

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

Albemarle Corporation was incorporated in Virginia in 1993. It is a leading global developer, manufacturer and marketer of highly-engineered specialty chemicals that are designed to meet our customers' needs across a diverse range of end markets. Our corporate purpose is making the world safe and sustainable by powering the potential of people. The end markets we serve include energy storage, petroleum refining, consumer electronics, construction, automotive, lubricants, pharmaceuticals and crop protection. We believe that our commercial and geographic diversity, technical expertise, access to high-quality resources, innovative capability, flexible, low-cost global manufacturing base, experienced management team and strategic focus on our core base technologies will enable us to maintain leading positions in those areas of the specialty chemicals industry in which we operate.

Albemarle and its joint ventures currently operate more than 25 production and research and development ("R&D") facilities, as well as a number of administrative and sales offices, around the world. As of December 31, 2022, we had around 6,600 employees whom served approximately 1,900 customers in approximately 70 countries.

During 2022, we managed and reported our operations under three reportable segments: Lithium, Bromine and Catalysts. Each segment has a dedicated team of sales, research and development, process engineering, manufacturing and sourcing, and business strategy personnel and has full accountability for improving execution through greater asset efficiency, market focus, agility and responsiveness.

In August 2022, we announced plans to realign our Lithium and Bromine global business units into a new corporate structure designed to better meet customer needs and foster talent required to deliver in a competitive global environment. In addition, we announced our decision to retain our Catalysts business under a separate, wholly-owned subsidiary. The realignment was completed in the first quarter of 2023, and resulted in the following three reportable segments: (1) Energy Storage; (2) Specialties; and (3) Ketjen (Catalysts). We began to report our segments in the new structure in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, the period in which the new organizational structure became effective. The resegmenting was effective January 1, 2023 and is reflected in forward-looking sections of this report. 2022 data and performance reflect historical segments unless otherwise noted.

Within the questionnaire the CDP asks us to disclose location and facility information. Our responses in the questionnaire are consistent with those in our sustainability report:

- Activity data related to acquired businesses are included in the sustainability metrics on a pro-rata basis. Therefore, activity data related to the Qinzhou business (Guangxi Tianyuan New Energy Materials Co., Ltd.), which was acquired on October 25, 2022, is incorporated based on the portion of 2022 when the business was under Albemarle's ownership.
- New production facilities are included starting in the year and month in which it first produces saleable goods. The Wodgina facility was the only new production facility with saleable goods in 2022 (however, it is excluded from the sustainability metrics; see joint venture discussion below).
- Under the financial control approach, joint ventures are included in the organizational boundary according to the equity share approach. The JBC (Safi, Jordan) joint venture is deemed to be within Albemarle's financial control, and in turn, activity data is included based on Albemarle's respective share of equity in the operation. The facilities under the MARBL joint venture (Kemerton, Wodgina) are excluded from the sustainability metrics because no saleable goods were produced in 2022 (Kemerton) or activity data was not available yet due to ongoing contract negotiations (Wodgina). All remaining joint ventures are not within Albemarle's financial control, and therefore, are excluded from measurement.

Within the questionnaire the CDP asks us to make numerical comparisons and select if the comparison is about the same, lower, much lower, etc. For consistency, we defined about the same to represent a 2% or less change, lower/higher to represent a 2-15% decrease/increase, and much lower/higher to represent a more than 15% decrease/increase.

W-CH0.1a

(W-CH0.1a) Which activities in the chemical sector does your organization engage in?

Specialty inorganic chemicals

W-MM0.1a/W-CO0.1a

(W-MM0.1a/W-CO0.1a) Which activities in the metals and mining and coal sectors does your organization engage in?

Activity	Details of activity
Mining	Other non-ferrous metal mining, please specify (Lithium)
Processing	Other non-ferrous materials processing, please specify (Lithium)

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

Reporting year	Start date	End date
	January 1 2022	December 31 2022

W0.3

(W0.3) Select the countries/areas in which you operate.

- Australia
- Chile
- China
- Germany
- Jordan
- Netherlands
- Taiwan, China
- United States of America

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

USD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which financial control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

No

W0.7

(W0.7) 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, an ISIN code	US0126531013

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	Our chemical plants use water for many (consecutive) process steps, such as precipitation, filtration and washing. The suppliers of raw materials typically need fresh water for the same reasons.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	As freshwater conservation is one key aspect of our sustainability strategy, the use of recycled water is similarly important. It will, in combination with more efficient water use, be of high significance in the future. Our chemical plants usually use fresh water for cooling while some plants use recycled water in their processing. Therefore, in addition to having enough freshwater availability, implementing efficient water use and recycling measures will be essential to ensure operational sustainability in the future.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	76-99	Continuously	We carefully measure freshwater withdrawals from rivers, lakes, groundwater, and other sources at and around our operating sites through real-time water monitoring systems.	The total water withdrawals are the sum of all water withdrawal measurements of all Albemarle locations (boundaries set in line with the GHG accounting rules using Financial consolidation). Volume measurements methods at site level vary because each site has its unique water in- and outflows.
Water withdrawals – volumes by source	76-99	Continuously	We carefully measure freshwater withdrawals from rivers, lakes, groundwater, and other sources at and around our operating sites through real-time water monitoring systems.	Water sources differ by location. Some sites use water from wells, others from lakes and most use municipal water as well. Each of these streams are measured.
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	Not relevant	<Not Applicable>	<Not Applicable>	
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Water withdrawals quality	76-99	Continuously	Measurement by sampling and laboratory testing.	Water quality monitoring differs by location and water source. For example, municipal water is typically monitored by the municipality, whilst water quality of other sources is done by Albemarle in frequency that makes sense.
Water discharges – total volumes	76-99	Continuously	Measurement by flow meters.	The total water discharges are the sum of all water discharge measurements of all Albemarle locations (boundaries set in line with the GHG accounting rules using Financial consolidation). Volume measurements methods at site level vary because each site has its unique water in- and outflows.
Water discharges – volumes by destination	76-99	Continuously	Measurement by flow meters.	Water discharge destination differ by location. Some sites discharge water to the same catchment or a different - possibly in combination with waste water handling facilities. Each of these streams are measured.
Water discharges – volumes by treatment method	76-99	Continuously	Measurement by invoices.	If water is sent to external waste water treatment, the discharge volume is measured by Albemarle and / or the third party.
Water discharge quality – by standard effluent parameters	76-99	Continuously	Measurement by sampling and laboratory testing.	The quality of discharged water is monitored by Albemarle and / or third party – dependent on the discharge destination. Returned cooling water will undergo a different monitoring regime than water effluent from a process.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	76-99	Continuously	Water discharge quality monitored for nitrates, phosphates and other relevant compounds where relevant.	Measurement and frequency of measurement of water aspects depend both the source and destination as well as the processes of the different sites.
Water discharge quality – temperature	76-99	Continuously	Measurement via temperature check.	Water discharge temperature is monitored for streams where it is relevant.
Water consumption – total volume	76-99	Other, please specify (Monthly/ Quarterly basis)	Measurement by water meter.	The total water consumption are the sum of all water consumption measurements of all Albemarle locations (boundaries set in line with the GHG accounting rules using Financial consolidation). Volume measurements methods at site level vary because each site has its unique water in- and outflows.
Water recycled/reused	76-99	Continuously	Measurement by flow meters.	All chemical plants recycle process water multiple times – such streams are all measured and logged into process information systems.
The provision of fully-functioning, safety managed WASH services to all workers	76-99	Continuously		Measurement and frequency of measurement of water aspects depend both the source and destination and well as the processes of the different sites.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	22597	About the same	Investment in water-smart technology/process	Higher	Increase/decrease in business activity	Water withdrawals decreased by roughly 1.8% from 2021, which falls within our threshold for 'about the same'. A forecast is difficult to determine as both economic activity and water efficiency measures are planned to increase; with more efficient consumption, less water should be withdrawn in the future but this may be offset by expanded business activities.
Total discharges	11158	Lower	Investment in water-smart technology/process	Lower	Increase/decrease in business activity	Water discharges are the balance between withdrawal and consumption. This includes recycled cooling water (back to same catchment), wastewater, evaporated water. In 2022 total discharges decreased by roughly 2.9% from 2021, which falls within our threshold for 'lower'. A forecast is difficult to determine as both economic activity and water efficiency measures are planned to increase. With more efficient consumption, even less water should be discharged in the future.
Total consumption	11439	About the same	Increase/decrease in business activity	Higher	Increase/decrease in business activity	In 2022 total consumption decreased by roughly 0.6% from 2021, which falls within our threshold for 'about the same'. Total consumption of water will be dependent on business activity and improving efficiency measures.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	11-25	Higher	Increase/decrease in business activity	Higher	Increase/decrease in business activity	WRI Aqueduct	<p>Our Jordan operations are in one of the world's highest water risk areas. Jordan is a key focus area for water intensity management. We are exploring several different water sourcing options and have introduced innovative technology to recycle by-product streams from our brominated flame retardant (BFR) production process that helps reduce energy, raw material, and water consumption as well as GHG emissions. We also progressed the NEBO project, NEBO will allow us to recycle a waste stream into additional finished Wellbrom products – increasing revenues, reducing costs, and improving sustainability. NEBO will cut freshwater use by 11% in our Jordanian operations.</p> <p>In Chile, Albemarle does not consume freshwater in the production of lithium in the Salar de Atacama. We are allocated 0.5% of the freshwater rights in the basin and only use half of that for ancillary purposes, such as rinsing equipment. Albemarle actively engages with IRMA and uses their standard to conduct independent assessments of our water management in the Salar. The thermal evaporator brought online in 2022 at our La Negra site allows us to double our lithium production without a corresponding increase in freshwater use. This advanced technology allows us to reduce freshwater use by 30% per kilogram of lithium carbonate produced. We have also signed an agreement with a third party, Compañía Regional Aguas Marítimas S.A (CRAMSA), to provide us with up to 500 l/s desalinated water, starting in 2027 and pending permitting and construction. This would allow us to analyze the implementation of direct lithium extraction methods in our Salar de Atacama plant.</p> <p>The 2022 water intensity for Chile and Jordan is 6.7 m3 water/mt product, down 3.1% year-on-year as improvements in Chile offset higher water intensity in Jordan. Chile's water intensity is down 20.5% year-on-year due to the continued ramp of the thermal evaporator at our La Negra site. Jordan's water intensity increased by 5.5% year-on-year due to a product mix shift to more water-intensive products in response to market demand.</p>

