



Welcome to your CDP Water Security Questionnaire 2022

W0. Introduction

W0.1

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

Linde plc is a public limited company formed under the laws of Ireland with its principal offices in the United Kingdom. Linde is the largest industrial gas company worldwide and is a major technological innovator in the industrial gases industry. Its primary products in its industrial gases business are atmospheric gases (oxygen, nitrogen, argon, and rare gases) and process gases (carbon dioxide, helium, hydrogen, electronic gases, specialty gases, and acetylene). The company also designs and builds equipment that produces industrial gases and offers customers a wide range of gas production and processing services such as olefin plants, natural gas plants, air separation plants, hydrogen and synthesis gas plants and other types of plants.

Linde plc shares trade on the New York Stock Exchange (“NYSE”) and the Frankfurt Stock Exchange (“FSE”) " under the ticker symbol "LIN". Linde issues an annual report (Form 10-K) according to US GAAP and a Financial Report/Director’s Report according to IFRS, including a non-financial report following European CSR Directives 2014/95/EU and 2013/34/EU.

W-CH0.1a

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

- Bulk inorganic chemicals
- Specialty inorganic chemicals

W0.2

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

	Start date	End date
Reporting year	January 1, 2021	December 31, 2021

W0.3

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

Algeria
Argentina
Aruba
Australia
Austria
Bahrain
Bangladesh
Belgium
Bermuda
Bolivia (Plurinational State of)
Botswana
Brazil
British Virgin Islands
Bulgaria
Canada
Chile
China
Colombia
Congo
Costa Rica
Curaçao
Cyprus
Czechia
Denmark
Dominican Republic
Ecuador
Estonia
Eswatini
Finland
France
Germany
Greece
Guernsey
Hong Kong SAR, China
Hungary
Iceland
India
Indonesia
Ireland
Italy
Japan
Kazakhstan
Kenya
Latvia
Lesotho
Lithuania
Luxembourg

Malawi
Malaysia
Mauritius
Mexico
Mozambique
Namibia
Netherlands
New Zealand
Nigeria
Norway
Oman
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Puerto Rico
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Serbia
Singapore
Slovakia
Solomon Islands
South Africa
Spain
Sri Lanka
Sweden
Switzerland
Taiwan, China
Thailand
Tunisia
Turkey
Uganda
Ukraine
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United Republic of Tanzania
United States of America
Uruguay
Zambia
Zimbabwe

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?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Small Sales Outlets or Workshops: Linde has defined de-minimis values for environmental parameters. If a site falls below those criteria it is not required to report its eKPIs to the group.	<p>Linde runs hundreds of small sales outlets or workshops worldwide with low levels of energy or water consumption, e.g., where water is primarily withdrawn for domestic sanitary use, but not used in any industrial/production process. Linde excludes these sites because their water use is insignificant compared to the amount of water withdrawn by our plants. In addition, many of our smaller sites are leased offices. These sites are not separately metered and we cannot control the type of equipment (for example, use of low flow faucets) used at these sites. This means we do not have financial or operational control over water policies at these sites.</p> <p>Compared to all of Linde operations it is estimated that total water withdrawal of those de-minimis sites is less than 1% of Linde's total water withdrawn.</p>

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	IE00BZ12WP82

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	Important	Neutral	<p>Linde withdrew about 457 million liters of fresh water in 2021, including once-through non-contacting cooling water which is returned to its original source with its original water quality after usage. Primary use of water is for cooling and boiler systems. Sufficient availability of fresh water is important for Linde's production processes. Most of our plants use water for cooling purposes, although there are also plant designs which use air-based cooling procedures. About 68% of Linde's non-brackish water is drawn from fresh surface water sources, the rest from industrial/recycled sources. Having access to clean, high quality fresh water reduces the need for treating the water, which saves energy and reduces waste. Linde chose "important" because although water is necessary for our production processes in most plants, we are able to also use industrial or brackish water for our processes and are therefore not dependent only on fresh water.</p> <p>Supply Chain: We do not consider water to be a significant issue in our supply chain. Most of our raw materials (99% per weight) is coming from renewable sources incl. air or water. For the rest, a small amount of our suppliers use water to make products we purchase, such as concrete to construct new facilities or paper used in offices. These suppliers are not in water-intensive sectors; however, they might experience water risk at certain locations with very high water stress. For that reason we chose "Neutral" instead of "not very important". Linde has contingency strategies (e.g., alternative sourcing of raw materials) to mitigate such a risk.</p>

			<p>Future freshwater dependency in both direct and indirect operations is expected to increase in proportion to increases in production and constructing new facilities. However, water use efficiency measures like increasing the number of cooling cycles in our cooling towers are expected to keep these increases in check.</p>
<p>Sufficient amounts of recycled, brackish and/or produced water available for use</p>	<p>Important</p>	<p>Neutral</p>	<p>Linde used 215 million liters of industrial/recycled water in 2021 and 299 million liters of sea water; this is 53% of the total water withdrawn from all sources (fresh water + non-fresh water sources).</p> <p>The direct use of recycled water is mainly for cooling purposes, and is an important strategic water source based on site location for avoiding the use of freshwater available and helping to increase its availability to local communities. Although water is necessary for Linde's production processes, we chose "important" because Linde is not solely depending on recycled/brackish water, but also able to use fresh water sources or realize cooling over air-based systems.</p> <p>Supply Chain: As an industrial gas company, our raw materials consist largely of air and natural gas as a feedstock. 99% of our raw materials by weight are from renewable sources. Therefore, we do not consider water to be a significant issue in our supply chain. A small amount of our suppliers use water to make products we purchase. Those might experience water risk at certain locations with very high water stress. For that reason we chose "Neutral" instead of "not very important". Linde has contingency strategies (e.g. alternative sourcing of raw materials) in case of any procurement issues including potential water issues.</p> <p>Future industrial water dependency in direct operations is dependent on the amount of this water supplied by customers or available from municipal utilities. Linde plc does not foresee any risks associated with its use of recycled/brackish water. We expect an increase in recycled water use and implementation of technology allowing the reuse and recycling of water in areas of water stress.</p>

