, we are engaging our supply chain to reduce the most relevant Scope 3 emissions. We report those emissions categories in Section 6.

For our GHG target, we selected a 2015 baseline year for our North America business because it represented a fairly "typical" year for Mosaic whereas the years that followed brought cyclical market conditions and operational decisions that are not representative of our business. We selected a 2018 baseline year for our Mosaic Fertilizantes business due to the "first-hand" availability of data following our 2018 acquisition of mining and production sites in Brazil.

The Scope 1 and 2 percentage covered in our targets (100%) represents total inclusion of all our operating mining and manufacturing sites in the baseline year (note, this percentage is restated from 2021 disclosure where there was a subtraction made for closed or idle sites which is not considered relevant for CDP reporting analysis).

Plan for achieving target, and progress made to the end of the reporting year

In 2022 we achieved an 12% reduction in Scope 1 and 2 emissions from our baseline thanks to efforts of our employees to conduct fuel- and energy-saving projects across the businesses. We expect to reach our target with projects incentivized from our ESG Risk Register programs like the reverse osmosis heat input system at our New Wales site which will increase internal use of GHG emissions-free cogenerated electricity. We are also exploring carbon capture at our two highest-emitting sites, which, if successful, will reduce our Scope 1 emissions footprint significantly. In addition, in 2022 we have hired third-party experts to identify opportunities and help us to build decarbonization pathways at sites in Brazil, Canada and US to help achieve our net-zero targets.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Net-zero target(s)

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Int1

Target year for achieving net zero

2040

Is this a science-based target?

No, but we anticipate setting one in the next two years

Please explain target coverage and identify any exclusions

Our net-zero target includes our companywide Scope 1 and Scope 2 emissions.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

We have a plan that focuses foremost on mitigation of the emissions from our operations, and we will also rely on nature-based solutions. We will reduce emissions from our sites –deploying process optimizations, operating more efficiently, using renewable energy, making investments in electrification and equipment. We are uniquely positioned with our significant landholdings to maximize carbon removal through nature-based solutions, including land covered with vegetation that sequesters carbon.

We are on track to achieve a 20% intensity target by 2025. We intend to reach net-zero in our Florida operations by 2030. Our plan is to achieve net-zero GHG emissions companywide by 2040.

Planned actions to mitigate emissions beyond your value chain (optional)

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

| | Number of initiatives | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|---------------------------|-----------------------|--|
| Under investigation | 4 | 1319000 |
| To be implemented* | 14 | 84000 |
| Implementation commenced* | 2 | 2200 |
| Implemented* | 25 | 46485 |
| Not to be implemented | 0 | 0 |

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

| | |
|--------------------------------|----------|
| Energy efficiency in buildings | Lighting |
|--------------------------------|----------|

Estimated annual CO2e savings (metric tonnes CO2e)

4474

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1580000

Investment required (unit currency – as specified in C0.4)

611000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Companywide, we upgraded lighting to more efficient LEDs, which reduces purchased electricity and GHG emissions.

Initiative category & Initiative type

| | |
|--|-------------------------------|
| Non-energy industrial process emissions reductions | Process material substitution |
|--|-------------------------------|

Estimated annual CO2e savings (metric tonnes CO2e)

20583

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

2000000

Investment required (unit currency – as specified in C0.4)

11100000

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

This project relates to a new product developed at our Brazilian Operations, that incorporates quicklime and fluosilicic acid. The addition of fluosilicic acid reduces the volumes of acidic water sent to treatment and consequently, the amount of limestone used for neutralization of the effluent whose process emits CO2.

Initiative category & Initiative type

| | |
|---|------------|
| Energy efficiency in production processes | Automation |
|---|------------|

Estimated annual CO2e savings (metric tonnes CO2e)

1471

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

500000

Investment required (unit currency – as specified in C0.4)

6000000

Payback period

11-15 years

Estimated lifetime of the initiative

21-30 years

Comment

This project consists of centralization of the phosphoric acid and sulfuric acid plants control rooms at one of our Concentrate Florida sites within a new Integrated Operations Center. It adds automation to the processes, including control of SO2 emissions by maximizing furnace temperature which in turn produces more autogenerated power and reduces electrical usage.

Initiative category & Initiative type

| | |
|---|-------------------------------|
| Energy efficiency in production processes | Machine/equipment replacement |
|---|-------------------------------|

Estimated annual CO2e savings (metric tonnes CO2e)

19938

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Scope 2 (location-based)

Voluntary/Mandatory

Please select

Annual monetary savings (unit currency – as specified in C0.4)

19000000

Investment required (unit currency – as specified in C0.4)

4600000

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

Multiple initiatives at our operations in Brazil, Canada and US that reduce emissions by replacing machinery and/or equipment. Annual monetary savings, investment, payback and estimated lifetime is an average of the initiatives.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

| Method | Comment |
|--|---|
| Employee engagement | Mosaic emphasizes the philosophy of continuous improvements to reduce energy use in our manufacturing facilities and support functions, and we recognize that employees on the front line often have the best ideas. Mosaic fosters a culture which encourages employees to bring forward ideas, and this open dialogue has driven investments that result in energy savings and/or emissions reductions. In 2022, we continued an internal communications effort to recognize employees for their efforts, large and small, in improving environmental performance and meeting companywide 2025 ESG Performance Targets. |
| Other (Site responsibility for sustainability initiatives) | Mosaic facilities have employees that are designated engineers and/or sustainability site leads. The role of these site leads, in part, is to identify project opportunities (some of which require investments) for improving energy efficiency and GHG emissions that will help us achieve our 2025 target to reduce GHG emissions by 20% per tonne of product. |
| Compliance with regulatory requirements/standards | New or proposed regulatory emissions requirements may require modifications to our facilities or to operating procedures and these modifications may involve significant investments. We analyze the cost of complying with regulatory compliance against the cost of intervening with solutions that will reduce GHG emissions. |

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

| | |
|-------|------------------------------------|
| Other | Other, please specify (fertilizer) |
|-------|------------------------------------|

Description of product(s) or service(s)

Mosaic's performance product MicroEssentials® has been shown to increase corn yields an average of 7.2 bushels per acre, or 4.3%, compared to traditional fertilizer. MicroEssentials® was also recently labeled an Enhanced Efficiency Fertilizer (EEF), which means it reduces nutrient losses to the environment while increasing nutrient availability for the plant or crop. This product helps enable farmers to avoid GHG emissions.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Product-specific methodology)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Use stage

Functional unit used

MicroEssentials

Reference product/service or baseline scenario used

Diammonium Phosphate (traditional fertilizer products)

Life cycle stage(s) covered for the reference product/service or baseline scenario

Use stage

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

20000

Explain your calculation of avoided emissions, including any assumptions

Mosaic's performance product MicroEssentials® has been shown to increase corn yields an average of 7.2 bushels per acre, or 4.3%, compared to traditional fertilizer. Assuming a 4.3% yield advantage with MicroEssentials®, a corn farmer with a 350-acre farm can theoretically produce yields similar to those from a 365.05-acre farm. By using MicroEssentials®, this farmer could avoid approximately 0.1816 tonnes of Scope 1 CO2e/year, through reduced corn harvesting equipment usage, resulting in greater yields with MicroEssentials® and fewer acres farmed. This theoretical example is fleshed out below to give an idea of annual scale of avoided emissions for 100 farms. The estimate takes into consideration the tonnes of CO2e/gallon generated by the diesel fuel needed for the operation of a corn harvester per acre. The potential yield of a 350-acre farm yielding 365.05 acres worth of crops was used as the baseline for this Scope 1 emissions savings. A 2.5 mph corn harvester (farm equipment) uses 1.15 gallons/acre of diesel fuel, which equates to 0.0120648 tonnesCO2e/gallon of diesel fuel. Assuming a 4.3% yield advantage with MicroEssentials®, a corn farmer with a 350-acre farm can theoretically produce yields similar to those from a 365.05-acre farm. This farmer could avoid approximately 0.1816 tonnes of Scope 1 emissions/year by harvesting the same yield on a smaller area. For every 100 farms similar to this example equals a combined savings of 18.16 tonnes of Scope 1 CO2e/year. There are 900 million acres of farmland in the United States and we are using 20,000 tonnes of CO2e as a conservative and theoretical estimate. The percentage of total sales is for revenue from performance products (a category that includes MicroEssentials®) as a share of total revenue from all product types. Sales for MicroEssentials® are not available as a separate line item. Note for Methodology: US EPA Climate Leaders: Direct HFC and PFC Emissions from Manufacturing Refrigeration and Air Conditioning Equipment; GHG Protocol: A Corporate Accounting and Reporting Standard; US EPA Climate Leaders: Direct Emissions from Mobile Combustion Sources US EPA Mandatory Greenhouse Gas Reporting Rule: Subpart G (Ammonia) and Z (Phosph. Acid); US EPA Climate Leaders: Indirect Emissions from Purchases/Sales of Electricity and Steam Stoichiometric mass balance for reactive species containing CO2 or carbon compounds; Mass Balance from European Fertilizer Manufacturers Association Guidance for Ammonia.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