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	13631	Lower	Increase/decrease in business activity	Water withdrawals from fresh surface water constitute the largest source for our production. About 60% of the water we withdraw originates from fresh surface water destinations. In 2022, fresh surface withdrawals decreased by roughly 5.3% from 2021, which falls within our threshold for 'lower'. Volumes of withdrawals are dependent on economic activity.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Not applicable.
Groundwater – renewable	Relevant	3693	About the same	Increase/decrease in business activity	Water withdrawals from renewable groundwater sources, constitutes about 16% of our overall water withdrawals for production. The amount of water withdrawn from renewable groundwater sources has stayed slightly increased by 7 megaliters. In 2022, renewable groundwater withdrawals increased by 0.2% from 2021, which falls within our threshold for 'about the same'. Volumes of withdrawals are dependent on economic activity.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Not applicable.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Not applicable.
Third party sources	Relevant	5273	Higher	Increase/decrease in business activity	Water withdrawals from third party sources, such as municipalities, constitute the largest source for our production. About 23% of the water we withdraw originates from third party sources. In 2022 withdrawals from third party sources increased by 8.7%, which falls within our threshold for 'higher'. It is assumed to have increased due to business activity. Volumes of withdrawals are dependent on economic activity.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	7478	Lower	Increase/decrease in efficiency	Generally, water discharge data is important in order to track progress of any water-related targets as well as understanding the effect of water efficiency measures. In 2022, our fresh surface water discharges decreased by 5.5% compared to 2021, which falls within our threshold for 'lower'. Volumes are dependent on economic activity.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Not applicable.
Groundwater	Relevant	885	Higher	Increase/decrease in business activity	Overall, discharge to groundwater makes up a small percentage of our water discharges. Generally, water discharge data is important in order to track progress of any water-related targets as well as understanding the effect of water efficiency measures. In 2022, groundwater discharges increased by 5.0% compared to 2021, which falls within our threshold for 'higher'. Volumes are dependent on economic activity.
Third-party destinations	Relevant	2795	Higher	Increase/decrease in business activity	Water discharges to third-party destinations, such as municipal water treatment, constitute about 16% of our total water discharges. Generally, water discharge data is important in order to track progress of any water-related targets as well as understanding the effect of water efficiency measures. In 2022, third party destination discharges increased by 2.1% compared to 2021, which falls within our threshold for 'higher'. Volumes are dependent on economic activity.

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Not applicable.
Secondary treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Not applicable.
Primary treatment only	Relevant	8363	Lower	Increase/decrease in efficiency	41-50	In 2022, water savings initiatives contributed to a decrease in primary treatment discharges from 8,757 megaliters in 2021 to 8,363 megaliters in 2022. Note that in our 2021 CDP report we had a typo indicating primary treatment discharges were 11,495 megaliters for the year, however we have since identified this typo and note the 2021 primary treatment only discharges were 8,757 megaliters for the year. The 4.5% decrease year over year was calculated as (8,757-8,363)/8,757.
Discharge to the natural environment without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Not applicable.
Discharge to a third party without treatment	Relevant	2795	Higher	Increase/decrease in business activity	41-50	In 2022, discharges to a third party without treatment increased by 2.1%, which falls within our threshold for 'higher'. This increase was due to an increase in our business activities.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Not applicable.

W1.2k

(W1.2k) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	List the specific substances included	Please explain
Row 1	0	Nitrates Phosphates	<Not Applicable>	Due to ongoing data collection efforts, the disclosure of the data is not possible at this time. However, the data will be carefully considered to be included in future reporting cycles. Nonetheless, most of Albemarle's plants have water discharge permits which limit pollutant discharge. These permits typically require monitoring of nitrate or phosphate concentrations in the water. The parameters to be monitored can vary widely, depending on location. For water quality monitoring, parameters like nitrates and phosphates or pesticides are often included.

W1.3

(W1.3) Provide a figure for your organization's total water withdrawal efficiency.

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	7320104000	22597	323941.408151525	Operating in high-stress water areas will require more efficient withdrawal of scarce water supply. Our goal is to use less freshwater in the future, particularly in our operational sites in Chile and Jordan. By reducing freshwater use intensity by 25% by 2030 (our stated targets), the company hopes to conserve freshwater resources and reduce its overall water footprint.

W-CH1.3

(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?

Yes

W-CH1.3a

(W-CH1.3a) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

Product type

Specialty inorganic chemicals

Product name

Lithium products (average of GBU)

Water intensity value (m3/denominator)

14

Numerator: water aspect

Total water consumption

Denominator

Ton

Comparison with previous reporting year

Much lower

Please explain

The water intensity is calculated per GBU in dividing total water consumption (cubic meter) by primary product weights (ton).

For lithium products the water intensity decreased from 21 (m3/ton) in 2021 to 14 (m3/ton) in 2022, a 33.3% decrease that falls within our threshold for 'much lower'. This was due largely to water savings from the thermal evaporator in La Negra.

Product type

Specialty inorganic chemicals

Product name

Bromine products (average of GBU)

Water intensity value (m3/denominator)

11

Numerator: water aspect

Total water consumption

Denominator

Ton

Comparison with previous reporting year

Higher

Please explain

The water intensity is calculated per GBU in dividing total water consumption (cubic meter) by primary product weights (ton).

For Bromine products, the water intensity increased from 10 (m3/ton) to 11 (m3/ton), a 10.0% increase that falls within our threshold of 'higher'. This can be attributed to a product mix shift to more water intensive products from our Jordan facility.

Product type

Specialty inorganic chemicals

Product name

Catalysts (average of the GBU)

Water intensity value (m3/denominator)

28

Numerator: water aspect

Total water consumption

Denominator

Ton

Comparison with previous reporting year

Lower

Please explain

The water intensity is calculated per GBU in dividing total water consumption (cubic meter) by primary product weights (ton).

For Catalysts products, the water intensity decreased from 29 (m3/ton) in 2021 to 28 (m3/ton) in 2022, a 3.4% increase that falls within our threshold of 'lower'. This was driven by lower production volumes.

W-MM1.3/W-CO1.3

(W-MM1.3/W-CO1.3) Do you calculate water intensity information for your metals and mining activities?

Yes

W-MM1.3a/W-CO1.3a

(W-MM1.3a/W-CO1.3a) For your top 5 products by revenue, provide the following intensity information associated with your metals and mining activities.

Product name	Numerator: Water aspect	Denominator	Comparison with previous reporting year	Please explain
	Please select	Please select	Please select	We are unable to provide water intensities for our five top products associated with our metals and mining activities at this time.

W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

Row 1	Products contain hazardous substances	Comment
	Yes	<Not Applicable>

W1.4a

(W1.4a) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Other, please specify (Department of Transportation (DOT))	Don't know	Due to the significant share of these products, we are consistently monitoring them and adhering to the regulatory bodies to which we are bound.
Other, please specify (Environmental Protection Agency (EPA))	Don't know	Due to the significant share of these products, we are consistently monitoring them and adhering to the regulatory bodies to which we are bound.
Other, please specify (Occupational Safety and Health Administration (OSHA))	Don't know	Due to the significant share of these products, we are consistently monitoring them and adhering to the regulatory bodies to which we are bound.