			<p>Linde considers future water dependency for indirect operations (suppliers) to remain the same, as most of Linde's input materials (such as air or natural gas) are not dependent on water supply for production and Linde continues to pursue alternative sourcing strategies of raw materials.</p>
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W1.2

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

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	<p>Water withdrawal is a key performance indicator for Linde and is managed as part of the company's sustainable productivity activity to continuously evaluate water use efficiency and areas of improvement. Water withdrawal volumes and discharge are monitored at 100% of the production facilities and reported per our internal standard environmental reporting procedure. Data is collected based on flow meters and invoices, and reported annually in a global database, consolidated, and reviewed by the Global SHEQ team of the company. Data are verified by an external auditor and published once a year in our sustainability report.</p> <p>In addition, as part of Linde 2028 Sustainable Development Targets, facilities that are high water user sites in areas of high water stress plus several sites that set a voluntary target (representing about 5% of Linde total water withdrawal) operate under a Water Management Plan, and must report their water figures more frequently, on a monthly basis.</p>
Water withdrawals – volumes by source	100%	<p>Water withdrawal is a key performance indicator for Linde and is managed as part of the company's sustainable productivity activity to continuously evaluate water use efficiency and areas of improvement. Water withdrawal volumes are monitored at 100% of the production facilities and reported per our internal standard environmental reporting procedure. Data is collected based on flow meters and</p>

		<p>invoices, and reported annually by water source (following latest GRI criteria) in a global database, consolidated, and reviewed by the Global SHEQ team of the company. Data is verified by an external auditor and published once a year in our sustainability report.</p> <p>In addition, as part of Linde 2028 Sustainable Development Targets, facilities that are high water user sites in areas of high water stress (representing about 3% of Linde total water withdrawal) operate under a Water Management Plan, and report their water figures more frequently, on a monthly basis.</p>
Water withdrawals quality	100%	<p>Having access to clean and sufficient fresh water for our plant operation worldwide reduces the need for costly measures in treating the water, which saves energy and reduces water use and wastewater discharge. Water withdrawal quality is measured through water sample analysis at least annually, or as often as needed (e.g., by local regulations) to ensure it meets the minimum requirements and specifications intended for its use, primarily for cooling and boiler systems. Additional testing for specific constituents that pertain to discharge permits are also performed as needed.</p> <p>Moreover, 13% of Linde's total fresh water withdrawal is supplied by a municipal utility that provides quality data at the minimum on an annual basis.</p> <p>As part of the global annual environmental data collection process, Linde also collects water data based on its quality according to the new GRI standard 303 for Water and Effluents, to have an overview of the breakdown between freshwater and others sources.</p>
Water discharges – total volumes	100%	<p>Water discharge is a key performance indicator for Linde, monitored at 100% of the production facilities and reported per our internal standard environmental reporting procedure. Data is collected regularly based on flow meters and invoices, and reported annually in a global</p>

		<p>database, consolidated, and reviewed by the Global SHEQ team of the company. Data are verified by an external auditor and published once a year in our sustainability report.</p> <p>Most water discharge relates to once-through non-contacting cooling water that is returned to its original source with its original water quality after completion of the cooling cycle.</p> <p>In addition, facilities operating under a Water Management Plan must report their water figures on a monthly basis.</p>
Water discharges – volumes by destination	100%	<p>Water discharge is a key performance indicator for Linde, monitored at 100% of the production facilities and reported per our internal standard environmental reporting procedure. Water discharge volumes by destination are measured regularly with flow meters and reported annually in a global database, consolidated, and reviewed by the Global SHEQ team of the company. Data is verified by an external auditor and published once a year in our sustainability report.</p> <p>Internal training is provided once per year to ensure terms and definitions are well understood for a reliable and consistent data collection and reporting worldwide across the facilities.</p>
Water discharges – volumes by treatment method	Not relevant	<p>96% of Linde’s total water discharges is once-through water which is returned unpolluted and without treatment to its original source. 4% of Linde’s water discharge is non-once through water, e.g. waste water or water returned back to another industrial process. From those, only some sites need to treat their water before discharge based on their discharge permits. Differentiating by treatment method is therefore not relevant for Linde and Linde does not track or monitor those volumes.</p> <p>Permit exceedances, if any, are generally tracked at the corporate level.</p> <p>Linde does not expect this to become relevant in</p>

		the future.
Water discharge quality – by standard effluent parameters	76-99	<p>Linde monitors its water discharge quality at 100% of the production facilities. Data are reported in the global reporting system based on its quality following the new GRI 303 standard that focuses on Total Dissolved Solids (TDS) content. Moreover, monitoring requirements are measured and tracked diligently at the site and regional level where specific effluent quality parameters vary depending on the national or regional regulations, including for example Total Suspended Solids (TSS), Total dissolved solids, Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), metals, oil and grease, and temperature. Frequency of monitoring and way of measurement are dictated by regulation and permit conditions (e.g., sending samples monthly to laboratory and receiving analytical report).</p> <p>Overall compliance to the environmental discharge permits per local regulations as well as exceedances are tracked at the corporate level.</p>
Water discharge quality – temperature	76-99	<p>Linde monitors its water discharge temperature at 100% of the production facilities where discharge permits are applicable by local regulations. Monitoring frequency and requirements depend on the specific local requirements. Temperature is measured with thermometers and tracked diligently at the site and regional level where those national or regional regulations apply. Overall compliance to the environmental discharge permits per local regulations as well as exceedances are tracked at the corporate level.</p>
Water consumption – total volume	100%	<p>Water consumption volumes are monitored at 100% of the production facilities and reported per our internal standard environmental reporting procedure. Data is collected based on water withdrawal and discharge through flow meters and invoices, and reported annually in a global database, consolidated, and reviewed by</p>