16

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

| | Change(s) in methodology, boundary, and/or reporting year definition? | Details of methodology, boundary, and/or reporting year definition change(s) |
|-------|---|--|
| Row 1 | Yes, a change in methodology Yes, a change in boundary | Reintroduction of maritime emissions in our Scope 3 inventory. In 2022, we prioritized these emissions as a category 4 gap that we aimed to fill. Also in category 4, we included trucking data for the whole company rather than just phosphate sites. In category 11, we changed the emissions calculation of the use of our sold products. Instead of using average Nitrogen content across product lines, we accounted for the actual Nitrogen content within each product line. For that, we asked Commercial to provide further refinement of the breakdown of products in Blend formulations of NPK. Prior to 2022, this was not being collected to the level that would justify a change from average Nitrogen content to actual Nitrogen content. The new calculation also excludes final product that is purchased and resold by the business in Brazil to avoid double counting of the emissions. |

C5.1c

(C5.1c) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?

| | Base year recalculation | Scope(s) recalculated | Base year emissions recalculation policy, including significance threshold | Past years' recalculation |
|-------|---|-----------------------|---|---------------------------|
| Row 1 | No, because the impact does not meet our significance threshold | <Not Applicable> | Five percent is generally our threshold for recalculation or restatement of information. The addition of maritime activities represented less than 1% of total Scope 3 emissions; therefore, a restatement or baseline recalculation was not necessary. Regarding the Category 11 change in methodology, we are not recalculating the base year at this moment since next year we plan to transition the emissions calculation from the Tier 1 to Tier 2 IPCC methodology which takes into account different land cover, soil types, climatic conditions or management practices. | No |

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

January 1 2015

Base year end

December 31 2015

Base year emissions (metric tons CO2e)

3432104.132

Comment

Scope 2 (location-based)

Base year start

January 1 2015

Base year end

December 31 2015

Base year emissions (metric tons CO2e)

1462872.795

Comment

Scope 2 (market-based)

Base year start

January 1 2015

Base year end

December 31 2015

Base year emissions (metric tons CO2e)

1462872.795

Comment

Scope 3 category 1: Purchased goods and services

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

2415226

Comment

Scope 3 category 2: Capital goods

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

300000

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

498116

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

246754

Comment

Scope 3 category 5: Waste generated in operations

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

2787

Comment

Scope 3 category 6: Business travel

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

619

Comment

Scope 3 category 7: Employee commuting

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

30000

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

25000

Comment

Scope 3 category 10: Processing of sold products

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

5832

Comment

Scope 3 category 11: Use of sold products

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

4798346

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

216380

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

631470

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

0

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

0

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

US EPA Center for Corporate Climate Leadership: Indirect Emissions From Purchased Electricity

US EPA Center for Corporate Climate Leadership: Direct Emissions from Mobile Combustion Sources

US EPA Mandatory Greenhouse Gas Reporting Rule

Other, please specify (1-stoichiometric mass balance for reactive species containing CO2 or Carbon compounds to estimate emissions 2-mass balance from European

Fertilizer Manufacturers Association Guidance for Ammonia Manufacturing to estimate emissions from ammonia prod.)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

3192707

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

Figures exclude emissions from land use change in our Florida phosphate operations. We expect that these emissions are material to our total global footprint; as of the date of this report, we are working to quantify this source as part of our scope 1 emissions total. Approximately 29 percent of Mosaic's Scope 1 emissions (those generated in Canada) are covered under emissions-limiting regulations. Total emissions figures are higher starting in 2018 due to inclusion of the acquired Mosaic Fertilizantes facilities in Brazil that year. This figure was assured by ERM CVS.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Market based emissions available for most locations in the United States, Brazil and Saskatchewan. We do not have market-based emission factors available for sites in Peru or Paraguay at this time.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

1196633

Scope 2, market-based (if applicable)

1290002

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

For the market-based emissions, we applied emission factors received from the energy suppliers in 2022 and will be updated next year. The Scope 2 location-based figure was assured by ERM CVS.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

2033406

Emissions calculation methodology

Fuel-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Category 1 emissions are associated with the purchase of ammonia for production of phosphate crop nutrients and use in smaller applications at our Esterhazy, Saskatchewan complex. This category was assured by ERM CVS.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

290000

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Category 2 emissions are associated with the company's capital expenditures.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

755513

Emissions calculation methodology

Average product method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes the emissions related to the production of fuels and energy purchased and consumed by our company. We applied the 2022 Defra WTT and T+D emission factors to purchased electricity and fuels, respectively. This category was assured by ERM CVS.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

551017

Emissions calculation methodology

Supplier-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Trucking represents upstream transportation of raw materials, in-process and finished goods related to our global operations. Rail emissions exclude unladen backhaul trips. Maritime was reintroduced in 2022. Category 4 was assured by ERM CVS, except for the maritime emissions that represent about 44% of this category.

Waste generated in operations

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

17870

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Applied DEFRA factors for waste categories by treatment/disposal method and adjusted for 2022 waste generation volumes. This category was not assured by ERM CVS for the 2022 reporting year. It includes emissions associated with our disposal of non-mining wastes generated from our mines and manufacturing facilities. For wastes of "unknown" or mixed categories, we assigned an average of landfill factors for construction debris as provided by the DEFRA standard.

Business travel

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

We have collected data for this category for the last 5+ years and emissions represent less than 1% of our total scope 3 footprint, an impact we consider immaterial. Due to resource constraints, we opted not to collect this data in 2022, instead seeking assurance on more material categories. We will continue to revisit this category to assess its materiality to our total scope 3 footprint.

Employee commuting

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Based on experience with collecting data for this category, we estimate that employee commuting represents less than 0.05% of our total scope 3 footprint. Given the recent change of our workforce to partially working remotely, we anticipate it remains low in 2023. We will continue to revisit this category to assess its materiality to our total scope 3 footprint.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Emissions associated with leased assets under Mosaic's operational control including land, pumps, autos, mobile equipment and railcars are accounted for in Scope 1 and 2 inventories. Emissions associated with other upstream leased assets (IT equipment, copiers, etc.) are estimated to represent less than 0.1% of total scope 3 emissions. This is logical and in line with expectations considering the emissions accounted for in purchased goods and services, fuel- and energy-related activities and use of sold products categories.

Downstream transportation and distribution

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

12000

Emissions calculation methodology

Average product method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Based on Greenhouse Gas Protocol's Corporate Value Chain Accounting and Reporting Standard, a majority of Mosaic's shipments of finished products are accounted for within the Upstream Transportation category; however, we estimate that approximately 5% of maritime movements (approximately 250,000 tonnes CO2e/year) are considered downstream.

Processing of sold products

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

9000

Emissions calculation methodology

Hybrid method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Includes all tonnes of crop nutrients sold in North America and assumes that they are blended at the distributor level. This value was not assured by ERM CVS.

Use of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

7226112

Emissions calculation methodology

Other, please specify (2019 IPCC methodology)

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The emissions associated with use of sold products is from 2019 IPCC N2O emissions from managed soils. We applied a Tier 1 methodology, which does not take into account different land cover, soil types, climatic conditions or management practices. This figure was assured by ERM CVS.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Not applicable. Mosaic's principal products are crop nutrients, which are applied to the soil and then taken up by plants; the plants can be used for human or animal food.

Downstream leased assets

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

282690

Emissions calculation methodology

Other, please specify (EPA calculation for enteric fermentation)

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

EPA calculation for enteric fermentation assumes mature cows in the South Atlantic region of the United States, applying a factor of 69.80 CH4 per cow. Figure assumes 2 cows per acre of land leased for cattle grazing.

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Not applicable to Mosaic operations. Mosaic does not operate franchises.

Investments

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

790582

Emissions calculation methodology

Investment-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

This figure represents emissions associated with our 25% equity share investment in Ma'aden Wa'ad Al Shamal Phosphate Company in the Kingdom of Saudi Arabia and includes emissions associated with fuels, natural gas and purchased electricity. It does not include other equity method investments. This figure was assured by ERM CVS.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Not applicable to Mosaic operations. Downstream emissions accounted for in other categories.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Not applicable to Mosaic operations. Downstream emissions accounted for in other categories.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO₂e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.000233007

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

4389340

Metric denominator

unit total revenue

Metric denominator: Unit total

1910000000

Scope 2 figure used

Location-based

% change from previous year

37.4

Direction of change

Decreased

Reason(s) for change

Other emissions reduction activities
Change in revenue

Please explain

Reduction in intensity was a combination of emissions reduction initiatives and revenue increases. Our year over year absolute emissions decreased by approximately 3% and revenue increased over 50%.