W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	Yes	<Not Applicable>	<Not Applicable>
Other value chain partners (e.g., customers)	Yes	<Not Applicable>	<Not Applicable>

W1.5a

(W1.5a) Do you assess your suppliers according to their impact on water security?

Row 1

Assessment of supplier impact

No, we do not currently assess the impact of our suppliers, but we plan to do so within the next two years

Considered in assessment

<Not Applicable>

Number of suppliers identified as having a substantive impact

<Not Applicable>

% of total suppliers identified as having a substantive impact

<Not Applicable>

Please explain

As of 2022 suppliers are not assessed on their water-related impact. We are currently developing a sustainable procurement strategy which specifies both overall environmental impacts as well as water-specific impacts. The timeline for implementation is yet to be decided on.

W1.5b

(W1.5b) Do your suppliers have to meet water-related requirements as part of your organization's purchasing process?

Row 1	Suppliers have to meet specific water-related requirements	Comment
	No, but we plan to introduce water-related requirements within the next two years	As of 2022 suppliers are not assessed on their water-related impact. We are currently developing a sustainable procurement strategy which will specify both overall environmental impacts as well as water-specific impacts. The timeline for implementation is yet to be decided on.

W1.5d

(W1.5d) Provide details of any other water-related supplier engagement activity.

Type of engagement

Other

Details of engagement

Other, please specify (Our Business Partner Code of Conduct highlights that we expect our business partners to adopt measures to manage the discharge of wastewater and stormwater runoff in compliance with applicable laws.)

% of suppliers by number

Please select

% of suppliers with a substantive impact

<Not Applicable>

Rationale for your engagement

Impact of the engagement and measures of success

Comment

In 2022 we began building the sustainable procurement team that will enhance our water-related engagement in the future.

W1.5e

(W1.5e) Provide details of any water-related engagement activity with customers or other value chain partners.

Type of stakeholder

Investors & shareholders

Type of engagement

Education / information sharing

Details of engagement

Share information about your products and relevant certification schemes

Rationale for your engagement

Sharing information about our water impact reflects our commitment to be transparent about our operations and holds us accountable to our external stakeholders. We are externally committed to do better and to work towards improving our water management.

Impact of the engagement and measures of success

As the impact of educational activities is difficult to measure, no rigid targets or methods are in place to track this.

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	Yes	Fines, but none that are considered as significant	Albemarle Corporation did not have any material monetary fines or non-monetary sanctions for non-compliance with laws and regulations during the reporting period.

W2.2a

(W2.2a) Provide the total number and financial value of all water-related fines.

Row 1

Total number of fines

Total value of fines

% of total facilities/operations associated

Number of fines compared to previous reporting year

Please select

Comment

W3. Procedures

W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified	Please explain
Row 1	Yes, we identify and classify our potential water pollutants	<p>Albemarle operates wastewater pretreatment equipment as necessary to meet discharge limits, monitors water discharge as required in the permit, and operates its plants in a way that ensures permit compliance.</p> <p>Materials are classified based on safety data sheets (SDS) and in accordance with existing regulations governing permitted emissions. As part of our comprehensive process design and operations hazard review, we prioritize the evaluation of potential events using the most stringent practices derived from either US regulations or local regulatory requirements. One example of our commitment to rigorous standards is our adherence to the EPA Risk Management Program.</p> <p>Albemarle undergoes a process for obtaining water discharge permits in the locations in which it operates. Part of this regulatory process involves characterizing the nature of the wastewater discharge. The governing authority reviews the permit application and issues the permit with allowable discharge limits that are safe for ecosystems and human health.</p> <p>We ensure compliance with applicable regulations, ensuring that our activities meet or exceed the requirements set by regulatory authorities. We employ best practices and guidelines derived from the most stringent regulations, whether they are from the United States or local authorities. This approach allows us to establish robust risk management protocols that prioritize the safety of our employees, the surrounding communities, and the environment.</p>	<Not Applicable>

W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Water pollutant category

Inorganic pollutants

Description of water pollutant and potential impacts

Nickel oxide is an inorganic material that has the potential to cause significant harm to human health and the environment. Exposure to nickel oxide can cause skin sensitization, making it a Category 1 sensitizer [H317] under the EU Classification, Labeling, and Packaging (CLP) regulation. This means that the material has the potential to cause an allergic reaction when it comes into contact with the skin.

Additionally, nickel oxide is classified as a Category 1A carcinogen for inhalation exposure [H350i] under the CLP regulation. This means that it has the potential to cause cancer in humans when it is inhaled. The lungs are the specific target organ affected by repeated exposure to nickel oxide, which is classified as a Category 1 specific target organ toxicity material [H372] under the CLP regulation.

Furthermore, long-term exposure to nickel oxide can cause chronic aquatic hazards, which is classified as Category 4 [H413] under the CLP regulation. This means that the material has low acute toxicity, but long-term exposure can cause harm to aquatic organisms and ecosystems.

Value chain stage

- Direct operations
- Supply chain
- Product use phase
- Other, please specify (Distribution network)

Actions and procedures to minimize adverse impacts

- Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
- Provision of best practice instructions on product use
- Other, please specify (Compliance with effluent quality standards; Measures to prevent spillage, leaching, and leakages; Providing best practice guidance to suppliers)

Please explain

Albemarle undergoes a process for obtaining water discharge permits in the locations in which it operates. Part of this regulatory process involves characterizing the nature of the wastewater discharge. The governing authority reviews the permit application and issues the permit with allowable discharge limits that are safe for ecosystems and human health. Albemarle operates wastewater pretreatment equipment as necessary to meet discharge limits, monitors water discharge as required in the permit, and operates its plants in a way that ensures permit compliance.

We aim to provide best practice instructions on product use that are essential to educate our customers and promote responsible handling and disposal of products. Overall, the assessment of critical infrastructure and storage conditions, along with the provision of best practice instructions, is crucial for effective water pollutant assessments.

These procedures help prevent pollution incidents, protect water quality, ensure compliance with regulations, and promote responsible product use, contributing to the sustainable management of water resources and environmental protection.

Water pollutant category

Inorganic pollutants

Description of water pollutant and potential impacts

Cobalt oxide is an inorganic material that poses significant hazards to human health and the environment. Exposure to cobalt oxide can cause acute toxicity if ingested, making it a Category 3 toxic material under the GHS hazard classification system (H301). Additionally, inhalation of cobalt oxide can be fatal and is classified as Category 2 under the GHS system (H330). This means that inhaling the material can cause severe respiratory distress, leading to potential fatality.

Repeated exposure to cobalt oxide can lead to respiratory sensitization (H334), which is classified as Sub-category 1B under the GHS system. This means that the material can cause allergy or asthma symptoms, as well as breathing difficulties when inhaled. Long-term exposure to cobalt oxide can also cause chronic aquatic hazards, which is classified as Category 1 under the GHS system (H410). This means that the material has low acute toxicity, but long-term exposure can cause harm to aquatic organisms and ecosystems.

Value chain stage

Direct operations
Supply chain
Product use phase
Other, please specify (Distribution network)

Actions and procedures to minimize adverse impacts

Provision of best practice instructions on product use
Procedure(s) under development/ R&D
Other, please specify (Compliance with effluent quality standards; Measures to prevent spillage, leaching, and leakages; Providing best practice guidance to suppliers; Auditing supplier compliance to industry standards)

Please explain

Albemarle undergoes a process for obtaining water discharge permits in the locations in which it operates. Part of this regulatory process involves characterizing the nature of the wastewater discharge. The governing authority reviews the permit application and issues the permit with allowable discharge limits that are safe for ecosystems and human health. Albemarle operates wastewater pretreatment equipment as necessary to meet discharge limits, monitors water discharge as required in the permit, and operates its plants in a way that ensures permit compliance.

We aim to provide best practice instructions on product use that are essential to educate our customers and promote responsible handling and disposal of products. Overall, the assessment of critical infrastructure and storage conditions, along with the provision of best practice instructions, is crucial for effective water pollutant assessments. These procedures help prevent pollution incidents, protect water quality, ensure compliance with regulations, and promote responsible product use, contributing to the sustainable management of water resources and environmental protection.

Water pollutant category

Inorganic pollutants

Description of water pollutant and potential impacts

Molybdenum oxide is a hazardous material that can cause significant harm to human health. Exposure to molybdenum oxide can cause eye irritation, making it a Category 2 irritant under the EU Classification, Labeling and Packaging (CLP) regulation (H319). This means that it can cause moderate eye irritation when it comes into contact with the eyes.

Molybdenum oxide is also classified as a Category 2 carcinogen under the CLP regulation (H351). This means that it has the potential to cause cancer in humans.

In addition, molybdenum oxide is classified as a Category 3 specific target organ toxicity material affecting the respiratory system (H335) under the CLP regulation. This means that it can cause respiratory irritation or other adverse effects on the respiratory system after a single exposure.