		<p>the Global SHEQ team of the company. Data are verified by an external auditor and published once a year in our sustainability report.</p> <p>Linde monitors fresh water consumption as well as net water consumption accounting for all non-freshwater sources including third party/recycled and brackish water. Linde constantly works to improve its net water usage through optimization, efficiency projects and innovation.</p>
Water recycled/reused	76-99	<p>Water used in some of Linde's production process is circulated/re-used several times before discharging. This is measured locally by each site where this applies (e.g., sites with cooling towers, number of cycles). The measurement is mostly using flowmeters. Results, for example, from cycle frequency, are tracked and reported monthly to operations.</p>
The provision of fully-functioning, safely managed WASH services to all workers	100%	<p>Linde recognizes the human right to water access and sanitation.</p> <p>In its minimum requirement procedure for Occupational Health and Safety (OHS) for site engineering, Linde ensures access to safe drinking water, sanitation, and hygiene by providing fully functioning WASH services at the workplace, facilities and living accommodations under the company's direct control. These are outlined under the Adequate General Working Conditions Standard to protect employee health including provisions for clean water, toilet and washing facilities, as well as safe and clean eating facilities/area.</p> <p>Linde's global water policy outlines the company's commitment to provide clean and fully functioning wash services to all its employees worldwide. This is assured as part of the company's normal management process at 100% of its sites and offices globally.</p>

W1.2b

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

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	971,600	Much higher	<p>In 2021, Linde's total water withdrawal increased by 17% compared to 2020. Total volume withdrawn include fresh water sources (47%) and non-freshwater (53%) sources such as industrial/recycled water and brackish/seawater typically returned to its original source with no substantial impact on its quality.</p> <p>Total water volume from non-freshwater sources (brackish and industrial/recycled water) increased by 27%, mainly attributed to increased production activities - for example, plant start-ups in China drawing significant amount (108 million m³) of brackish/seawater, in addition to increasing production at sites using third party recycled and industrial water sources.</p> <p>Total water volume from freshwater sources increased by 7% relative to 2020 from increased operational activities and production, especially at sites using surface once-through non contacting cooling water which is returned to its original source with its original water quality.</p> <p>Linde focuses its water management efforts on sites located in water stressed regions. As a consequence, water withdrawal in areas with high or extremely high water stress decreased by 12% compared to 2020.</p> <p>Future trend: While Linde continues efforts to reduce total water withdrawal by improving our water use efficiency onsite, Linde expects total water withdrawal to continue to grow as a result of increased business activity and especially the start up of new sites. However, 96% of that water is once-through water and supposed to be returned to the environment with similar or same water quality as withdrawn. Furthermore, the</p>

			goal is to further increase the portion of industrial and brackish water, and minimize use of fresh water.
Total discharges	891,200	Much higher	<p>96% of Linde's water discharges are from once-through cooling water systems with water returned back to its original source of supply with similar quality as withdrawn. In 2021, Linde's total water discharges increased by 17% compared to 2020. The increase is mainly driven by an increase in brackish/seawater discharges as well as third party recycled water which represent more than 50% of total discharges. These volumes are returned to the source of supply with no substantial impact on its quality as they are used in once-through non-contacting cooling systems. Larger non-fresh water sources come mainly from increased production activities. For example, Linde China new plant start ups drawing significant amount (108 million m3) of brackish/seawater discharged to its source, and another new site using recycled/industrial water.</p> <p>Discharge volume from freshwater sources increased by 7% mostly due to increased production and operational activities at sites using once-through cooling water returned to its original source with its original quality. Discharge volumes of non-fresh water increased by 26%. Water discharge for waste water decreased by 9%, driven by efficiency measures to optimize water recycling at the production facilities where applicable.</p> <p>Future trend: With increasing business activities/new plant start-ups and resulting increase in water withdrawal, water discharges are expected to grow at about the same rate.</p>
Total consumption	80,400	Higher	<p>Total water consumption increased by 9% compared to 2020, or 6,700 megaliters. This is a direct result of both water withdrawal and water discharge increasing by 17%.</p> <p>Linde's sales increased by 13% from 2020 to 2021 and a main reason for this is higher</p>

			<p>production volumes, which also leads to higher use of energy, and water for cooling purposes. Nevertheless a majority of water withdrawn is fed back to the eco-system as once-through water without harming the environment. In 2021, despite the high volume growth, Linde managed to reduce wastewater by 9%. This now represents only 4% of annual water discharge.</p> <p>While water consumption increased overall in 2021, water consumption in areas of high or extremely high water stress decreased by 8% compared to 2020.</p> <p>Future trend: Due to business growth and new plant start-ups water consumption might still grow, however increased water recycling and use of industrial and brackish water returned as once through water will keep consumption increases at a very moderate level.</p>
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W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	1-10	Much lower	WRI Aqueduct	<p>Water withdrawal for sites located in areas of water stress represented 3% of Linde total water withdrawal in 2021. In 2020 this was 4% The decrease in the proportion of water drawn from water-stressed areas compared to total water withdrawal is mainly due to high increase of water withdrawal in 2021 in regions without water stress (additional 100 million m³ of water withdrawal for sites in China using sea water).</p> <p>In addition, Linde worked on</p>



					<p>improving water efficiency for its sites located in water stressed areas, as a result the absolute volume of water withdrawal from areas of water stress dropped by 12% from 2020 to 2021.</p> <p>Water withdrawal from water stress areas is a key performance indicator for Linde plc and is managed as part of the company's sustainable productivity activity to continuously evaluate water use efficiency and areas of improvement.</p> <p>As part of Linde 2028 Sustainable Development Target, we used the WRI Aqueduct Water Risk Atlas mapping tool to assess overall water stress areas in regions where facilities are operating or plan to site new facilities. We determined "areas of water stress" to mean that the baseline water stress was "high" or "extremely high". In addition, businesses are encouraged to voluntarily use local determinants of water risk; sites thus defined are included in this target scope. The water figures for the identified sites in areas of water stress are monitored monthly as part of the Sustainable Development Management System (SDMS), and those sites must provide and report water figures monthly against a Water Management Plan (WMP).</p>
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W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	386,300	Higher	<p>This category is relevant because 40% of Linde's total water withdrawals is sourced from fresh surface water, primarily used for cooling and steam production purposes.</p> <p>Fresh water withdrawal increased by 7% compared to 2020. This is due to higher production volumes and thus higher water used in production/cooling processes.</p> <p>About 93% of fresh surface water withdrawn is returned to its original source with its original water quality after usage.</p>
Brackish surface water/Seawater	Relevant	298,600	Much higher	<p>This category is relevant because 31% of total water withdrawal is from brackish/sea water.</p> <p>A small number of plants use sea water for their cooling purposes making up for the total withdrawal of Linde brackish water supply.</p> <p>Water withdrawal of brackish water increased by 48% compared to 2020. This is considered "much higher," which we define as an increase of more than 10%.</p>