Intensity figure

327.960709

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

4389340

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

13570

Scope 2 figure used

Location-based

% change from previous year

16

Direction of change

Decreased

Reason(s) for change

Other emissions reduction activities

Please explain

Absolute CO₂e decreased by approximately 3% year over year in addition to 16% increase on the employee count, resulting in fewer emissions per full time equivalent employee.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

| Greenhouse gas | Scope 1 emissions (metric tons of CO2e) | GWP Reference |
|----------------|---|--|
| CO2 | 3184905 | IPCC Fourth Assessment Report (AR4 - 100 year) |
| CH4 | 2295 | IPCC Fourth Assessment Report (AR4 - 100 year) |
| N2O | 5507 | IPCC Fourth Assessment Report (AR4 - 100 year) |

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

| Country/area/region | Scope 1 emissions (metric tons CO2e) |
|--------------------------|--------------------------------------|
| United States of America | 1603014.031 |
| Canada | 912918.62 |
| Brazil | 503916.371 |
| Paraguay | 156.063 |
| Peru | 172702.27 |

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

By facility

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

| Business division | Scope 1 emissions (metric ton CO2e) |
|-------------------|-------------------------------------|
| Phosphate | 1731481.2 |
| Potash | 952694.63 |
| Fertilizantes | 504072.43 |
| Distribution | 4459.09 |

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|-------------------|--------------------------------------|------------|-------------|
| Faustina | 697660.26 | 30.083384 | -90.914391 |
| New Wales | 346339.01 | 27.832701 | -82.051048 |
| Bartow | 153268.16 | 27.907545 | -81.800537 |
| Plant City | 23629.75 | 28.168056 | -82.141667 |
| Uncle Sam | 130425.32 | 30.037428 | -90.827377 |
| Riverview | 111163.06 | 27.860191 | -82.3936 |
| Four Corners | 30924.05 | 27.646202 | -82.087097 |
| Green Bay | 37715.7 | 27.820769 | -81.784767 |
| South Fort Meade | 14301.56 | 27.647848 | -81.756477 |
| South Pierce | 7592.66 | 27.765583 | -81.940331 |
| South Pasture | 3800.4 | 27.585763 | -81.94291 |
| Wingate | 1590.48 | 27.504131 | -82.130203 |
| Hookers Prairie | 0 | 27.917828 | -82.437286 |
| Big Bend | 110.67 | 27.80416 | -82.397083 |
| Taft | 6.29 | 30.019122 | -90.774707 |
| Belle Plaine | 703762.3 | 50.427658 | -105.198296 |
| Esterhazy K2 | 110498.26 | 50.65768 | -101.848412 |
| Colonsay | 40479.35 | 51.934105 | -105.763496 |
| Esterhazy K1 | 47618.81 | 50.729282 | -101.933723 |
| Carlsbad | 39776.01 | 32.412258 | -103.939217 |
| Esterhazy K3 | 10559.9 | 50.646084 | -101.991946 |
| Fospar | 49985.32 | -25.510841 | -48.521633 |
| Tampa Marine | 54 | 27.926672 | -82.43187 |
| Savage | 21.66 | 44.779415 | -93.336426 |
| Henderson | 652.65 | 37.815159 | -87.658173 |
| Paranagua | 175.96 | -25.510841 | -48.521633 |
| Uberaba | 0 | -19.982393 | -47.900391 |
| Alto Araguaia | 0 | -17.151678 | 53.192689 |
| Rio Verde | 162.41 | -17.807942 | -51.008695 |
| Candeias | 107.99 | -12.66295 | -38.51944 |
| Sorriso | 349.04 | -12.604993 | -55.749907 |
| Pekin | 48.78 | 40.587875 | -89.660637 |
| Campo Grande | 37.66 | -21.258281 | -48.492311 |
| Paranagua II | 291.64 | -25.531969 | -48.549938 |
| Uberaba II | 291.44 | -19.788737 | -47.943228 |
| Villela | 156.06 | -25.667817 | -57.690011 |
| Rondonópolis | 412.4 | -16.619864 | -54.701082 |
| Catalão | 119.87 | -18.190415 | -47.970764 |
| Hopewell | 0 | 27.915899 | -82.131219 |
| Bonnie | 251.55 | 27.863068 | -81.932498 |
| Hookers Point | 272.27 | 27.917532 | -82.439013 |
| Port Sutton | 80.63 | 27.905096 | -82.410554 |
| Rio Grande II | 275.27 | -32.102711 | -52.113065 |
| Cajati | 107020.67 | -24.714879 | -48.124609 |
| Uberaba III | 171058.66 | -19.993207 | -47.883844 |
| Araxa | 19393.44 | -19.629278 | -46.977984 |
| Catalao II | 41243.89 | -18.164763 | -47.905652 |
| Patrocínio | 23428.38 | -19.015003 | -46.80879 |
| Tapira | 81674.35 | -19.842885 | -46.852427 |
| Taquari-Vassouras | 7602.29 | -10.651971 | -37.03583 |
| Patos de Minas | 252.83 | -18.374014 | -46.913118 |
| Miski Mayo | 172702.27 | -5.802229 | -81.05289 |
| Pine Bend | 551.44 | 44.740681 | -93.112228 |
| Carnalita | 32.88 | -10.651971 | -37.03583 |

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

| | Gross Scope 1 emissions, metric tons CO2e | Net Scope 1 emissions , metric tons CO2e | Comment |
|--|---|--|------------------|
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | 1720102.77 | <Not Applicable> | |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Electric utility activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

| Country/area/region | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|--------------------------|--|--|
| United States of America | 746175.37 | 789617.37 |
| Canada | 380842.65 | 428119.67 |
| Brazil | 43789.56 | 43789.56 |
| Paraguay | 50.45 | 50.45 |
| Peru | 28425.17 | 28425.17 |

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

By facility

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

| Business division | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|-------------------|--|--|
| Phosphate | 706769.92 | 757570.26 |
| Potash | 491447.3 | 482984.01 |
| Distribution | 7105.74 | 5607.93 |
| Fertilizantes | 43840.01 | 43840.01 |

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|-------------------|--|--|
| Belle Plaine | 25855.33 | 29064.96 |
| Carlsbad | 53806.33 | 54864.35 |
| Big Bend | 675.31 | 731.67 |
| Bonnie | 0 | 0 |
| Bartow | 34120.23 | 36967.88 |
| Faustina | 28313.29 | 22705.17 |
| Green Bay | 14043.56 | 15215.62 |
| Colonsay | 76770.16 | 86300.25 |
| Mulberry | 0 | 0 |
| Nichols | 0 | 0 |
| New Wales | 39973.47 | 43309.62 |
| Plant City | 12827.07 | 13897.61 |
| Riverview | 40055.13 | 43398.09 |
| South Pierce | 14026.05 | 15196.65 |
| Taft | 0 | 0 |
| Uncle Sam | 19196.03 | 15393.8 |
| Henderson | 712.91 | 0 |
| Hookers Point | 783.49 | 848.88 |
| Houston | 0 | 0 |
| Pekin | 212.07 | 0 |
| Port Sutton | 756.56 | 819.7 |
| Savage | 131.04 | 0 |
| Tampa Marine | 166.53 | 180.43 |
| Esterhazy K1 | 57130.51 | 64222.57 |
| Esterhazy K2 | 134502.89 | 151199.8 |
| Esterhazy K3 | 86583.76 | 97332.09 |
| Alto Araguaia | 0 | 0 |
| Candeias | 17.46 | 17.46 |
| Campo Grande | 14.49 | 14.49 |
| Catalão | 20.6 | 20.6 |
| Fospar | 1886.5 | 1886.5 |
| Paranagua | 30.15 | 30.15 |
| Paranagua II | 46.14 | 46.14 |
| Rondonópolis | 56.15 | 56.15 |
| Rio Verde | 28.14 | 28.14 |
| Sorriso | 69.41 | 69.41 |
| Uberaba | 0 | 0 |
| Uberaba II | 46.13 | 46.13 |
| Villela | 50.45 | 50.45 |
| Four Corners | 296726.63 | 321491.17 |
| Fort Green | 0 | 0 |
| Hookers Prairie | 0 | 0 |
| Hopewell | 0 | 0 |
| Miski Mayo | 28425.17 | 28425.17 |
| Lonesome | 0 | 0 |
| South Fort Meade | 125087.03 | 135526.69 |
| South Pasture | 1856.64 | 2011.59 |
| Wingate | 58423.57 | 63299.55 |
| Streamsong | 3469.36 | 3758.91 |
| Rio Grande II | 29 | 29 |
| Cajati | 3869.19 | 3869.19 |
| Guara | 0.76 | 0.76 |
| Uberaba III | 8005.2 | 8005.2 |
| Araxa | 5605.46 | 5605.46 |
| Catalao II | 5316.71 | 5316.71 |
| Tapira | 12535.61 | 12535.61 |
| Taquari-Vassouras | 5978.78 | 5978.78 |
| Patrocínio | 209.91 | 209.91 |
| Patos de Minas | 23.77 | 23.77 |

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Not relevant as we do not have any subsidiaries