Value chain stage

Direct operations
Supply chain
Product use phase
Other, please specify (Distribution network)

Actions and procedures to minimize adverse impacts

Provision of best practice instructions on product use
Procedure(s) under development/ R&D
Other, please specify (Compliance with effluent quality standards; Measures to prevent spillage, leaching, and leakages; Providing best practice guidance to suppliers; Auditing supplier compliance to industry standards)

Please explain

Albemarle undergoes a process for obtaining water discharge permits in the locations in which it operates. Part of this regulatory process involves characterizing the nature of the wastewater discharge. The governing authority reviews the permit application and issues the permit with allowable discharge limits that are safe for ecosystems and human health. Albemarle operates wastewater pretreatment equipment as necessary to meet discharge limits, monitors water discharge as required in the permit, and operates its plants in a way that ensures permit compliance.

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Water pollutant category

Nitrates

Description of water pollutant and potential impacts

Nitrate is a chemical compound that contains nitrogen and oxygen. It is a common pollutant in water and soil, primarily due to its use as a fertilizer in agriculture. Nitrate pollution can have a number of negative impacts on human health and the environment.

Exposure to high levels of nitrate can cause methemoglobinemia, a condition in which the oxygen-carrying capacity of the blood is reduced, leading to shortness of breath,

blue skin, and other symptoms. Nitrate is classified as a Category 3 specific target organ toxicity material for single exposure to the respiratory system under the EU Classification, Labeling and Packaging (CLP) regulation (H335). This means that inhalation of nitrate can cause respiratory irritation and damage.

In addition to its direct impacts on human health, nitrate pollution can also lead to the eutrophication of water bodies, which can result in harmful algal blooms and fish kills. Nitrate is classified as a Category 2 environmental hazard for acute aquatic toxicity under the CLP regulation (H400). This means that nitrate can cause harm to aquatic organisms in the short term.

Moreover, nitrate can be converted to nitrite in the body, which is a potent carcinogen. Nitrate is classified as a Category 2 carcinogen under the CLP regulation (H351), meaning that it has the potential to cause cancer in humans.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Other, please specify (Compliance with effluent quality standards; Measures to prevent spillage, leaching, and leakages)

Please explain

Albemarle undergoes a process for obtaining water discharge permits in the locations in which it operates. Part of this regulatory process involves characterizing the nature of the wastewater discharge. The governing authority reviews the permit application and issues the permit with allowable discharge limits that are safe for ecosystems and human health. Albemarle operates wastewater pretreatment equipment as necessary to meet discharge limits, monitors water discharge as required in the permit, and operates its plants in a way that ensures permit compliance.

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Water pollutant category

Other synthetic organic compounds

Description of water pollutant and potential impacts

Methyl Chloride is a colorless gas that is easily liquefied under pressure. It has a sweet odor and is highly flammable (Category 1, H224). It is toxic and can cause harm when ingested orally (Category 4, H302). There is also evidence that methyl chloride can cause cancer (Category 2, H351) and harm the reproductive system (Category 2, H361fd).

Inhaling methyl chloride can cause specific target organ toxicity, primarily affecting the central nervous system (Category 3, H336). Methyl chloride is also known to be hazardous to the ozone layer (Category 1, H420). It is essential to take adequate precautions while handling methyl chloride to prevent its harmful impacts.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Other, please specify (Compliance with effluent quality standards; Measures to prevent spillage, leaching, and leakages)

Please explain

Albemarle undergoes a process for obtaining water discharge permits in the locations in which it operates. Part of this regulatory process involves characterizing the nature of the wastewater discharge. The governing authority reviews the permit application and issues the permit with allowable discharge limits that are safe for ecosystems and human health. Albemarle operates wastewater pretreatment equipment as necessary to meet discharge limits, monitors water discharge as required in the permit, and operates its plants in a way that ensures permit compliance.

We aim to provide best practice instructions on product use that are essential to educate our customers and promote responsible handling and disposal of products. Overall, the assessment of critical infrastructure and storage conditions, along with the provision of best practice instructions, is crucial for effective water pollutant assessments. These procedures help prevent pollution incidents, protect water quality, ensure compliance with regulations, and promote responsible product use, contributing to the sustainable management of water resources and environmental protection.

Water pollutant category

Inorganic pollutants

Description of water pollutant and potential impacts

Chlorine is a gas with a pungent odor. It is commonly used in the production of a variety of chemicals, including solvents, refrigerants, and polymers. However, it can have several impacts on both human health and the environment.

Chlorine is classified as an oxidizing gas (Category 1, H270) and a compressed gas (H280). It is highly reactive and can ignite or explode upon contact with certain materials or conditions. Exposure to chlorine gas can cause severe acute toxicity, particularly through inhalation (Category 1, H330). Chlorine gas irritates the skin (Category 2, H315) and eyes (Category 2, H319), and can cause specific target organ toxicity with a single exposure to the respiratory system (Category 3, H335). In addition to its impacts on human health, chlorine can also have serious effects on aquatic life. Chlorine gas dissolves in water, forming hypochlorous acid, which is toxic to aquatic organisms. Chlorine is classified as a short-term (acute) aquatic hazard (Category 1, H400) and a long-term (chronic) aquatic hazard (Category 1, H410).

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Other, please specify (Compliance with effluent quality standards; Measures to prevent spillage, leaching, and leakages)

Please explain

Albemarle undergoes a process for obtaining water discharge permits in the locations in which it operates. Part of this regulatory process involves characterizing the nature of the wastewater discharge. The governing authority reviews the permit application and issues the permit with allowable discharge limits that are safe for ecosystems and human health. Albemarle operates wastewater pretreatment equipment as necessary to meet discharge limits, monitors water discharge as required in the permit, and operates its plants in a way that ensures permit compliance.

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sustainable management of water resources and environmental protection.

W-MM3.2/W-CO3.2

(W-MM3.2/W-CO3.2) By river basin, what number of active and inactive tailings dams are within your control?

Country/Area & River basin	Number of tailings dams in operation	Number of inactive tailings dams	Comment
Please select	0	0	At this time we cannot provide by river basin the location of active and inactive tailings dams.

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Value chain stage

- Direct operations
- Other stages of the value chain

Coverage

- Full

Risk assessment procedure

- Water risks are assessed in an environmental risk assessment

Frequency of assessment

- Annually

How far into the future are risks considered?

- More than 6 years

Type of tools and methods used

- Enterprise risk management

Tools and methods used

- Enterprise Risk Management

Contextual issues considered

- Water availability at a basin/catchment level
- Water quality at a basin/catchment level
- Stakeholder conflicts concerning water resources at a basin/catchment level
- Implications of water on your key commodities/raw materials
- Water regulatory frameworks
- Status of ecosystems and habitats

Stakeholders considered

- Customers
- Employees
- Investors
- Local communities
- Regulators
- Suppliers
- Water utilities at a local level
- Other water users at the basin/catchment level

Comment

The role of Chief Risk Officer (CRO) is responsible for our Enterprise Risk Management (ERM) program. The ERM program identifies and defines risks that could significantly impact company shareholder value on a sustained or permanent basis. The program helps assess key risks, identify gaps, and develop and implement risk mitigation efforts. The program involves engagement with senior company leaders worldwide, and risk mitigation and management activities are tested with a broad group of relevant stakeholders. The CRO regularly reports to the Audit & Finance Committee, generally highlighting risks identified as the most significant and reviewing the company's methods of assessment and mitigation strategies. Each GBU addresses its most significant risks in its periodic strategy updates to the Board.

In 2022 we updated our ERM framework to specifically consider sustainability factors when assessing the impact, likelihood and severity of a risk. GBUs and functions were required to apply the framework to reaffirm existing risks while identifying emerging ones. These risks, and associated remediation, are explicitly incorporated into their long-term strategy planning, annual operating and business continuity plans. In 2023, we will migrate our risk register to a new ERM platform hosted by Audit Board, which will enhance our ability to track changes in our residual risk profile and progress with mitigating actions.

In 2022, we assessed our exposure to material climate-related risks and opportunities (R/O) in alignment with the TCFD recommendations, across our company and value chain, focusing on our two core business units: Energy Storage and Specialties. We worked together with climate consultancy South Pole and cross-functional stakeholders via workshops/interviews to develop an initial list of climate-related physical/transition R/O that could impact the business. Following stakeholder consultation, we prioritized R/O based on their potential impact for further assessment via climate scenario analysis. The scenario analysis highlights the most severe risks to our business, where risk mitigation is the most important. We plan to use the results of this scenario analysis to collaborate with function leads across Albemarle to develop specific risk mitigation strategies. Climate risk mitigation is a crucial component of our Climate Strategy, and understanding those risks now allows us to plan and prepare for the future impacts of climate change on our business.