				<p>This is mainly due to the start up of new plants in China consuming high amounts of sea water in the production process (>100 million m3).</p> <p>100% of brackish water withdrawn is returned unpolluted to the sea.</p>
Groundwater – renewable	Relevant	9,200	Lower	<p>This category is relevant because, even though it is a small portion compared to other sources, 1% of total water withdrawal is from groundwater, and it is the best available source of water for the few sites using groundwater. Water is typically withdrawn from well(s) that are naturally replenished from the water table.</p> <p>Withdrawal of ground water reduced by 9% compared to 2020 due to changes in outputs at those sites using groundwater.</p>
Groundwater – non-renewable	Not relevant			<p>This source is not relevant because Linde does not withdraw any water from non-renewable groundwater sources.</p>
Produced/Entrained water	Not relevant			<p>Produced water typically occurs onsite when the water condensate from compressing air at different stages in the process is recovered and reused back in the facility.</p> <p>The amount of water produced depends largely on ambient conditions and is insignificant compared to the</p>

				total water withdrawal, therefore not systematically tracked.
Third party sources	Relevant	277,500	Higher	<p>This source is relevant because 29% of total water withdrawal is from 3rd party sources. A majority of this is recycled/industrial water (78% of third party sources) and a smaller percentage is municipal water (22% of total third party sources).</p> <p>The overall third-party water volumes increased by 7% compared to 2020, which is attributed to the higher withdrawal of industrial/recycled water and municipal water due to higher production volumes.</p>

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	357,600	Higher	<p>This destination is relevant because most fresh surface water withdrawn (93%) is returned to its original surface water source with its original water quality. Water discharge to fresh surface water increased 7% compared to 2020. This is due to higher production volumes in 2021 and thus higher amounts of water needed for cooling purposes and steam production.</p>
Brackish surface water/seawater	Relevant	298,600	Much higher	<p>This destination is relevant because a small number of plants use sea water, which is discharged to the sea with no change in</p>

				<p>quality.</p> <p>Brackish water (sea water) discharge increased by 48% compared to 2020. This is considered “much higher,” which we define as an increase of more than 10%. This is mainly due to the start up of new plants in China consuming high amounts of sea water in the production process (>100 million m3).</p> <p>100% of brackish water withdrawn is returned unpolluted to the sea.</p>
Groundwater	Not relevant			<p>1% of total water withdrawal is from groundwater, which is a small portion compared to the other renewable and non-renewable sources. Water is typically withdrawn from well(s) that are naturally replenished from the water table. Only a minimum portion of Linde's water withdrawal is returned to groundwater (below 1,000 megaliters m³), or about 0.1 %.</p>
Third-party destinations	Relevant	234,900	Higher	<p>This includes water discharged to water sources other than fresh water (e.g., discharge to 3rd party treatment facility or to a destination where water is recycled and reused in industrial processes).</p> <p>In 2021, 85% of water withdrawn from third-party destinations (municipal water and industrial water) was discharged, either to a treatment facility (waste water) or fed back to usage in further industrial processes (once-through industrial water).</p> <p>91% of water withdrawn from industrial water sources (used, recycled water) is returned and</p>

				<p>reused in further processes (once through industrial water).</p> <p>This source is relevant because Linde discharges 26% of water to third party destinations.</p> <p>Water discharges to third party destinations increased by 6% in 2021 driven by higher water withdrawal of industrial/recycled water due to increases in production.</p>
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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	30,793,000,000	971,600	31,693.083573487	Future trend: While our business grows and sales increase, continued efforts are anticipated to reduce total water withdrawal as we focus on improving our water use efficiency onsite, thus we anticipate a decreasing trend in water withdrawal efficiency.

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

Bulk inorganic chemicals

Product name

All products: For reasons of confidentiality of business data, Linde is reporting water intensity for all products under a single row, rather than per product type.

Water intensity value (m3)

7.58

Numerator: water aspect

Total water withdrawals

Denominator

Other, please specify
thousand Nm3

Comparison with previous reporting year

Higher

Please explain

The water intensity value represents the ratio of total water withdrawal against our total production volume sold . Water intensity increased by 7% .

Water withdrawal intensity depends on type of product produced and also type of production process and how water is used in different production and cooling processes. E.g. water intensity is normally higher for once-through systems (where water is running through and returned to the original source, e.g. river or sea) whereas plants with closed-loop systems where the same water is re-used and circled several times have a lower water intensity.

The increase in water intensity in 2021 by 7% can be mainly attributed to increased production and operational activities at sites using once-through water (e.g. due to new plant start-up in China) compared to sites using cooling towers. Use of brackish once-through water increased almost by 50% in 2021 (from about 200 to 300 million cubic meters). The higher portion of sites using once-through water leads to an increase in overall water withdrawal intensity.

Internally, water efficiency metrics are part of the company's sustainable productivity activity. Linde continuously evaluates water use efficiency and areas of improvement to minimize water use in the production process, especially where withdrawals are from freshwater supplies. In 2021, these efforts yielded 2 million m3 in water savings and delivered \$4.8 million savings from water-related projects.

Future trend and strategy: While our business grows and sales increase, we expect water intensity to remain stable, and eventually decrease. Water efficiency is managed within Linde's sustainable productivity target, which directs us to save \$1.3 billion cumulatively, 2018-2028. This is a managed target, with clear accountability, ongoing reporting to management, and an annual process of review and continuous improvement. In 2021, productivity projects resulted in cumulative savings of \$ 499 million. Continued efforts are anticipated in optimization projects across its sites

worldwide to reduce total water withdrawal as we focus on improving our water use efficiency onsite as well as our overall intensity ratio.

W1.4

(W1.4) Do you engage with your value chain on water-related issues?

Yes, our suppliers

W1.4a

(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?