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

| | Scope 2, location-based, metric tons CO2e | Scope 2, market-based (if applicable), metric tons CO2e | Comment |
|--|---|---|------------------|
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | 215876.73 | 219406.34 | |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

C-CH7.8

(C-CH7.8) Disclose the percentage of your organization’s Scope 3, Category 1 emissions by purchased chemical feedstock.

| Purchased feedstock | Percentage of Scope 3, Category 1 tCO2e from purchased feedstock | Explain calculation methodology |
|---------------------|--|--|
| Ammonia | 100 | 100% of our reported Scope 3, category 1 emissions are from the purchase of ammonia, which we estimate to be our most material category 1 emissions source. This figure has been third-party assured by ERM CVS. |

C-CH7.8a

(C-CH7.8a) Disclose sales of products that are greenhouse gases.

| | Sales, metric tons | Comment |
|----------------------------|--------------------|---------|
| Carbon dioxide (CO2) | 0 | |
| Methane (CH4) | 0 | |
| Nitrous oxide (N2O) | 0 | |
| Hydrofluorocarbons (HFC) | 0 | |
| Perfluorocarbons (PFC) | 0 | |
| Sulphur hexafluoride (SF6) | 0 | |
| Nitrogen trifluoride (NF3) | 0 | |

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?
Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

| | Change in emissions (metric tons CO2e) | Direction of change in emissions | Emissions value (percentage) | Please explain calculation |
|---|--|----------------------------------|------------------------------|---|
| Change in renewable energy consumption | 6979.24 | Decreased | 0.15 | One of our mining sites in Florida has partnered with a local electricity supplier in 2022 to support solar energy through a subscription and earn bill credits and renewable energy certificates (RECs) on its subscriptions' portion of generation. This project decreased our overall emissions by 0.15%. We arrived at this percentage by dividing the reduction from the renewable energy consumption (6,979.24) by the 2021 total emissions (4,534,475.16). $=(6,979.24/4,534,475.16)*100=0.15\%$ |
| Other emissions reduction activities | 46485.14 | Decreased | 1.03 | Companywide emissions savings projects for 2022 decreased our overall emissions by 1.03%. We arrived at this percentage by dividing the reduction from projects (46,485.14) by the 2021 total emissions (4,534,475.16). $=(46,485.14/4,534,475.16)*100=1.03\%$ |
| Divestment | | <Not Applicable > | | |
| Acquisitions | | <Not Applicable > | | |
| Mergers | | <Not Applicable > | | |
| Change in output | 39589.06 | Decreased | 0.87 | Due to a year-over-year decrease in ammonia production, we experienced a decrease in tonnes of CO2e. Similarly, a decrease in finished product tonnes accounted for a decrease in year-over-year GHG emissions. Overall, there was a 0.87% decrease in emissions attributed to these changes. We arrived at this percentage by dividing the total CO2e Impact of the changes in output (39,589.06) and then dividing by the 2021 total emissions (4,534,475.16). $=(39,589.06/4,534,475.16)*100=0.87\%$ |
| Change in methodology | 43893.4 | Decreased | 1 | We identified an error on the propane CH4 emissions calculation of our Scope 1 inventory which was elevating our emissions by about 0.27%. Also, we were not applying the most updated Saskatchewan (Canada) emission factor for Scope 2 from the newer (1990-2020) National Inventory Report to our 2022 Scope 2 emissions in which update reduced our Scope 2 emissions by 4%. Both changes combined resulted in a companywide emissions reduction of 1%. We arrived at this percentage by dividing the total CO2e impact of the updates (43,893.40) by the 2021 total emissions (4,534,475). $=(43,893.40/4,534,475)*100=1\%$ |
| Change in boundary | | <Not Applicable > | | |
| Change in physical operating conditions | | <Not Applicable > | | |
| Unidentified | 8188.03 | Decreased | 0.18 | Due to 'unidentified' reasons, emissions were lower than the previous year by 0.18%. Last year, 8,188.03 tonnes of CO2e were decreased by means we could not readily separate. Our total Scope 1 & Scope 2 emissions in the previous year were 4,534,475. We arrived at 0.18% by dividing the unexplained increase in emissions (8,188.03) by 2021 Scope 1 and 2 (4,534,475). $=(8,188.03/4,534,475)*100=0.18\%$ |
| Other | | <Not Applicable > | | |

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 5% but less than or equal to 10%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

| | Indicate whether your organization undertook this energy-related activity in the reporting year |
|--|---|
| Consumption of fuel (excluding feedstocks) | Yes |
| Consumption of purchased or acquired electricity | Yes |
| Consumption of purchased or acquired heat | Yes |
| Consumption of purchased or acquired steam | No |
| Consumption of purchased or acquired cooling | No |
| Generation of electricity, heat, steam, or cooling | Yes |

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

| | Heating value | MWh from renewable sources | MWh from non-renewable sources | Total (renewable and non-renewable) MWh |
|---|---------------------------|----------------------------|--------------------------------|---|
| Consumption of fuel (excluding feedstock) | LHV (lower heating value) | 353859.74 | 10122865.18 | 10476724.91 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 33866.23 | 3738618.5 | 3772484.73 |
| Consumption of purchased or acquired heat | <Not Applicable> | 0 | 105860.63 | 105860.63 |
| Consumption of purchased or acquired steam | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired cooling | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 0 | <Not Applicable> | 0 |
| Total energy consumption | <Not Applicable> | 387725.97 | 13967344.31 | 14355070.28 |

C-CH8.2a

(C-CH8.2a) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

Consumption of fuel (excluding feedstocks)

Heating value

LHV (lower heating value)

MWh consumed from renewable sources inside chemical sector boundary

353638.77

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

834117.09

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

0

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

1187755.87

Consumption of purchased or acquired electricity

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

15433.37

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

861696.61

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

936468.85

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

1813598.83

Consumption of purchased or acquired heat

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

0

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

0

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

0

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

0

Consumption of self-generated non-fuel renewable energy

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

0

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

0

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

0

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

0

Total energy consumption

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

369072.14

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

1695813.7

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

936468.85

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

3001354.7

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

| | Indicate whether your organization undertakes this fuel application |
|---|---|
| Consumption of fuel for the generation of electricity | Yes |
| Consumption of fuel for the generation of heat | Yes |
| Consumption of fuel for the generation of steam | Yes |
| Consumption of fuel for the generation of cooling | No |
| Consumption of fuel for co-generation or tri-generation | Yes |

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

353638.77

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Other biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

220.97

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Includes Ethanol.

Coal

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

1932357.27

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Includes diesel, Gasoline and Fuel Oil.

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

8190507.91

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Includes propane and natural gas.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Total fuel

Heating value
LHV

Total fuel MWh consumed by the organization
10476724.91

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Comment

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

| | Total Gross generation (MWh) | Generation that is consumed by the organization (MWh) | Gross generation from renewable sources (MWh) | Generation from renewable sources that is consumed by the organization (MWh) |
|-------------|------------------------------|---|---|--|
| Electricity | 1445476.96 | 1417085.3 | 0 | 0 |
| Heat | 5144364.59 | 5144364.59 | 0 | 0 |
| Steam | 18858584.8 | 18858584.8 | 0 | 0 |
| Cooling | 0 | 0 | 0 | 0 |

C-CH8.2d

(C-CH8.2d) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.

Electricity

Total gross generation inside chemicals sector boundary (MWh)

1032425.91

Generation that is consumed inside chemicals sector boundary (MWh)

936468.85

Generation from renewable sources inside chemical sector boundary (MWh)

0

Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

1032425.91

Heat

Total gross generation inside chemicals sector boundary (MWh)

482989.75

Generation that is consumed inside chemicals sector boundary (MWh)

482989.75

Generation from renewable sources inside chemical sector boundary (MWh)

0

Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

0

Steam

Total gross generation inside chemicals sector boundary (MWh)

17417706.49

Generation that is consumed inside chemicals sector boundary (MWh)

17417706.49

Generation from renewable sources inside chemical sector boundary (MWh)

0

Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

17417706.49

Cooling

Total gross generation inside chemicals sector boundary (MWh)

0

Generation that is consumed inside chemicals sector boundary (MWh)

0

Generation from renewable sources inside chemical sector boundary (MWh)

0

Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

0

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Country/area of low-carbon energy consumption

Canada

Sourcing method

Physical power purchase agreement (physical PPA) with a grid-connected generator

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

73

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

Canada

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or re-powering)

2012

Comment

Mosaic's Colonsay facility has a green power purchase agreement with utility (SaskPower) to purchase low carbon electricity and it is accounted for here.

Country/area of low-carbon energy consumption

Brazil

Sourcing method

Physical power purchase agreement (physical PPA) with a grid-connected generator

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

15433

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or re-powering)

2020

Comment

Mosaic Fertilizantes' Distribution/Blending unit facilities have a Green Power Purchasing agreement for renewable energy (wind, solar or hydraulic). Fospar only includes the operations of the port terminal.