W3.3b

(W3.3b) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	As a result of global warming, severe weather impacts are projected to become more common, posing risks to our ability to operate. We followed the TCFD recommendations for guidance on measuring and managing these risks. Given that several of our operations are located in areas of high and extremely high water risk as defined by the WRI, water-related risks were some of our highest-impact risks identified through our TCFD scenario analysis. We are in the process of integrating these climate risks into our ERM process to help ensure sound management.	Contextual issues that are considered are the location of operations, the water availability and quality in the area, and the water sourcing options available. For example, our operations in Jordan are set up in a high-water risk area, where every drop of water is precious.	When assessing risks or considering our overall impact, especially in regions of high water risk, we include key stakeholders in the process. For water-related risks they are local communities, governments, regulators, customers and our employees. Albemarle has proven this by taking a global leadership role in demonstrating how we produce lithium sustainably by partnering with the Initiative for Responsible Mining Assurance (IRMA) to promote responsible practices in the mining industry. IRMA offers objective, independent third-party verification of industrial-scale mine sites using comprehensive standards agreed to through a collaborative, multi-stakeholder process including material producers, customers, labor, NGOs, and communities.	Albemarle's decision-making process for identifying, assessing, and responding to water-related risks involves a multi-disciplinary approach. Our Chief Risk Officer manages our ERM process, which includes water-related risks identified in our TCFD scenario analysis. The final decision is made at the executive level, considering all input and striving for a balanced and well-informed outcome.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, only within our direct operations

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

Albemarle defines impact within a 5-year time frame based on many attributes including health, safety, people, the environment, and more. For example, a significant financial impact could be lost adjusted EBITDA of \$300M or more; a significant non-financial impact could be an environmental incident taking a year or more to remediate.

We define adjusted EBITDA as earnings before interest and financing expenses, income tax expense, depreciation and amortization, as adjusted on a consistent basis for certain non-operating, non-recurring or unusual items in a balanced manner and on a segment basis. These non-operating, non-recurring or unusual items may include acquisition and integration-related costs, gains or losses on sales of businesses, restructuring charges, facility divestiture charges, certain litigation and arbitration costs and charges, non-operating pension and OPEB items and other significant non-recurring items.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	3	1-25	In 2022, Lithium had 13 production facilities, Bromine had 4 facilities, Catalysts had 9 facilities, for 26 total production facilities as reported in our 2022 10-K filing. Three facilities, Salar de Atacama, Chile; La Negra, Chile; and Safi, Jordan are in areas of high or extremely high-water stress, as categorized by the World Resources Institute (WRI) Aqueduct Atlas.

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

Country/Area & River basin

Chile	Loa
-------	-----

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

0

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

11-20

Comment

Rising temperatures and declining precipitation associated with climate change are expected to increase water stress and reduce the amount of available water in the Salar de Atacama. If the water level falls below a critical threshold level, a warning plan is issued and the brine needs to be decreased and in some cases also the water pumping.

During 2022, Albemarle produced ~45,000 mt per year of LCE (combined lithium carbonate and chloride) *in La Negra/Salar de Atacama facilities.

Country/Area & River basin

Jordan	Dead Sea
--------	----------

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

0

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

1-10

Comment

Climate change is projected to increase water stress and reduce the amount of available freshwater in Jordan. This could lead to operational downtime and associated production losses at Albemarle's Jordan Bromine Company Ltd. (JBC) plant, as freshwater is needed in the production process.

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Jordan	Dead Sea
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Type of risk & Primary risk driver

Chronic physical	Water stress
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Primary potential impact

Disruption to sales

Company-specific description

According to the 2019 Aqueduct Water Risk Atlas of the World Resource Institute, Jordan falls within the "extremely high water risk" category. Within this context, water conservation is a top priority in our environmental protection strategy. With our facility located in a water-stressed and water-depletion region, we know how important it is to handle this highly valuable natural resource with minimum impact and disruptions.

Timeframe

4-6 years

Magnitude of potential impact

Medium-high

Likelihood

Likely

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

While the exact financial impact number is still under review, we understand that there could be additional impact to our employees and communities as well as potential for suspension of operations at critical sites.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

As part of our global commitment to water conservation, we have implemented programs to reduce water consumption. We utilize water recycling, and in 2011 implemented a new program which enabled a reduction in freshwater consumption. Our bromine production site in Safi has water management and reduction programs and by applying a process heat integration and by operating at higher concentrations in 2021 process streams, we managed to reduce freshwater usage at cooling towers. In 2022, the water reused as part of the wastewater treatment was increased.

Project NEBO is an exemplary \$30 million initiative that will take a co-product stream and will convert it to a saleable product without the need for additional freshwater consumption. NEBO is expected to reduce site freshwater consumption intensity by more than 10%.

We monitor the domestic wastewater treatment system, potable water system, recycle water pond (fire water pond), ground water, and brine discharge to the Dead Sea to ensure that our actions do not affect the quality of the water in Jordan. Every year JBC works on reducing water consumption through innovation. Lastly, JBC is a joint venture with Albemarle and Arab Potash Company (APC), which is the largest Jordanian company. Through the cooperation with APC, we have strong Jordanian and other stakeholder support that we believe will continue to provide access to water needed in production. For example, in 2021 where we had no interruption of water supply.

Cost of response

30000000

Explanation of cost of response

Project NEBO incurred \$ 30 million in investment costs (CAPEX).

Country/Area & River basin

Chile	Loa
-------	-----

Type of risk & Primary risk driver

Chronic physical	Ecosystem vulnerability
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Primary potential impact

Constraint to growth

Company-specific description

The Salar de Atacama facilities are located in an area of high or extremely high-water stress, as classified by the World Resources Institute (WRI) Aqueduct Atlas.

Albemarle has an extensive monitoring network of water and brine levels in the Salar de Atacama to ensure the sustainability of our operation. Through this monitoring network, we not only ensure that groundwater brine levels are maintained at assessed levels, but also the levels and quality of water in the protected areas in the south of the Salar. It should be noted that monitoring is conducted in conjunction with local communities and the results are publicly available. Our use of freshwater is minimal: we have 23.5 I/s in water rights, which is equivalent to less than 0.5% of the total Salar de Atacama basin. Of those rights, historically we have used less than nine (9) I/s for our camp, potassium chloride production and washing our equipment. If freshwater use were to be limited, this would have no impact on lithium operations, but could limit potassium chloride operations.

Timeframe

4-6 years

Magnitude of potential impact

Medium-high

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

While the exact financial impact number is still under review, we understand that there could be additional impact to our employees and communities as well as potential for suspension of operations at critical sites.

Primary response to risk

Other, please specify (Multiple responses apply: close monitoring of brine levels, minimal use of freshwater, engagement with local communities, authorities, customers, innovation of processes and monitoring of biodiversity.)

Description of response

Albemarle closely monitors water and brine levels, minimizes use of freshwater, actively engages with local communities, authorities, customers and innovates processes to use even less freshwater. With no freshwater used in the production of Lithium, only Potassium chloride production would be affected by lower availability of freshwater.

We have also signed an agreement with a third party, CRAMSA, to provide us with up to 500 l/s desalinated water starting in 2027 and pending permitting and construction.

Cost of response

0

Explanation of cost of response

0

Country/Area & River basin

Chile	Loa
-------	-----

Type of risk & Primary risk driver

Chronic physical	Water scarcity
------------------	----------------

Primary potential impact

Constraint to growth

Company-specific description

The La Negra, Chile facility is in an area of high or extremely high-water stress, as categorized by the World Resources Institute (WRI) Aqueduct Atlas. Albemarle uses water from its own wells, and it also buys fresh (continental) water from FCAB. FCAB supplies this continental water from the Chilean mountains (Silala sector).

Timeframe

4-6 years

Magnitude of potential impact

Medium-high

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

While the exact financial impact number is still under review, we understand that there could be additional impact to our employees and communities as well as potential for suspension of operations at critical sites.

Primary response to risk

Secure alternative water supply

Description of response

Completed construction of \$100M thermal evaporator at La Negra.

Cost of response

10000000

Explanation of cost of response

The thermal evaporator brought online in 2022 at our La Negra site allows us to double our lithium production without a corresponding increase in freshwater use. This advanced technology allows us to reduce freshwater use by 30% per kilogram of lithium carbonate produced. We have also signed an agreement with a third party, CRAMSA, to provide us with up to 500 l/s desalinated water starting in 2027 and pending permitting and construction. This would allow us to analyze the implementation of direct lithium extraction methods in our Salar de Atacama facility.