Row 1

% of suppliers by number

1-25

% of total procurement spend

76-100

Rationale for this coverage

Linde suppliers must demonstrate sound environmental management and provide reliable service, including for water, which is essential for many parts of Linde's business. Linde suppliers are required to abide by Linde's terms and conditions in new or renewal contracts and agreements. The terms and conditions include a reference to Linde's Supplier Code of Conduct (SCoC) and require suppliers to comply with the principles outlined in the code.

The SCoC, as part of the standard documentation for all new and renewing contracts, outlines Linde's expectations of suppliers to commit to continuous improvement of environmental protection, have an environmental management system, and support Linde's programs and targets related to climate change, environmental stewardship and sustainability.

Linde currently focuses its environmental engagement efforts with critical and strategic suppliers in procurement categories identified to have the greatest environmental impact. Typically, suppliers engaged cumulatively represent at least 80 % of total procurement spend. By partnering with our most critical and strategic suppliers on environmental and climate impacts, we reduce our own environmental impact, lower risk in our supply chain and mitigate or decrease our overall operating costs. Linde engages with these suppliers in order to collect information about their environmental initiatives and performance, including those related to water use, to promote increased awareness and develop collaborative and mutually beneficial relationships.

How suppliers are incentivized to report: Suppliers are incentivized to report through our supply contracts, which request that they comply with the sustainability requirements in

the Supplier Code of Conduct. Additionally, suppliers regularly include information on sustainability engagement and progress (on targets) in standard or update presentations to Linde, e.g. during periodic reviews, audits, or new bidding processes. Linde normally asks suppliers to highlight any risks affecting their production reliability, including environmental risks (incl. water risks). This information sharing is seen as an integral part of a successful and continued business relationship.

Impact of the engagement and measures of success

Type of information requested: Linde's SCoC requires suppliers to support Linde regarding its environmental targets, including those for water. Linde currently focuses its environmental engagement efforts with critical and strategic suppliers in procurement categories identified to have the greatest environmental impact. Relevant suppliers provide information about environmental management, risks, including for water; and provide data or conduct self-assessments in environmental (and other) performance. Where Linde considers results reported to be unacceptable or critical, suppliers are requested to remedy identified problems within an allotted time period based on a specific corrective action plan.

How the information is used within the company: By partnering with our critical and strategic suppliers on environmental and climate impacts, we reduce our own environmental impact, are able to identify and lower risk in our supply chain, and mitigate or decrease our overall operating costs. Linde engages with its suppliers to collect details about their environmental initiatives and performance, including those related to water use, to promote increased awareness and develop collaborative and mutually beneficial relationships. This collaboration has helped us to maintain our level of production across the value chain.

How success is measured: We set ambitious targets and measure success in terms of target fulfilment in our risk-based supplier audit schedule, which audits suppliers on a planned basis. Success is additionally measured through re-assessments or follow-up audits. Several suppliers have implemented water consumption programs using this resource responsibly and have achieved noticeable results where they have achieved up to 90% reduction in water use, either in their production processes or for other administrative uses.

Comment

W1.4b

(W1.4b) Provide details of any other water-related supplier engagement activity.

Type of engagement

Innovation & collaboration

Details of engagement

Educate suppliers about water stewardship and collaboration

% of suppliers by number

1-25

% of total procurement spend

76-100

Rationale for the coverage of your engagement

Linde currently focuses its environmental engagement efforts with critical and strategic suppliers in procurement categories identified to have the greatest environmental impact. These suppliers represent approximately 80 % of total procurement spend.

By partnering with our most critical and strategic suppliers on environmental and climate impacts, we reduce our own environmental impact, lower risk in our supply chain, and mitigate or decrease our overall operating costs. In conformance with Linde's Supplier Code of Conduct and audit requirements, suppliers provide Linde with information on sustainability initiatives, including projects to optimize water use, which reduces Linde's value chain water footprint. In addition, Linde invests in these supplier relationships by engaging with suppliers to share best practice in water stewardship and collaboration.

Impact of the engagement and measures of success

Linde supports, in cooperation with its suppliers, analyses and action plans that help suppliers improve environmental management and water consumption.

The impact of the engagement is a reduction in supplier water consumption of products sold to Linde, and a reduced water risk for the supplier, as well as for Linde (reducing supply chain risks).

Success is measured from reports on water reduction/ other sustainability initiatives. The level of detail provided by suppliers is increasing. On procurement direct categories, suppliers have engaged in the past years in long term programs with clear targets to minimize their activity impact on water. In some cases, they have achieved up to 90% reductions in water use. Example: As part of its general sustainability program and its supply agreement with Linde, two of our global cylinder manufacturers undertook to reduce the CO2e emitted and water used per cylinder sold to Linde. Based on annual sales to Linde, these combined savings were >500MT CO2e and >300,000 M3 potable water.

Comment

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?

No

W3. Procedures

W-CH3.1

(W-CH3.1) How does your organization identify and classify potential water pollutants associated with its activities in the chemical sector that could have a detrimental impact on water ecosystems or human health?

While Linde's raw materials do not contain significant amounts of chemicals classified as potential water pollutants, and the production processes are generally non-polluting, Linde's management process to identify and classify potential water pollutants is supported by SHEQ teams and in accordance with local regulations where applicable.

Linde is signatory to the Chemical Industry's Responsible Care Global Charter which commits to tracking and avoiding risks to humans and environment from chemical production activities. Linde has established a global RC policy which provides clear directives to all regions/sites on risk assessment and management throughout the complete product life-cycle in order to ensure that no harm is done to nature or society from its end-to-end business processes. 100% of Linde's products undergo a risk assessment, which includes an evaluation of water quality impacts, in order to ensure this requirement.

Linde has operating permits/licenses that limit pollutant levels in wastewater discharges at production sites where it is required based on local governing authorities and water quality programs. Linde applies standard protocols per regulatory framework requirements for identifying, measuring and monitoring pollutants, in order to closely manage our discharge quality and minimize the environmental impact. Many of our sites have discharge permit/licenses with limits and requirements for pH, oil & grease, total dissolved solids, total suspended solids, COD, other water emissions such as nitrates, phosphate, and metal concentration limits in effluents like zinc and copper.