Country/area of low-carbon energy consumption

United States of America

Sourcing method

Project-specific contract with an electricity supplier

Energy carrier

Electricity

Low-carbon technology type

Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

18359

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or re-powering)

2022

Comment

One of our mining sites in Florida partnered with a local electricity supplier in 2022. In addition to supporting local development of solar energy, the subscription provides renewable energy certificates (RECs) equal to the amount of power its subscribers receive.

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

United States of America

Consumption of purchased electricity (MWh)

1957368.34

Consumption of self-generated electricity (MWh)

865023.67

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

12656500.21

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area

Brazil

Consumption of purchased electricity (MWh)

1027923.87

Consumption of self-generated electricity (MWh)

249013.36

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

5059655.89

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area

Canada

Consumption of purchased electricity (MWh)

656625.26

Consumption of self-generated electricity (MWh)

303048.27

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

105860.63

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area

Paraguay

Consumption of purchased electricity (MWh)

1184.32

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area

Peru

Consumption of purchased electricity (MWh)

95516.71

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

C-CH8.3

(C-CH8.3) Does your organization consume fuels as feedstocks for chemical production activities?

Yes

C-CH8.3a

(C-CH8.3a) Disclose details on your organization's consumption of fuels as feedstocks for chemical production activities.

Fuels used as feedstocks

Natural gas

Total consumption

175184

Total consumption unit

thousand cubic metres

Inherent carbon dioxide emission factor of feedstock, metric tons CO2 per consumption unit

1.17

Heating value of feedstock, MWh per consumption unit

10.7

Heating value

LHV

Comment

Calculated using 1 MMBtu equivalent to 27.3 m³ natural gas from U.S. Energy Information Administration. Density of natural gas estimated at 0.8kg/m³.

Fuels used as feedstocks

Other, please specify (Molten Sulfur)

Total consumption

4038888

Total consumption unit

metric tons

Inherent carbon dioxide emission factor of feedstock, metric tons CO2 per consumption unit

0

Heating value of feedstock, MWh per consumption unit

0

Heating value

LHV

Comment

Emissions from feedstock take the form of SO₂ which is consumed in the process to create an intermediary for our process. The heating value was calculated using energy generation per ton of intermediary production converted to per ton feedstock input.

C-CH8.3b

(C-CH8.3b) State the percentage, by mass, of primary resource from which your chemical feedstocks derive.

| | Percentage of total chemical feedstock (%) |
|--|--|
| Oil | 0 |
| Natural Gas | 3 |
| Coal | 0 |
| Biomass | 0 |
| Waste (non-biomass) | 0 |
| Fossil fuel (where coal, gas, oil cannot be distinguished) | 97 |
| Unknown source or unable to disaggregate | 0 |

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Energy usage

Metric value

2.81

Metric numerator

Total Energy Consumption

Metric denominator (intensity metric only)

Metric tonnes finished product

% change from previous year

2

Direction of change

Increased

Please explain

The increase in energy intensity was driven by a decrease in total production.

Description

Other, please specify (Cogenerated power)

Metric value

1445478.12

Metric numerator

Power produced in MWh

Metric denominator (intensity metric only)

1

% change from previous year

13

Direction of change

Decreased

Please explain

Cogenerated power decreased as a result of a decrease in sulfuric acid production. Cogenerated power is generated by harnessing waste heat from the sulfuric acid manufacturing process. Emissions associated with original source of the heat, sulfuric acid production, are accounted for in scope 1 emissions. As there are no incremental emissions associated with the production of power from this process, we are including it as a low-carbon source.

Description

Energy usage

Metric value

29306918.05

Metric numerator

Direct Energy (MWh)

Metric denominator (intensity metric only)

1

% change from previous year

4

Direction of change

Decreased

Please explain

Decrease in direct energy was a result of a decrease in production and energy-saving initiatives.

Description

Energy usage

Metric value

3844479.14

Metric numerator

Indirect Energy(MWh)

Metric denominator (intensity metric only)

1

% change from previous year

9

Direction of change

Increased

Please explain

Increase in indirect energy was a result of decrease in cogenerated power which resulted in the need to source more energy from outside sources (e.g., purchased electricity).

Description

Energy usage

Metric value

33151397.19

Metric numerator

Total Energy (Direct & Indirect Energy)[MWh]

Metric denominator (intensity metric only)

1

% change from previous year

2

Direction of change

Decreased

Please explain

Decrease in direct energy was a result of a decrease in production and energy-saving initiatives.

C-CH9.3a

(C-CH9.3a) Provide details on your organization's chemical products.

Output product

Ammonia

Production (metric tons)

252107.54

Capacity (metric tons)

470000

Direct emissions intensity (metric tons CO2e per metric ton of product)

0

Electricity intensity (MWh per metric ton of product)

0

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

As ammonia is an input used in our finished crop nutrient products, we have not calculated the emissions intensity associated with this chemical specifically.

Output product

Other, please specify (Sulfuric Acid)

Production (metric tons)

12606093.42

Capacity (metric tons)

15500000

Direct emissions intensity (metric tons CO2e per metric ton of product)

0

Electricity intensity (MWh per metric ton of product)

0

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

1.5

Comment

As sulfuric acid is an intermediate input used in our finished crop nutrient products, we have not calculated the emissions intensity associated with this chemical specifically. Rather, it is included in the facility, business unit and company-wide emissions figures.

Output product

Other, please specify (Phosphoric Acid)

Production (metric tons)

4076780.51

Capacity (metric tons)

5600000

Direct emissions intensity (metric tons CO2e per metric ton of product)

0

Electricity intensity (MWh per metric ton of product)

0

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

As phosphoric acid is an intermediate input used in our finished crop nutrient products, we have not calculated the emissions intensity associated with this chemical specifically. Rather, it is included in the facility, business unit and company-wide emissions figures.

Output product

Other, please specify (Phosphate Crop and Animal Feed Production)

Production (metric tons)

6637700.27

Capacity (metric tons)

13900000

Direct emissions intensity (metric tons CO2e per metric ton of product)

0.481

Electricity intensity (MWh per metric ton of product)

0.5632

Steam intensity (MWh per metric ton of product)

1.4054

Steam/ heat recovered (MWh per metric ton of product)

1.496

Comment

Direct emissions intensity represents the Scope 1 emissions per unit production of operations related to phosphate crop and animal feed products. Also, electricity intensity represents the purchased electrical power consumed within the facility per unit production of operations related to phosphate crop and animal feed products.

Output product

Other, please specify (Potash)

Production (metric tons)

9021840.86

Capacity (metric tons)

13700000

Direct emissions intensity (metric tons CO2e per metric ton of product)

0.106

Electricity intensity (MWh per metric ton of product)

0.086

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

Direct emissions intensity represents the Scope 1 emissions per unit production of operations related to potash crop nutrients. Also, electricity intensity represents the purchased electrical power consumed within the facility per unit production of operations related to potash crop nutrients.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

| | Investment in low-carbon R&D | Comment |
|-------|------------------------------|---|
| Row 1 | Yes | Mosaic has net zero goals and is actively investing to achieve those goals. |

C-CH9.6a

(C-CH9.6a) Provide details of your organization's investments in low-carbon R&D for chemical production activities over the last three years.

Technology area

Waste heat recovery

Stage of development in the reporting year

Large scale commercial deployment

Average % of total R&D investment over the last 3 years

7

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

17

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Mosaic has invested heavily in equipment that enables the internal generation of electricity in a process called cogeneration. The process of heat recovery allows several of our Phosphate plants and mines to significantly reduce the amount of third-party, primarily fossil-fuel based electricity required from utility companies. The cogeneration process begins at our manufacturing operations, where we use sulfuric acid to liberate crop nutrients (phosphorous) from raw material inputs. This process generates a significant amount of waste heat that is recovered and converted to steam by bottoming cycle combined heat and power systems. This steam is sent to turbine generators and converted to virtually greenhouse gas emissions-free electricity that powers our manufacturing facilities and mines. In instances when we generate more clean cogenerated energy than we can use at our own operations, the excess is exported to the local grid.

We are continually looking for opportunities to improve the efficiency and output of our cogeneration assets, including bringing additional turbo generators online to increase our low-GHG electrical generation capacity, when possible. Accordingly, there is no "end date" for this investment. The amount of investment depends on the specific project, but as an example of an investment figure, in 2016 we brought a turbo generator online at our Uncle Sam facility that can provide up to an additional 15 megawatts of low-GHG electrical generation capacity. This initiative cost approximately \$21 million. We are investigating technology upgrades that would allow us to harness additional waste heat to enable more production of cogenerated electricity at our Brazil phosphate facilities. Multiple heat recovery systems would cost \$250,000,000.

Note - we are unable to provide a total spend for R&D, as such, the percentage of R&D spend was calculated off asset sustaining capital spend. In addition, data out to 2028 (five-year envelope) was not available at the time of this reporting so a subset of data through 2024 was used to extrapolate future percentages.