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	<p>Risks along the value chain, or beyond our own operations are not underestimated. In addition to the potential risks identified and defined in our ERM program, we have identified and assessed our exposure to material climate-related risks and opportunities in alignment with the TCFD recommendations. In the current scope for high water risk regions, the focus was on our facilities.</p> <p>We conducted a high-level review of potential risks and opportunities across our company and value chain, focusing on our two core business units: Energy Storage and Specialties. We worked together with climate consultancy South Pole and cross-functional stakeholders at Albemarle via a series of workshops and interviews to develop an initial list of climate-related physical and transition risks and opportunities that could impact the business. Following further stakeholder consultation, we prioritized risks and opportunities based on their potential impact for further assessment via climate scenario analysis.</p> <p>The scenario analysis highlights the most severe risks to our business, and accordingly the areas where risk mitigation is the most important. We plan to use the results of this scenario analysis to collaborate with function leads across Albemarle to develop specific risk mitigation strategies. For example, we are already developing water strategies in Chile and Jordan, as well as a comprehensive renewable energy strategy. We are also staying up to date on emerging EU battery regulations and building lithium recycling capabilities. Water risk mitigation is a crucial component of our Water efficiency Strategy, and understanding those risks now allows us to plan and prepare for the future impacts of water scarcity on our business.</p> <p>Our primary focus is on our own operations, as Albemarle plays a crucial role at the beginning of the supply chain, holding a significant responsibility for effective water management. We recognize the importance of addressing water-related challenges within our operations. By identifying specific water hotspots, we can pinpoint areas where water scarcity or high-water stress pose significant risks to our operations. These hotspots are located in high-water risk regions, emphasizing the need for proactive and sustainable water management strategies.</p>

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

In 2022, we continued the planning and permitting stages of our NEBO project, which will allow us to recycle waste streams into additional finished product, thereby cutting water use, reducing costs and increasing revenues.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

NEBO will allow us to recycle a waste stream into additional finished Wellbrom product – increasing revenues, reducing costs and improving sustainability. NEBO is expected to cut freshwater use by 11% in our Jordanian operations.

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

In 2022, we brought online a \$100 million thermal evaporator at our La Negra plant in Chile. This advanced technology takes aqueous waste streams, which have traditionally been disposed to solar evaporation ponds, and turns them into high-purity water, which is recycled for use in our state-of-the-art processing plant. The thermal evaporator allows us to double the production capacity of lithium carbonate at La Negra without proportionally increasing our freshwater footprint.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

100000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

The implementation of the thermal evaporator not only enables us to expand our business activities, but also ensures that our water usage remains sustainable. By utilizing this advanced technology, we can significantly increase our operational capacity without a corresponding increase in water withdrawals or the need to source water from distant locations. This innovative solution allows us to minimize our impact on local water resources and reduces the strain on water supplies.

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

El Salar

Country/Area & River basin

Chile	Loa
-------	-----

Latitude

23.38

Longitude

68.18

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

246.65

Comparison of total withdrawals with previous reporting year

Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

162.8

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

58.5

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

25.26

Total water discharges at this facility (megaliters/year)

0

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

246.65

Comparison of total consumption with previous reporting year

Higher

Please explain

The implementation of targeted water reduction measures prevented a much larger increase, despite higher production volumes.

Facility reference number

Facility 2

Facility name (optional)

La Negra

Country/Area & River basin

Chile	Loa
-------	-----

Latitude

23.45

Longitude

70.18

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

951

Comparison of total withdrawals with previous reporting year

Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

225

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

725

Total water discharges at this facility (megaliters/year)

0

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

951

Comparison of total consumption with previous reporting year

Higher

Please explain

The implementation of targeted water reduction measures prevented a much larger increase, despite higher production volumes.

Facility reference number

Facility 3

Facility name (optional)

Jordan Bromine Company at Safi

Country/Area & River basin

Jordan	Dead Sea
--------	----------

Latitude

31.14

Longitude

35.52

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

1395

Comparison of total withdrawals with previous reporting year

Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

1395

Total water discharges at this facility (megaliters/year)

0

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

1395

Comparison of total consumption with previous reporting year

Higher

Please explain

W5.1a

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

% verified

76-100

Verification standard used

American Institute of Certified Public Accountants (AICPA) in AT-C section 105, Concepts Common to All Attestation Engagements, and AT-C section 210, Review Engagements.

PwC has offered limited assurance on our sustainability metrics encompassing energy, emissions, and water metrics. These metrics were internally collected and arranged in accordance with prominent guidance frameworks, such as the GHG protocol. It is important to note that the verification of water quality has currently been excluded from the assurance process.

Please explain

<Not Applicable>

Water withdrawals – volume by source

% verified

76-100

Verification standard used

American Institute of Certified Public Accountants (AICPA) in AT-C section 105, Concepts Common to All Attestation Engagements, and AT-C section 210, Review Engagements.

PwC has offered limited assurance on our sustainability metrics encompassing energy, emissions, and water metrics. These metrics were internally collected and arranged in accordance with prominent guidance frameworks, such as the GHG protocol. It is important to note that the verification of water quality has currently been excluded from the assurance process.

Please explain

<Not Applicable>

Water withdrawals – quality by standard water quality parameters

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

Not within the scope of our PwC assurance.

Water discharges – total volumes

% verified
76-100

Verification standard used

American Institute of Certified Public Accountants (AICPA) in AT-C section 105, Concepts Common to All Attestation Engagements, and AT-C section 210, Review Engagements.

PwC has offered limited assurance on our sustainability metrics encompassing energy, emissions, and water metrics. These metrics were internally collected and arranged in accordance with prominent guidance frameworks, such as the GHG protocol. It is important to note that the verification of water quality has currently been excluded from the assurance process.

Please explain

<Not Applicable>

Water discharges – volume by destination

% verified
76-100

Verification standard used

American Institute of Certified Public Accountants (AICPA) in AT-C section 105, Concepts Common to All Attestation Engagements, and AT-C section 210, Review Engagements.

PwC has offered limited assurance on our sustainability metrics encompassing energy, emissions, and water metrics. These metrics were internally collected and arranged in accordance with prominent guidance frameworks, such as the GHG protocol. It is important to note that the verification of water quality has currently been excluded from the assurance process.

Please explain

<Not Applicable>

Water discharges – volume by final treatment level

% verified
76-100

Verification standard used

American Institute of Certified Public Accountants (AICPA) in AT-C section 105, Concepts Common to All Attestation Engagements, and AT-C section 210, Review Engagements.

PwC has offered limited assurance on our sustainability metrics encompassing energy, emissions, and water metrics. These metrics were internally collected and arranged in accordance with prominent guidance frameworks, such as the GHG protocol. It is important to note that the verification of water quality has currently been excluded from the assurance process.

Please explain

<Not Applicable>

Water discharges – quality by standard water quality parameters

% verified
Not verified

Verification standard used

<Not Applicable>

Please explain

Not within the scope of our PwC assurance.

Water consumption – total volume

% verified
76-100

Verification standard used

American Institute of Certified Public Accountants (AICPA) in AT-C section 105, Concepts Common to All Attestation Engagements, and AT-C section 210, Review Engagements.

PwC has offered limited assurance on our sustainability metrics encompassing energy, emissions, and water metrics. These metrics were internally collected and arranged in accordance with prominent guidance frameworks, such as the GHG protocol. It is important to note that the verification of water quality has currently been excluded from the assurance process.

Please explain

<Not Applicable>

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

	Scope	Content	Please explain
Row 1	Company-wide	<p>Description of business dependency on water</p> <p>Description of business impact on water</p> <p>Commitment to water stewardship and/or collective action</p> <p>Reference to company water-related targets</p> <p>Other, please specify (Reference to international standards and widely-recognized water initiatives; Company water targets and goals; Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance)</p>	<p>In 2022, we joined the UN Global Compact CEO Water Mandate, a global initiative in partnership with the Pacific Institute, which mobilizes business leaders to advance water stewardship practices. Albemarle's endorsement of the mandate commits us to action and continuous improvement, over time, across six key areas of focus in water management and to report annually on progress through its CDP water disclosures and UN Global Compact communication. The six core areas for continuous improvement of water stewardship include direct operations, supply chain and watershed management, collective action, public policy, community engagement, and transparency. Efficient and responsible water use is a key component of our sustainability strategy. Albemarle is committed to responsible management of our water resources and our sustainable business practices align directly with our endorsement of the CEO Water Mandate. Through this platform, we aim to proactively identify and manage business risks, create efficiency in our water use, realize cost savings through water use efficiency, and honor our sustainability commitments.</p> <p>In 2021, we issued the Albemarle Climate Strategy in which we outline our approach and responsibility to address the impact of our operations on the environment.</p>

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual or committee	Responsibilities for water-related issues
Chief Executive Officer (CEO)	<p>CEO and chairman of the Board of Albemarle Corporation oversees water-related issues and owns the water intensity reduction target.</p> <p>In April 2022, our CEO signed the UNGC CEO Water Mandate, committing Albemarle to action and continuous improvement across six focus areas in water management and stewardship - direct operations, supply chain and watershed management, collective action, public policy, community engagement, and transparency. In partnership with over 200 companies, the United Nations, governments, civil society organizations, and other stakeholders, the CEO Water Mandate mobilizes business leaders to deepen their commitment to water stewardship. The Mandate was created out of the acknowledgment that global water challenges create risk for a wide range of industry sectors, the public sector, local communities, and ecosystems alike.</p>
Director on board	Members of the HS&E committee at the Board level oversee water-related issues. Our senior executive leadership and Board review progress on our freshwater consumption on an ongoing basis. The HS&E Committee reviews progress on targets at least quarterly.