Linde's current level of water emissions from its production processes is minimal. Linde's Responsible Care Global Policy and global water policy (water position statement) and ecosystems policy (position statement on ecosystems) state that the company is committed towards further minimizing detrimental impacts of its operations on humans and ecosystems, including water emissions.

Water-related impacts are mainly focused on production during the operation phase, and have a minor level of impact across Linde's other value chain phases. Linde asks suppliers to assess their environmental risks and closely monitors environmental performance during regular supplier audits, including the suppliers' impacts on water consumption and quality.

W-CH3.1a

(W-CH3.1a) Describe how your organization minimizes adverse impacts of potential water pollutants on water ecosystems or human health. Report up to ten potential pollutants associated with your activities in the chemical sector.

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
chemical oxygen demand (COD)	Direct operations	Chemical Oxygen Demand is an important water quality parameter because it provides an index to assess the effect discharged wastewater will have on the receiving environment, e.g. a high COD concentration can lead to algal growth and reduction of oxygen in receiving waters. Several of Linde's plants operate under wastewater discharge permits issued by a government body that require us to monitor and manage COD levels.	Compliance with effluent quality standards Other, please specify Monitoring of KPI trends at corporate level	More than 75% of Linde's freshwater withdrawal is once-through cooling water that is returned to the water sources (either directly or through a municipal utility) at similar quality than it was withdrawn. Water emissions are measured, monitored and tracked diligently per local requirement at the site and regional level. Specific effluent quality parameters vary depending on national and local regulations. Parameters include for example Total Suspended Solids (TSS), Total dissolved solids, Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), phosphate, metals, etc.. Overall compliance to the environmental discharge permits per local regulations as well as exceedances are tracked at the corporate level. Data on chemical oxygen demand is collected annually at corporate level, externally verified by auditor, and reported according to GRI SRSs.



			<p>How the procedures selected manage the risks of the potential impacts: By closely monitoring and tracking compliance with water emissions at the local level, it is ensured that local effluent quality standards are met and water emissions do not exceed allowable thresholds, meaning adverse impacts to the environment are avoided.</p> <p>Furthermore, at the corporate level COD water emissions as well as water emission intensity trends are closely analysed and reasons for variations or increases are identified, and corrective actions discussed with the sites.</p> <p>How success is measured and evaluated: Success is measured by monitoring at the corporate level compliance with local standards (tracking if there were any issues of non-compliance and how many sites were concerned). Linde maintains an incident management system to track potential non-compliances with permits and exceedances. Where incidents are found actions and improvements are investigated. Linde also reviews permit compliance through local and global audits. Permits and monitoring results are reviewed at audits and any</p>
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				<p>actions, improvements or best practices are followed through.</p> <p>In 2020, Linde had no incidents related to water quality.</p>
Other water emissions like nitrates, phosphates or BOD	Direct operations	Water quality parameters provide an index to assess the effect discharged wastewater will have on the receiving environment, e.g. a high BOD can lead to algal growth and reduction of oxygen in receiving waters. Keeping BOD low means minimal impact to receiving waters. Several of Linde's plants operate under wastewater discharge permits issued by a government body that require to monitor and report on specific water emission levels. Those are different per site/location.	Compliance with effluent quality standards	<p>Overall, the amount of other water emissions for the whole Linde group are insignificant, therefore Linde does not collect those figures globally during its annual environmental key performance indicator reporting process.</p> <p>Water emissions are measured, monitored and tracked diligently at the site and regional level where specific effluent quality parameters vary depending on the national or local regulations. They include for example Total Suspended Solids (TSS), Total dissolved solids, Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), phosphate, metals, etc.</p> <p>Overall compliance to the environmental discharge permits per local regulations as well as exceedances are tracked at the corporate level.</p> <p>How the procedures selected manage the risks of the potential impacts: By closely monitoring and tracking water emissions at the local level, it is ensured</p>

			<p>that local effluent quality standards are met and water emissions do not exceed allowable thresholds. For example, maintaining low COD and BOD reduces the risk of reducing dissolved oxygen in the receiving waters. This means that flora and fauna have sufficient oxygen which helps maintain a healthy ecosystem.</p> <p>How success is measured and evaluated: Success is measured by monitoring at the corporate level compliance with local standards (tracking if there were any issues of non-compliance and how many sites were concerned). Linde maintains an incident management system to track potential non-compliances with permits and exceedances. Where incidents are found actions and improvements are investigated. Linde also reviews permit compliance through local and global audits. Permits and monitoring results are reviewed at audits and Linde determines and follows through on the appropriate corrective and preventive actions.</p>
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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
Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an established enterprise risk management framework

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
Enterprise risk management
Other

Tools and methods used

WRI Aqueduct
Enterprise Risk Management
Internal company methods
External consultants
Scenario analysis
Other, please specify
Water Management Plan (tool to assess current water status, water risks and mitigation actions)

Contextual issues considered

Water availability 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
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Customers
Employees

Investors
Local communities
Regulators
Suppliers
Water utilities at a local level

Comment

The Linde risk management (RM) department is a global function independent of the business lines and is responsible for devising a standardised Linde-wide RM process, and for risk reporting. Linde's RM system and procedure covers all regions, business units and sites and includes not only the economic, financial and regulatory environment, but also social and ecological aspects, including water risks. All employees are thereby asked to report risks related to the different stages of the value chain (Linde's own operations, supplier- or customer-related risks) into a standard risk management tool.

The RM process and system allows for reporting of short-, medium- or long-term risks for all 3 stages of the value chain, thus the horizon for risk reporting for all steps of the value chain is greater than 6 years.

The executives in the business units evaluate risks in terms of potential impact of the risk on Linde and the estimated probability of occurrence. For severity, the operating units use a standard scale which has four different risk ratings depending on the financial impact, ranging from low risk to very high risk (=substantive risk). Substantive risks are presented to top management on a regular basis, and to the Board. The risk owner is thereby also asked to propose mitigation actions. In case of substantive risks the Board reviews risks and proposed mitigation actions at each Board meeting and decides if those are appropriate.