Technology area

Other, please specify (Decarbonization technologies)

Stage of development in the reporting year

Basic academic/theoretical research

Average % of total R&D investment over the last 3 years

0.1

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

80000

Average % of total R&D investment planned over the next 5 years

0.1

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

As a specific example, in 2022 we invested approximately \$80,000USD in membership of International Minerals Innovation Institute (IMII) to research promising clean energy technologies. In 2022, our participation and membership fees helped fund important works streams including completing front end engineering studies focused on implementing industrial-scale battery technology and/or waste energy re-capture at a mine site in Saskatchewan, the initiation of an industry wide study of carbon sequestration potential in Saskatchewan and working with cutting edge technology providers to assess feasibility of using their innovations in Mosaic operations.

Note - we are unable to provide a total spend for R&D, and the percentages are leveraged off specific genre spend which, in this case, is <0.1%.

Technology area

Carbon capture, utilization, and storage (CCUS)

Stage of development in the reporting year

Applied research and development

Average % of total R&D investment over the last 3 years

0.1

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

5

Average % of total R&D investment planned over the next 5 years

5

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Mosaic is exploring CCUS at multiple locations and expect to be able to disclose details one agreement have been reached. We are in the second year of a carbon dioxide reduction initiative of which a scalable strategy is being developed.

Note - we are unable to provide a total spend for R&D, and the percentages are leveraged off specific genre spend associated with exploration of CCUS with future prediction based on only select aspects without consideration of major projects.

Technology area

Bio technology

Stage of development in the reporting year

Pilot demonstration

Average % of total R&D investment over the last 3 years

45

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

50

Average % of total R&D investment planned over the next 5 years

50

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

As another strategy to manage climate change risk, we are investing in research and product development and partnership opportunities to study and maximize the performance of Mosaic's fertilizer product portfolio in diverse, changing and stressful soil and climatic environments. For example, Mosaic's agronomic research program focuses on methods to build resilient soils with soil health, 4R nutrient stewardship and balanced crop nutrition initiatives. Our data from lab, greenhouse, and field research consistently demonstrates that healthy soils achieve enhanced productivity and profitability, especially in climate-induced stressful growing conditions. In 2022 we conducted over 2300 small plot trials in Argentina, Brazil, Chile, China, Canada, India, Latin America (Mexico to Peru), Turkey and the United States. These activities cost approximately \$3 million in 2022. Also, in 2021 we announced a new agreement (bringing the total to three) to develop and launch agricultural solutions, including a nutrient efficiency product and a nitrogen-fixing microbial product, that contribute to soil health in diverse applications and have positive environmental benefits. In the last three years our Mosaic has invested cumulatively approximately \$52.3 million in R&D agreements, equity investments and venture capital investments (including 2022) to progress this work to develop new agricultural solutions.

Mosaic promotes the use of agricultural best practices by supporting research and advancing educational outreach on practices that minimize GHG emissions and other environmental impacts associated with the use of crop nutrient products. Further, Mosaic supports the minimization of GHG emissions and other environmental impacts from the global food supply by encouraging stakeholders to enhance their understanding, adoption and promotion of 4R Nutrient Stewardship. In Brazil, Mosaic Fertilizantes partners with Embrapa (Brazil's Agricultural Research Company) in the Bifequali Tech Transfer Program, which aims at educating farmers and ranchers on best practices to

use fertilizer in pastureland, thus promoting integrated crop-livestock systems that reduces GHG emission from livestock production.
 Note - we are unable to provide a total spend for R&D, and the percentages are leveraged off specific genre spend associated with exploration of biological fertilizers with future prediction based on rounded average.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

| | Verification/assurance status |
|--|--|
| Scope 1 | Third-party verification or assurance process in place |
| Scope 2 (location-based or market-based) | Third-party verification or assurance process in place |
| Scope 3 | Third-party verification or assurance process in place |

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS - Assurance Report for Mosaic CDP Climate 2023_Final.pdf

Page/ section reference

1-2

Relevant standard

ERM GHG Performance Data Assurance Methodology

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS - Assurance Report for Mosaic CDP Climate 2023_Final.pdf

Page/ section reference

1-2

Relevant standard

ERM GHG Performance Data Assurance Methodology

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

- Scope 3: Purchased goods and services
- Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
- Scope 3: Upstream transportation and distribution
- Scope 3: Investments
- Scope 3: Use of sold products

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS - Assurance Report for Mosaic CDP Climate 2023_Final.pdf

Page/section reference

1-2

Relevant standard

ERM GHG Performance Data Assurance Methodology

Proportion of reported emissions verified (%)

93

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

| Disclosure module verification relates to | Data verified | Verification standard | Please explain |
|---|--|---|---|
| C5. Emissions performance | Year on year change in emissions (Scope 1 and 2) | ERM GHG Performance Data Assurance Methodology. | Our assurance statement applies to year-over-year change in GHG emissions (Scope 1&2 [location-based]) between 2021 and 2022. The year over year difference in scope 1 and scope 2 emissions was -3%. |
| C8. Energy | Energy consumption | ERM GHG Performance Data Assurance Methodology. | Our assurance statement applies to total direct energy (29,306,918 MWh) and total indirect energy (3,844,479 MWh). Scope 1 and 2 (location-based) emissions which totals 4,389,340 tCO2e was also assured by ERM CVS. |

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Saskatchewan OBPS - ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Saskatchewan OBPS - ETS

% of Scope 1 emissions covered by the ETS

29

% of Scope 2 emissions covered by the ETS

32

Period start date

January 1 2018

Period end date

December 31 2030

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

912918.62

Verified Scope 2 emissions in metric tons CO₂e

385110.95

Details of ownership

Facilities we own and operate

Comment

2022 emissions cited here represent those which were third-party assured by ERM CVS to a moderate standard alongside the rest of Mosaic's companywide emissions. Mosaic undertakes a separate validation exercise of scope 1 emissions from sites that are governed by the Saskatchewan OBPS-ETS; however, as of the date of this report, the final 2022 results have not been validated by the Ministry of Environment.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

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 late 2018, the federal government also implemented a federal carbon pricing backstop system that applies in any province or territory that does not have a carbon pricing system in place by 2018. As of January 1, 2023, a carbon tax of \$65 per tonne now applies in Canada for any emitter not covered under the federal backstop program or approved provincial program. A revised plan was submitted by Saskatchewan to the federal government in 2022, which was subsequently approved in its entirety in November 2022. 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. Mosaic will continue to work with the Saskatchewan Ministry of Environment, Environment and Climate Change Canada and other government stakeholders, through participation in industry associations as changes evolve in the associated carbon and energy related regulatory and policy framework to determine the remaining regulatory details. We will also continue to monitor developments relating to the anticipated proposed 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. In the meantime, we are complying by paying embedded carbon penalties that are passed through to us by utilities and rail providers; we will also stay in compliance by paying any direct penalties assessed by the provincial government. In advance of the government's 2030 targeted reduction, our facilities are complying by actively working toward companywide 2025 ESG Performance Targets to reduce GHGs per tonne of product; longer term, we are also contributing to companywide net-zero targets (announced in Dec. 2021). Our target date for achieving net-zero emissions is 2030 for Florida (one of our primary operating geographies in North America) and 2040 for the rest of the organization; we have a short term target to reduce emissions by 20% per tonne of product by 2025, which have reduced our emissions by 12% since baseline. Other efficiency projects and large-scale projects and partnerships that have the potential to drive further reductions in GHG emissions are under consideration, including the installation of boilers that will reduce NOx emissions and have the potential to reduce GHGs; and implementation of carbon capture and storage (CCUS). Our approach to engagement on CCUS in the hopes of progressing it for our site is cross-functional in nature and includes government, industry and other parties.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Type of internal carbon price

Shadow price

How the price is determined

Other, please specify (International Energy Agency's (IEA) recommended price of \$63 per tonne of CO₂e)

Objective(s) for implementing this internal carbon price

Change internal behavior

Navigate GHG regulations

Scope(s) covered

Scope 1

Scope 2

Pricing approach used – spatial variance

Uniform

Pricing approach used – temporal variance

Evolutionary

Indicate how you expect the price to change over time

As of the date of this report, Mosaic has not formalized an internal price on carbon.

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO₂e)

63

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO₂e)

63

Business decision-making processes this internal carbon price is applied to

Product and R&D

Risk management

Mandatory enforcement of this internal carbon price within these business decision-making processes

No

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

We have applied various pricing scenarios to our emissions performance in order to assess our potential exposure to carbon pricing schemes. For example, if we apply the International Energy Agency's (IEA) recommended price of \$63 per tonne of CO₂e generated to the direct emissions from our U.S. facilities (roughly 1.8 million tonnes CO₂e/year), the impact would be greater than \$110 million per year. This example is a gross simplification and doesn't take into account any potential exemptions for essential or energy intensive trade exposed industries like the one Mosaic operates in. We are monitoring these developments closely. We have also used a shadow price to assess its implication on our capital decision-making process. More specifically, projects that are otherwise hard to justify are more compelling with the introduction of a price on carbon. As of the date of this report, Mosaic has not formalized an internal price on carbon.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers/clients

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

Other, please specify (We are engaging alongside the fertilizer industry and other stakeholders to promote sound policy and tax incentives such as the 45Q tax credit, that could enable significant sustainability projects like CCSU to become commercially feasible.)