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	<p>Monitoring implementation and performance</p> <p>Monitoring progress towards corporate targets</p> <p>Overseeing acquisitions, mergers, and divestitures</p> <p>Overseeing major capital expenditures</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Reviewing and guiding corporate responsibility strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding strategy</p> <p>Setting performance objectives</p>	<p>At the executive management level, our CEO and Chairman of the Board of Directors takes ownership of our freshwater intensity reduction goal and our progress towards that goal. Our Board of Directors (Board) oversees our sustainability programs. Committees of the Board take the lead in discrete areas of oversight within their areas of responsibility.</p> <p>The Health, Safety & Environment (HS&E) Committee is responsible for overseeing (among other items) our climate strategy including water management. The HS&E Committee meets quarterly and our VP, Sustainability and Investor Relations reviews progress on our climate-related work, which includes our freshwater target. The Audit & Finance Committee of our Board reviews our enterprise risk management (ERM) at least annually, including climate change risks as appropriate.</p> <p>In February 2023, the HS&E Committee was updated on our TCFD progress, including discussing the hotspot climate scenario analysis. In May 2023, the full Board reviewed and discussed the results of our first TCFD analysis and integration into Albemarle's ERM process.</p>

(W6.2d) Does your organization have at least one board member with competence on water-related issues?

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	<p>When assessing board members or director nominees, certain key competencies are considered such as supply chain and logistics experience, natural resource management, or manufacturing and operations. Compliance competencies like auditing are also assessed.</p> <p>Additionally, the demographics and diversity of the nominees are taken into account. Another important factor is whether the nominee is a member or chair of a board standing committees like health, safety, and environment. These criteria help ensure that the board members or director nominees have the necessary skills and experience to perform their roles effectively.</p> <p>In addition, their experience and understanding of water-related topics are considered. See more information about the skills, experience, and background of director nominees in our 2023 proxy statement at https://investors.albemarle.com/financials/annual-reports</p>	<Not Applicable>	<Not Applicable>

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Sustainability committee

Water-related responsibilities of this position

Assessing future trends in water demand
Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

Albemarle's Sustainability Steering Committee (SSC) leverages the expertise and insight of a broad, diverse group of experienced professionals across Albemarle to set and drive achievement of our global corporate sustainability strategy. The SSC strives to create value and recognition by embedding sustainability throughout our business. It promotes sustainability performance with internal and external stakeholders and helps position Albemarle as a sustainability leader in our industry and beyond.

The SSC is chaired by the VP of IR and Sustainability. The SSC leverage the experiences, expertise, and insight of key individuals across Albemarle. Individually, SSC members are:

- Senior-level executives
- Representatives from each GBU and the most relevant corporate functions
- Familiar with major stakeholders and their interests
- Advocates for advancing sustainability throughout Albemarle
- Able to regularly attend and actively participate in meetings

Name of the position(s) and/or committee(s)

Chief Financial Officer (CFO)

Water-related responsibilities of this position

Managing annual budgets relating to water security
Managing major capital and/or operational expenditures related to low water impact products or services (including R&D)

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

As the top finance executive, the CFO is responsible for managing Albemarle's financial resources, including budgeting and investment decisions. This includes overseeing the annual budgets for water-related activities and managing major capital and operational expenditures related to water efficiency projects. The CFO also plays a key role in assessing water-related risks and opportunities, as well as managing water-related acquisitions, mergers, and divestitures.

Name of the position(s) and/or committee(s)

Chief Executive Officer (CEO)

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities
Setting water-related corporate targets
Monitoring progress against water-related corporate targets
Managing public policy engagement that may impact water security
Integrating water-related issues into business strategy

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The CEO - both in his capacity as CEO and as a chairman of the board - takes ownership of the GHG-reduction goals and progress against targets. The CEO sets company strategy around GHG, plans, results, and issues with the Board and Board committees. He also helps ensure that climate change topics are given appropriate time on meeting agendas and drives decisions around sustainability and climate change to consensus.

In 2022, Albemarle introduced the Objectives and Key Results (OKR) framework into the organization as a mechanism to set ambitious internal goals at an executive level that cascade through the organization. Our CEO's OKRs include annual and quarterly climate objectives, which are often tied to broader sustainability and corporate responsibility targets.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	<p>Our executive leadership's compensation includes an annual incentive plan (AIP). 15% of that compensation is determined by individual performance. Some ESG objectives have typically been included in the personal goals for the CEO and other NEOs. Starting in 2021, personal goals were expanded to include additional goals such as natural resource management, stakeholder engagement, diversity, and talent management.</p> <p>Our Objectives and Key Results (OKR) system is another way that executive management helps ensure cross-functional alignment on our most critical strategic initiatives, including sustainability. For 2023, one of our CEO's five objectives is to "Be a Leading Steward of our Planet". This objective includes key results that align with our external greenhouse gas (GHG) emission reduction and water reduction targets. OKRs are reviewed by executive leadership at least quarterly.</p>

W6.4a

(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Role(s) entitled to incentive	Performance indicator	Contribution of incentives to the achievement of your organization's water commitments	Please explain
Monetary reward	Other, please specify (Employees that have set individual performance goals linked to our climate performance.)	Other, please specify (Dependent on employee)	Albemarle's employees who link their own performance to the company's climate goals are held accountable for meeting the company's climate-related targets through their individual OKRs. Furthermore, our executive leadership's compensation includes an annual incentive plan (AIP), 15% of that compensation is determined by individual performance. Some ESG objectives have typically been included in the personal goals for the CEO and other leadership. Starting in 2021, personal goals were expanded to include additional goals such as natural resource management, stakeholder engagement, diversity, and talent management.	By linking individual objectives of our leadership to broader sustainability and corporate responsibility targets, we create a culture of accountability and ownership that is essential for achieving its climate-related commitments. This approach not only helps ensure that leadership is actively involved in driving the company's climate-related initiatives but also encourages all employees to take responsibility for meeting the company's broader sustainability goals.
Non-monetary reward	Please select	Please select		

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, trade associations

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

As part of our commitment to responsible business practices, we screen the associations that we are a member of for various criteria. We ensure that they match with our core values and do not conflict with our standards such as ethics and code-of-conduct. Additionally, we evaluate whether they are instrumental in executing our strategy. Through collaboration with global trade associations, we conduct and publish peer-reviewed scientific research. These studies are made available to government agencies and other interested parties, as part of our efforts to promote transparency and responsible business practices.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

Yes (you may attach the report - this is optional)

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	21-30	Water is integrated in long term business plans for business units and locations with high water risk. We performed climate change scenario analysis to understand how risks associated with water availability in Jordan and Chile may evolve under both a 2°C and a 4°C climate scenario (SSP2-4.5 and SSP5-8.5, respectively), taking into account both 2030 and 2050 time horizons, to understand the potential impacts on our bromine (Jordan) and lithium (Chile) operations. Any risk response activities are immediately considered as part of our long-term business objective.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	21-30	Water-related issues are integrated in long term business strategy for business units and locations with high water risk. Albemarle have undertaken climate change scenario analysis to understand how risks associated with water availability in Jordan and Chile may evolve under both a 2°C and a 4°C climate scenario (SSP2-4.5 and SSP5-8.5, respectively), taking into account both 2030 and 2050 time horizons, to understand the potential impacts on our bromine (Jordan) and lithium (Chile) operations. In considering risks, costs of risks and costs to responding accordingly, we adapt our long-term business strategy.
Financial planning	Yes, water-related issues are integrated	5-10	Water-related investments are integrated in financial planning. Albemarle have undertaken climate change scenario analysis to understand how risks associated with water availability in Jordan and Chile may evolve under both a 2°C and a 4°C climate scenario (SSP2-4.5 and SSP5-8.5, respectively), taking into account both 2030 and 2050 time horizons, to understand the potential impacts on our bromine (Jordan) and lithium (Chile) operations. Financial investments in water- efficiency measures have been made in forms of a thermal evaporator in Chile and project NEBO in Jordan.

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

0

Anticipated forward trend for CAPEX (+/- % change)

0

Water-related OPEX (+/- % change)

0

Anticipated forward trend for OPEX (+/- % change)

0

Please explain

At this time Albemarle is not able to disclose our water-related CAPEX and OPEX expenditure numbers.

The changes in CAPEX and OPEX are based on GBU/ Corp projects. Our CAPEX and OPEX fluctuates based on the cycle of each project and is not always a straight line. The increased operating expenses (OPEX) are projected to rise at a slightly faster rate than inflation.