In addition, Linde uses the WRI Aqueduct Water Risk Atlas to assess current and future water risk for each site and monthly subscription services to monitor regulatory developments related to water availability and quality. Furthermore, Linde's Water Management plans (WMPs) program is rolled out to all high water use sites that are in areas of water stress. This includes procedures for water risk assessment and tracking. Linde also consults with external consultants and insurance providers at least annually who use tools to assess risks related to company assets. The risk and opportunities identification process is complemented by scenario analysis which is used to explore and develop an understanding of how the transition and physical risks of climate change – including those related to droughts and other water-related events - may impact Linde's businesses, strategies, and financial performance. This analysis considers official climate-change scenarios and projections like those of the IEA or IPCC.

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.

Each quarter, Linde employees worldwide report risks related to the different stages of the value chain (Linde's own operations, supplier- or customer-related risks) into a standard risk

management (RM) tool. The tool classifies the risks by plant/site and helps to manage, evaluate and track the risk entries (e.g. analyzes by relevance, by country, etc.). The RM process and system allows for reporting of short-, medium- or long-term risks for all 3 stages of the value chain. The executives in the business units categorize each risk in terms of the potential impact of the risk on Linde and the estimated probability of occurrence. For severity, a standard scale is used which has four different risk ratings depending on the financial impact, ranging from low to very high risk (=substantive risk). Risk owners are also asked to propose mitigation actions which are tracked in the tool.

Linde further uses the WRI Aqueduct Water Risk Atlas to assess current and future water risk for all Linde sites and monthly subscription services to monitor regulatory developments related to water availability and quality. Linde's Water Management plans (WMPs) program, rolled out to all high water use sites that are in areas of water stress, includes procedures for water risk assessment and tracking. Linde also consults with external consultants and insurance providers at least annually who use specific tools to assess risks related to company assets. The RM process is complemented by scenario analysis (based on official RCP scenarios) which is used to develop an understanding of how the physical risks of climate change – including those related to water availability, such as drought – may impact Linde's businesses, strategies, and financial performance.

Linde always considers investor interests and inputs for its risk assessment. There is a growing interest from investors relating to ESG topics, including water issues. Linde receives regular enquiries from investors regarding sustainability topics, including topics around climate, energy or water.

Customers are an important stakeholder group for Linde. Linde meets with its customers prior to and during plant construction to evaluate water sourcing and treatment solutions. This is further reviewed at regular intervals once the plant is operating.

Employees are an integral part to the RM process, as all employees are asked to contribute to efficiency improvements and risk minimization. Regional teams driving efficiency projects are supported by water experts at Linde and participate in the water-related risk assessment which also includes up- and downstream risks.

Also, for risk assessment in all stages of the value chain Linde considers current and future regulatory developments in regions where it operates and in areas considered for siting new facilities. Method of engagement may include meetings with regulators and participating in the legislative process by providing comments on proposed rules.

Linde's standard quarterly risk assessment process always includes supplier risk and perspectives. Linde evaluates water risk for some of its strategic suppliers via audits and helps them to establish actions plans and monitor those on a regular basis. Linde also engages with water treatment suppliers who service our sites to optimize and reduce water usage.

Risks relating to (local) water utilities and affecting water supply may influence Linde's ability to operate its plants, as water is essential to Linde's production process. We engage with utilities as part of the planning process when building new plants, and also during operation, to stay on top of current issues

Local communities are critical to our license to operate and our reputation as a responsible corporate citizen. Active engagement is site specific and may include participating in public meetings, meeting with community representatives, and providing educational materials about Linde's activities and water strategies.

The contextual issues listed under W3.3a represent relevant aspects for Linde, as they are either essential for operating the plant (water or raw material availability, regulatory circumstances) as well as avoiding any harm to people (e.g. no wash services) or the environment (negative impact on ecosystems). Involving stakeholder perspectives is the basis for successful business partnerships and success. Each of these issues are included in the risk assessment because of their potential to create a significant risk.

The outcome of the risk assessment is presented periodically to management and annually to the Executive Leadership Team and the Board, incl. specific mitigation actions. Information collected about potential water risks and stakeholder concerns are used in regional or site-specific decision making, e.g. relating to method of water sourcing or type of water supply. Substantive risks are reviewed by the Board and considered for strategic decision making, e.g. siting of a new plant.

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?

No

W4.1a

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

When evaluating the potential impact of risks and the expected probability of their occurrence, Linde uses a standard scale devised by the corporate risk management department. This scale has four different risk ratings ranging from low risk to very high risk. Each risk is assigned a risk rating on this standard scale based on its potential impact and probability.

Risks with the highest potential impact (severity) rating are classified as significant (substantive) risks. Those substantive risks, together with their probability of occurrence, are presented in detail to top management on a regular basis.

When analyzing the impact of the risk, Linde considers not only the impact on the financial results of operations, but also the impact on non-monetary aspects such as safety, environment, reputation and strategy.

Monetary aspect/quantifiable indicator: In Linde's risk rating, a substantive financial impact is given when a risk has a potential negative financial impact on company results of more than \$30 million.

Non-monetary aspects: Risks which could cause considerable harm to people or the environment (e.g., loss of life) are considered substantive, regardless of their monetary impact.

The definition of substantive impact applies to direct operations only, as suppliers are “neutral” in terms of importance of water quality and quantity and are not expected to present substantive financial impact.

Opportunities are also considered to have a strategic impact for non-monetary reasons such as entering new markets, defending market position, or introducing new technologies, etc.