% of suppliers by number

100

% total procurement spend (direct and indirect)

10

% of supplier-related Scope 3 emissions as reported in C6.5

24

Rationale for the coverage of your engagement

Ammonia production represents approximately 2.1% of global emissions (2022 study); thus it is a collective decarbonization priority for the fertilizer industry and other producers of this critical product. We have included 100% of our ammonia suppliers in the consideration of this metric. Ammonia represents a significant scope 3 emissions source to us (roughly 60%), and also approximately 60% of the total lifecycle GHG emissions for our commodity phosphate products, which is our rationale for participating in this engagement. Our rationale for prioritizing this engagement is because of the impact ammonia has on our scope 3 emissions and total life cycle impact of our products.

Note - while not a campaign, per se, we are engaging alongside the fertilizer industry to promote sound policy and encourage investment that reduces the impact of collective products and services. Mosaic and our fertilizer producing peers are advocating for the sound policy that can incentivize our collective companies to lessen impacts.

Impact of engagement, including measures of success

We are engaging alongside the fertilizer industry and other stakeholders to promote sound policy and tax incentives such as the 45Q tax credit, that could enable significant sustainability projects like carbon capture and sequestration (CCS) to become commercially feasible. Implementation of CCS at existing ammonia facilities would transform the product into "blue ammonia" which would translate to reductions in emissions for producers and users alike.

The measure of success is reduction in GHG emissions associated with global ammonia supplies. To date, since implementation of CCS is a longer-term endeavor with an anticipated initiation date in the United States of 2025/2026, we do not have results to share, but we are heavily engaged in this space with the longer-term agenda in mind. We realize this example might fall short of CDP's scoring criteria because we do not have short-term results to share, but we are including it nonetheless because of ammonia's contribution to global GHG emissions. We view this work as a critical step to advancing the global climate agenda.

Comment

Of note, Mosaic satisfies a portion of its total ammonia needs through self-production. We are exploring CCS at this site in earnest. Successful implementation of CCS at our ammonia facility would result in a significant Scope 1 emissions reduction for our company. We have included 100% of our ammonia suppliers in the consideration of this metric, recognizing that as a subset of all Mosaic suppliers the ammonia suppliers represent less than 1%.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate-related risk and opportunity information at least annually from suppliers

Other, please specify (We introduced a supplier survey to assess our North American suppliers' performance in key ESG areas, including GHG reporting and management. We utilize the platform ISN which includes ESG metrics along with specific Mosaic ESG metrics.)

% of suppliers by number

100

% total procurement spend (direct and indirect)

80

% of supplier-related Scope 3 emissions as reported in C6.5

60

Rationale for the coverage of your engagement

We introduced a supplier survey to assess our suppliers' performance in key ESG areas, including GHG reporting and management. We utilize the platform ISN which includes ESG metrics along with specific Mosaic ESG metrics. Ninety nine% of our suppliers through ISN have responded in some way to the ESG survey. For total vendor spend 82% of our Services spend is through vendors that are active in ISN platform. Our rationale for including 80% of North America spend - which was bucketed into supply chain, MRO spend and other suppliers, contractors and service providers - was that this approach and level of coverage provides access to a majority of our suppliers by number and spend. The diversity across suppliers that is represented within this 80% coverage also allows us to assess potential differences between companies' current behaviors based on key characteristics (size, revenue, industry, etc.), and develop a context-based approach to ongoing engagement.

Impact of engagement, including measures of success

We have gathered insights from suppliers representing more than \$3.5 billion in expenditures. For 2022, the data show that approximately 12% of Mosaic's North American contractors and service providers track GHGs in their operations. Approximately 22% have programs in place to reduce energy use and GHGs. We will measure success of the engagement by our suppliers' participation in the survey, and by seeing an increase in the number of suppliers who track GHGs or have strategies in place to reduce GHGs.

Of note, the sustainability questionnaire can be updated on the ISN platform any time by vendors as their internal processes are updated. The Sustainability KPI's are collected from contractors on an annual basis.

Comment

Established in 2001, ISN is the global leader in contractor and supplier information management.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

| | |
|----------------------------|---|
| Collaboration & innovation | Run a campaign to encourage innovation to reduce climate change impacts |
|----------------------------|---|

% of customers by number

80

% of customer - related Scope 3 emissions as reported in C6.5

70

Please explain the rationale for selecting this group of customers and scope of engagement

We know it is important to contribute to solutions that address the impacts of crop nutrient products on the environment, including management of emissions associated with ammoniated fertilizer products like the ones Mosaic sells to customers in 40 countries around the globe. Mosaic supports the minimization of greenhouse gas emissions from the activities related to global food supply by encouraging stakeholders in the value chain, including direct retailer customers who interact directly with the end users of our products, to enhance their understanding, adoption and promotion of 4R Nutrient Stewardship practices. By applying the right fertilizer at the right rate, right time and in the right place, farmers minimize environmental impacts associated with fertilizer use, including potential greenhouse gas emissions (namely the release of N₂O). We select this group of customers due to their farming practices in key growing regions. The nutrient service providers who supply them crop nutrients are Mosaic's direct customers, and they represent roughly 80% of total nutrient services providers in North America. Similarly important to our rationale, the use of sold products category, which this initiative addresses, represents approximately 57% of our total scope 3 emissions, and roughly 70% of total customer-related scope 3 emissions.

Impact of engagement, including measures of success

We measure success of this engagement in a variety of ways, including the number of acres under the guidance of 4R Nutrient Stewardship Certification programs in the United States and Canada. As of 2022, we have facilitated adoption of 4R Nutrient Stewardship practices on more than 13.2 million acres, representing an increase of 5.8 million acres, or 43% since 2020. Our measure of success is to have facilitated the adoption of 4R practices on 25 million acres by 2025. Considering a 2019 baseline of 3.9 million acres, we were approximately 50% to the 2025 target as of the end of 2022 with 13.2 million acres under management. These nutrient service providers, who are Mosaic's direct customers, represent approximately 80% of total nutrient services providers in North America.

Type of engagement & Details of engagement

| | |
|-------------------------------|---|
| Education/information sharing | Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services |
|-------------------------------|---|

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

Mosaic is actively engaged in select projects for Partnerships for climate smart commodities, such as the Rice Stewardship Partnership for Climate-Smart Commodities. Direct from USDA website - USDA is committed to supporting a diverse range of farmers, ranchers, and private forest landowners through Partnerships for Climate-Smart Commodities. This effort will expand markets for America's climate-smart commodities, leverage the greenhouse gas benefits of climate-smart commodity production, and provide direct, meaningful benefits to production agriculture, including for small and underserved producers. USDA is investing more than \$3.1 billion for 141 projects through this effort and all the projects require meaningful involvement of small and underserved producers.

Impact of engagement, including measures of success

The Rice Stewardship Partnership project (which Mosaic is actively engaged in) will build climate-smart rice markets and work to reduce methane emissions in rice production through the adoption of alternate wetting and drying, furrow irrigation, and other climate-smart practices and support underserved producers by improving critical infrastructure necessary to implement climate-smart practices in the future. This project plans to work with Black and underserved producers to leverage over 60 Climate-Smart practices and scenarios. USA rice plans to work with monitoring partners to certify quantified emission reductions for grain produced through this pilot and promote marketing assistance.

We have included 100% of Rice Stewardship Partnership for Climate-Smart Commodities in the consideration of this metric.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

In 2022 The International Fertilizer Association (IFA) published the report "Reducing Emissions from Fertilizer Use". IFA is a global fertilizer association with 400+ members and a mission to promote the efficient and responsible production, distribution and use of plant nutrients. This document is a publication from Systemiq, commissioned by the IFA and funded by ten IFA members. Mosaic was a "Gold level" sponsor for the report. Quoting from the report: "The fertilizer industry is pursuing the development of a Sectoral Decarbonization Approach to enable it to set Science Based Targets for its Scope 1 and 2 emissions. This will build on existing work to decarbonize ammonia production. The purpose of this report is to examine the opportunities to reduce the industry's downstream Scope 3 emissions from fertilizer use, and the scope to support carbon removals from the atmosphere through soil carbon sequestration. Implementing the recommendations in this report, and meeting the decarbonization challenge head-on, will help secure the long-term economic and environmental sustainability of the entire food system and create a crop nutrition sector for the future. At a time when the availability and affordability of food and fertilizer are under great pressure, it is more essential than ever to put the industry on a sustainable footing."

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Complying with regulatory requirements

Description of this climate related requirement

Mosaic's supplier agreements require suppliers to comply with all applicable laws and regulations in the performance of their work for Mosaic. In the context of climate, compliance requires paying embedded carbon taxes on fuel and utility bills. This aspect is specific to our Canadian Potash facilities.