We are investing in initiatives to improve our operations, such as implementing new technologies or processes that are more efficient, sustainable, or environmentally friendly. However, these changes may require additional resources and CAPEX in the short term, which could lead to higher OPEX.

It is important to note that rising OPEX may impact the organization's financial performance, but it could also be a necessary step in achieving long-term sustainability goals and commitments related to water management and other environmental issues.

W7.3

(W7.3) Does your organization use scenario analysis to inform its business strategy?

	Use of scenario analysis	Comment
Row 1	Yes	We performed climate change scenario analysis to understand how risks associated with water availability in Jordan and Chile may evolve under both a 2°C and a 4°C climate scenario (SSP2-4.5 and SSP5-8.5, respectively), taking into account both 2030 and 2050 time horizons, to understand the potential impacts on our bromine (Jordan) and lithium (Chile) operations.

W7.3a

(W7.3a) Provide details of the scenario analysis, what water-related outcomes were identified, and how they have influenced your organization's business strategy.

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Water-related	There are some parameters and influences on assessing our water-related outcomes. An excerpt is water run rates, community usage in the area of extraction, and limitations through permits.	<p>We are working on multiple projects across our organization to both reduce the consumption of water and increase its availability.</p> <p>There are two projects in particular, project NEBO and our work on a thermal evaporator.</p> <p>NEBO is a \$30 million initiative in Jordan that takes a co-product stream and converts it to a saleable product without the need for additional freshwater consumption. NEBO is expected to reduce site freshwater consumption intensity by 11%.</p> <p>Additionally, the construction of a thermal evaporator at our La Negra site in Chile allows us to double our lithium production without a corresponding increase in freshwater use.</p>	Both these initiatives as well as any related or follow-up work have a direct influence on our business strategy as they allow us to decrease our dependence on freshwater sources, as well as make our production processes more efficient. Furthermore, we reach our water intensity reduction goals.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, but we are currently exploring water valuation practices

Please explain

We are currently in the process of developing an internal price on water.

W7.5

(W7.5) Do you classify any of your current products and/or services as low water impact?

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	Yes	<p>Answering yes as we do state the low water consumption for Lithium high water stress sites, as well as our projects that are reducing the water intensity further.</p> <p>Therein our products are measured on their total water use by location and source.</p>	<Not Applicable>	Due to operating sites that are classified as high water stress sites, it is crucial that we can measure the consumption and use of water not only on site but also on product level. Therefore our products are classified on their water impact.

W8. Targets

W8.1

(W8.1) Do you have any water-related targets?

Yes

W8.1a

(W8.1a) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

	Target set in this category	Please explain
Water pollution	No, and we do not plan to within the next two years	Currently, there is no target to improve water pollution in addition to mandatory thresholds set by regulatory bodies.
Water withdrawals	No, and we do not plan to within the next two years	Currently, there is no water withdrawal target.
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	There is currently no process or plan to specifically set WASH related targets for our operations.
Other	Yes	<Not Applicable>

W8.1b

(W8.1b) Provide details of your water-related targets and the progress made.

Target reference number

Target 1

Category of target

Target coverage

Company-wide (direct operations only)

Quantitative metric

Please select

Year target was set

2021

Base year

2019

Base year figure

7.3

Target year

2030

Target year figure

5.5

Reporting year figure

6.7

% of target achieved relative to base year

33.33333333333333

Target status in reporting year

Underway

Please explain

The "category of target" should be "Product water intensity" however this cannot be chosen in the dropdown. "Quantitative metric" should be "Reduction per unit of production".

The 2022 water intensity for Chile and Jordan was 6.7 m3 water/mt product, down 3.1% year-on-year as improvements in Chile offset higher water intensity in Jordan. Chile's water intensity was down 20.5% year-on-year thanks to the continued ramp-up of the thermal evaporator at our La Negra site. Jordan's water intensity increased by 5.5% year-on-year due to a product mix shift to more water intensive products as a response to market demand.

We are on track to achieve our target of reducing the intensity of freshwater usage by 25% by 2030 in Chile and Jordan.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?

No, but we are actively considering verifying within the next two years

W10. Plastics

W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Please select	<Not Applicable>	

W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Value chain stage	Please explain
Row 1	Please select	<Not Applicable>	

W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Value chain stage	Type of risk	Please explain
Row 1	Please select	<Not Applicable>	<Not Applicable>	

W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Target type	Target metric	Please explain
Row 1	Please select	<Not Applicable>	<Not Applicable>	

W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	Please select	
Production of durable plastic components	Please select	
Production / commercialization of durable plastic goods (including mixed materials)	Please select	
Production / commercialization of plastic packaging	Please select	
Production of goods packaged in plastics	Please select	
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	Please select	

W11. Sign off

W-FI

(W-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.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	ESG Controller	Other, please specify (ESG Controller)

SW. Supply chain module

SW0.1

(SW0.1) What is your organization's annual revenue for the reporting period?

	Annual revenue
Row 1	7320104000

SW1.1

(SW1.1) Could any of your facilities reported in W5.1 have an impact on a requesting CDP supply chain member?

Yes, CDP supply chain members buy goods or services from facilities listed in W5.1

SW1.1a

(SW1.1a) Indicate which of the facilities referenced in W5.1 could impact a requesting CDP supply chain member.

Facility reference number

Facility 1

Facility name

El Salar

Requesting member

Corning Incorporated

Description of potential impact on member

Based on our TCFD assessment there is potential water risk that can impact our employees and communities as well as potential for suspension of operations at critical sites.

Comment

Facility reference number

Facility 2

Facility name

La Negra

Requesting member

Corning Incorporated

Description of potential impact on member

Based on our TCFD assessment there is potential water risk that can impact our employees and communities as well as potential for suspension of operations at critical sites.

Comment

SW1.2

(SW1.2) Are you able to provide geolocation data for your facilities?

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	Yes, for all facilities	Yes, the geolocation is available for all facilities and are displayed in SW1.2a.

SW1.2a

(SW1.2a) Please provide all available geolocation data for your facilities.

Identifier	Latitude	Longitude	Comment
El Salar, Chile	-23.63	-68.31	Production facility
La Negra, Chile	-23.76	-70.31	Production facility
Langelsheim, Germany	10.19	51.55	Production facility
Kings Mountain, USA	35.13	81.21	Production facility
Silver Peak, USA	37.75	-117.64	Production facility
New Johnsonville, USA	36	-87.98	Production facility
Kemerton Industrial Park, AUS	33.12	115.45	Joint Venture
Greenbushes, AUS	33.51	116.03	Joint Venture
Wodgina, AUS	21.1	118.4	Joint Venture
Xinyu, China	27.81	114.71	Production facility
Chengdu, China	30.18	118	Joint Venture
Taichung, Taiwan	24.09	120.26	Production facility
Qinzhou, China	21.97	108.62	Production facility
Baton Rouge, USA	30.49	-91.18	Production facility
Safi, Jordan	31.14	35.53	Joint Venture
Magnolia, USA	33.27	-93.31	Production Facility
Twinsburg, USA	41.3	-81.47	Production Facility
Amsterdam, the Netherlands	52.39	4.93	Production Facility

SW2.1

(SW2.1) Please propose any mutually beneficial water-related projects you could collaborate on with specific CDP supply chain members.

SW2.2

(SW2.2) Have any water projects been implemented due to CDP supply chain member engagement?

No

SW3.1

(SW3.1) Provide any available water intensity values for your organization's products or services.

Product name

Lithium

Water intensity value

14

Numerator: Water aspect

Water consumed

Denominator

mt lithium

Comment

The water intensity is calculated per GBU in dividing total water consumption (cubic meter) by primary product weights (ton).

For lithium products the water intensity decreased from 21 (m3/ton) in 2021 to 14 (m3/ton) in 2022, a 33.3% decrease that falls within our threshold for 'much lower'. This was due largely to water savings from the thermal evaporator in La Negra.

Product name

Bromine

Water intensity value

11

Numerator: Water aspect

Water consumed

Denominator

mt bromine produced

Comment

The water intensity is calculated per GBU in dividing total water consumption (cubic meter) by primary product weights (ton).

For Bromine products, the water intensity increased from 10 (m3/ton) to 11 (m3/ton), a 10.0% increase that falls within our threshold of 'higher'. This can be attributed to a product mix shift to more water intensive products from our Jordan facility.

Product name

Catalysts

Water intensity value

28

Numerator: Water aspect

Water consumed

Denominator

mt Catalysts produced

Comment

The water intensity is calculated per GBU in dividing total water consumption (cubic meter) by primary product weights (ton).

For Catalysts products, the water intensity decreased from 29 (m3/ton) in 2021 to 28 (m3/ton) in 2022, a 3.4% increase that falls within our threshold of 'lower'. This was driven by lower production volumes.

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 indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Yes, CDP may share our Main User contact details with the Pacific Institute

Please confirm below

I have read and accept the applicable Terms