% suppliers by procurement spend that have to comply with this climate-related requirement

40

% suppliers by procurement spend in compliance with this climate-related requirement

40

Mechanisms for monitoring compliance with this climate-related requirement

Certification

Supplier self-assessment

Second-party verification

Grievance mechanism/Whistleblowing hotline

Response to supplier non-compliance with this climate-related requirement

Retain and engage

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

No, but we plan to have one in the next two years

Attach commitment or position statement(s)

<Not Applicable>

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

Mosaic strives to be the global leader in the crop nutrient industry. We recognize the importance of being active in industry associations and cross-sector business forums that provide common platforms to advance cutting-edge scientific research and best management practices within our company and our industry. In addition to having a publicly available Leadership on Climate Change document that states our companywide position on climate change, Mosaic has a process in place to carefully consider, on a case-by-case basis, the relevance of the engagement opportunities and alignment with our values and business strategies and pursues mutually beneficial partnerships.

For example, we participate in key cross-sector and industry partnerships through membership and Board and/or committee involvement, which allows us to influence the work done by respective organizations in a way that is consistent with our strategy. This applies across geographies and operating units. Mosaic takes part in industry efforts

to address the challenges of climate change and commits to further engage with policy makers and stakeholders on the issue of climate change. Mosaic recognizes that our action on climate change is good for the environment and for the long-term financial health and viability of our company. Agronomy, EHS, and Public Affairs professionals interact with policymakers and global thought leaders to encourage the transfer of knowledge and to incorporate the latest thinking on sustainability into the Mosaic risk management process.

Evaluating our public position relative to the Paris Agreement hinges on the release of SBTi Sectoral Guidance for the Chemical Sector.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Carbon tax

Category of policy, law, or regulation that may impact the climate

Carbon pricing, taxes, and subsidies

Focus area of policy, law, or regulation that may impact the climate

Carbon taxes

Policy, law, or regulation geographic coverage

Regional

Country/area/region the policy, law, or regulation applies to

Canada

Your organization's position on the policy, law, or regulation

Oppose

Description of engagement with policy makers

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 late 2018, the federal government also implemented a federal carbon pricing backstop system that applies in any province or territory that does not have a carbon pricing system in place by 2018. As of January 1, 2023, a carbon tax of \$65 per tonne now applies in Canada for any emitter not covered under the federal backstop program or approved provincial program. A revised plan was submitted by Saskatchewan to the federal government in 2022, which was subsequently approved in its entirety in November 2022. 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. Mosaic will continue to work with the Saskatchewan Ministry of Environment, Environment and Climate Change Canada and other government stakeholders, through participation in industry associations as changes evolve in the associated carbon and energy related regulatory and policy framework to determine the remaining regulatory details. We will also continue to monitor developments relating to the anticipated proposed 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.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Production of potash in Canada results in significantly lower CO₂e emissions per ton of product than the potash produced by the major overseas producers. Canadian potash producers are already subject to higher tax rates, higher shipping costs and higher electricity costs than the world's other major potash producers. Implementation of a carbon tax in Canada places an additional economic hardship on Canadian potash producers, reducing their competitiveness and effectively suppressing the marketability of the world's most environmentally friendly potash; while adding to the advantages already enjoyed by the major overseas potash producers. Implementation of the carbon tax will likely cause Canadian potash producers to lose market share due to inevitable operating cost increases. Overseas potash producers are beneficiaries of the Canadian carbon tax, resulting in increased carbon emission intensity from the global potash industry as a whole.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

No, we have not evaluated

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

<Not Applicable>

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify (The Fertilizer Institute)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Per the TFI website, "TFI is the leading voice in the U.S. fertilizer industry, representing the public policy, communication and statistical needs of producers, manufacturers, retailers and transporters of fertilizer. Issues of interest to TFI members include security, international trade, energy, transportation, the environment, worker health and safety, and farm bill and conservation programs to promote the use of enhanced efficiency fertilizer."

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

900000

Describe the aim of your organization's funding

The aim of our funding is to amplify the voice of the fertilizer industry and to contribute to positive public policy, communication, stewardship, sustainability and market intelligence outcomes for the fertilizer industry.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

No, we have not evaluated

Trade association

Other, please specify (International Minerals Innovation Institute)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

IMII's major potash and uranium minerals company members share in the global commitment to reduce GHG emissions.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

80000

Describe the aim of your organization's funding

Mosaic's investment of \$80,000 in membership of International Minerals Innovation Institute (IMII) goes toward research of topics like safety; promising technologies; and emissions-reducing solutions such as geothermal, small modular reactors, and next generation carbon capture.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (International Fertilizer Association)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

In 2022 The International Fertilizer Association (IFA) published the report "Reducing Emissions from Fertilizer Use". IFA is a global fertilizer association with 400+ members and a mission to promote the efficient and responsible production, distribution and use of plant nutrients. This document is a publication from Systemiq, commissioned by the IFA and funded by ten IFA members. Mosaic was a "Gold level" sponsor for the report.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

46945

Describe the aim of your organization's funding

The aim of our funding is to amplify the voice of the fertilizer industry and to contribute to positive public policy, communication, stewardship, sustainability and market intelligence outcomes for the fertilizer industry. Note funding was in Euros (converted to US\$ for this report)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

MOS-2022.12.31-10K-Final_part II.pdf

MOS-2022.12.31-10K-Final_part I.pdf

Page/Section reference

F-27 to F-30

Content elements

Governance

Strategy

Risks & opportunities

Comment

Publication

In voluntary communications

Status

Complete

Attach the document

0-2022-Sustainability-Disclosure-and-GRI.pdf

Page/Section reference

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Comment

Publication

In other regulatory filings

Status

Complete

Attach the document

Mosaic-Our-Leadership-on-Climate-Change.pdf

Page/Section reference

pp. 1-2

Content elements

Governance

Strategy

Risks & opportunities

Comment

Publication

In other regulatory filings

Status

Complete

Attach the document

Mosaic Proxy Statement.pdf

Page/Section reference

pp. 7-8, pp. 78-80

Content elements

Governance

Strategy

Emission targets

Other metrics

Comment

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

| | Environmental collaborative framework, initiative and/or commitment | Describe your organization's role within each framework, initiative and/or commitment |
|-------|---|---|
| Row 1 | Global Reporting Initiative (GRI) Community Member UN Global Compact Other, please specify (CEBDS (Brazilian subsidiary of WBCSD)) | Mosaic is an active member of these organizations and aims to contribute to progression of their ESG initiatives. |

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

| | Board-level oversight and/or executive management-level responsibility for biodiversity-related issues | Description of oversight and objectives relating to biodiversity | Scope of board-level oversight |
|-------|--|---|--------------------------------|
| Row 1 | Yes, executive management-level responsibility | Protection of biodiversity is critical to global sustainable development and a significant component of Mosaic's sustainability efforts. In both our phosphate and potash operations in the United States, Canada and Brazil, prior to the start of mining — or when extending or expanding a mine — permits are secured from local, regional, state and federal government agencies. This exhaustive planning and approval process protects water, air, ecology, wildlife, transportation, safety and other environmental, health, and public welfare considerations. Members of our executive team, who directly lead the businesses responsible for the day-to-day work related to biodiversity management, provide oversight of the rigorous permitting and stakeholder engagement processes. | <Not Applicable> |

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

| | Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity | Biodiversity-related public commitments | Initiatives endorsed |
|-------|---|---|--|
| Row 1 | Yes, we have endorsed initiatives only | <Not Applicable> | Other, please specify (We are participating in a study of the fertilizer industry's impacts on biodiversity, which will assess risks and opportunities. It will also help identify industry-specific indicators that the industry can use to measure performance.) |

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?

Yes

C15.4a

(C15.4a) Provide details of your organization's activities in the reporting year located in or near to biodiversity -sensitive areas.

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

| | Have you taken any actions in the reporting period to progress your biodiversity-related commitments? | Type of action taken to progress biodiversity- related commitments |
|-------|---|--|
| Row 1 | Please select | <Not Applicable> |

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

| | Does your organization use indicators to monitor biodiversity performance? | Indicators used to monitor biodiversity performance |
|-------|--|---|
| Row 1 | Please select | Please select |

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

| Report type | Content elements | Attach the document and indicate where in the document the relevant biodiversity information is located |
|--|---------------------------------------|---|
| In voluntary sustainability report or other voluntary communications | Governance Impacts on biodiversity | 0-2022-Sustainability-Disclosure-and-GRI.pdf |

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

| | Job title | Corresponding job category |
|-------|---------------------------------------|-------------------------------|
| Row 1 | President and Chief Executive Officer | Chief Executive Officer (CEO) |

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

| | I understand that my response will be shared with all requesting stakeholders | Response permission |
|---------------------------------------|---|---------------------|
| Please select your submission options | Yes | Public |

Please confirm below

I have read and accept the applicable Terms