W4.2b

(W4.2b) Why does your organization not consider itself exposed to water risks in its 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>Linde reports all substantial financial risks and other factors that could significantly impact the company in its annual report (10K). This includes among others physical risks from extreme weather events such as hurricanes and flooding, which are considered climate-related risks. In 2021, during Linde’s annual risk assessment process, no direct water-related risks were reported which meet the definition of a substantive financial impact and pose a risk at the corporate level, neither currently nor in the short to mid-term. Risks from water scarcity are currently considered to be low and do not meet the financial threshold of a substantive risk. No such risks were reported in the past by our subsidiaries. Currently, only 3% of water withdrawal are from regions with high water stress.</p> <p>Water is an essential input into Linde’s operations. For example, water is used for cooling processes in Linde’s ASU operations or for hydrogen production. Therefore, water availability remains a key component of Linde’s periodic risk assessment.</p> <p>Linde does acknowledge that water has become a global concern, on par with climate change. While water has not been identified as a risk in Linde’s annual report (10k), water-related issues such as availability and exposure are part of two priority factors in our sustainable development materiality assessment to address the importance of this critical resource to operations.</p>

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	Linde does not currently consider the company to be exposed to substantive water risks in our value chain. More than 99% of raw materials

	<p>impact anticipated</p>	<p>required for Linde’s production process is not dependent on water. For the remaining raw materials, risks which were reported in previous years during the annual risk assessment process with regards to water issues in the supply chain so far have not met the threshold of a substantive financial risk (only minor or no financial impact on business operations reported), currently and for the short and mid-term. In addition, such risks are very local or asset-related and don’t cause any issue at the corporate level. In the long-term future, there might be cases where single suppliers could face water availability issues in areas of high water stress, but it is difficult to predict at which locations this will actually occur. However, Linde has effective contingency strategies to mitigate such potential supply chain risks (e.g. over alternative sourcing). Furthermore, the company engages with its suppliers in energy and water efficiency initiatives and programs, to help minimize the detrimental impact of its own as well as supplier operations on the environment as well as reduce water risk. Example: As part of its general sustainability program and its supply agreement with Linde, two of our global cylinder manufacturers undertook to reduce the CO2e emitted and water used per cylinder sold to Linde. Based on annual sales to Linde, these combined savings were >500MT CO2e and >300,000 M3 potable water.</p>
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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

Markets

Primary water-related opportunity

Expansion into new markets

Company-specific description & strategy to realize opportunity

The (long-term) impacts of climate change as well as changes in precipitation extremes are leading to water shortages, especially in mega-cities where there are population pressures. This in turn leads to stricter regulation of water quality, e.g. in emerging economies such as China. Moreover, increased water stress as a result of climate change is supposed to lead to shortage of drinking water in regions or countries that didn't experience such issues in the past. This presents a market opportunity for Linde to increase revenue in such countries as we develop and deliver customized systems to

help industrial plants and municipalities meet their wastewater management goals and provide clean drinking water.

We work directly with our customers to provide beginning-to-end treatment methods, from needs assessment and treatment strategy to equipment design, installation and industrial supply. We offer a wide range of applications that treat and reuse process water, all while maximizing treatment capacity, reducing VOC emissions, improving safety and reducing costs.

Linde's water technology offerings are supported by a business development group, which is actively investing in innovation and business development.

Case study: Increased urbanization and urban populations growth have exerted significant pressure on urban water demand and expansion of urban water infrastructure. Investments are needed to modernize water infrastructure in many urban areas and municipalities around the world. Enabled by Linde, Tseung Kwan O desalination plant is the first plant to use reverse osmosis to produce potable water from seawater in Hong Kong. It has an initial capacity of 135,000 m³/d day (MLD), equivalent to approximately 5% of Hong Kong's total potable water demand.

Water applications are an important area within Linde's eco and social product portfolio (products which bring environmental or social advantages to customers). Linde defined a target that Linde's sustainability portfolio should annually exceed 50% of sales revenues, 2018-2028. In 2021, Linde achieved 55%.

By setting a target for our sustainability portfolio, Linde is showing its commitment to serve (new) markets that will see increased stress on water quality and availability.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

4,500,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

The potential financial implications can be calculated from the size of the market and the size of Linde's opportunity. The major factors driving the industrial wastewater treatment market include depleting freshwater resources and stringent regulations pertaining to emission and treatment of industrial waste. According to the new market research report, "Industrial Wastewater Treatment Market by Type (Coagulants, Flocculants, Biocides & Disinfectants), End-Use Industry (Power Generation, Mining, Chemical) and Region (APAC, Europe, North America, MEA, South America) - Global Forecast to 2024", published by MarketsandMarkets™, the Industrial Wastewater Treatment Market is expected to grow from USD 11.3 billion in 2019 to USD 15.0 billion by 2024, at a CAGR of 5.8%. Wastewater treatment is an important end market for Linde and represented a market opportunity of about \$78 million in 2021. Assuming a CAGR of 5.8% this equates to about \$4.5 million in growth per year ($\$78 \text{ million} \times 5.8\% = \$4,524,000$, which we rounded to \$4.5 million).

Although this revenue is moderate compared to Linde total annual revenues, water applications are regarded as a strategic and growing business field for Linde.

Type of opportunity

Products and services

Primary water-related opportunity

Sales of new products/services

Company-specific description & strategy to realize opportunity

The effects of climate change are increasingly visible on the environment, society and the global economy. Linde expects that in the future demand for products that offer social and environmental benefits will grow, including solutions for water quality and access to drinking water.

Linde's innovation group is continuously improving the existing product portfolio and finding new and efficient solutions which help our customers to become more productive and help sustain our planet. Linde works directly with its customers to provide beginning-to-end water treatment methods, from needs assessment and treatment strategy to equipment design, installation and industrial supply. We offer a wide range of applications that treat and reuse process water, all while maximizing treatment capacity, reducing VOC emissions, improving safety and reducing costs.

Case study: Many regions in North Africa, the Middle East, Australia, the United States and Mexico are already dependent on the desalination of seawater. Worldwide, there are about 12,000 large water desalination plants. To enrich this water with minerals such as calcium and magnesium, its pH value must first be adjusted using a complex acidification process. In 2021, Linde Gas US signed an agreement to supply carbon dioxide to the Massachusetts Water Resources Authority (MWRA) in Boston, MA. In this project, CO₂ is used to reduce the pH, as part of the drinking water treatment process. Compared to other acids used in drinking water treatment, CO₂ is safer, more sustainable, and often less expensive.

To add the correct dosage of CO₂ to the water, Linde engineers have developed the SOLVOCARB system. SOLVOCARB is e.g. in use at the Sydney Desalination Drinking Water Plant. This uses CO₂ produced in industrial processes in order to make the blue gold usable. Up to 6,000 tons of this gas flow into the plant yearly. With the help of the CO₂, up to 250 million liters of water can be produced daily – which corresponds to approximately 15 percent of Sydney's water needs.

Linde has a 2028 target that its sustainability portfolio - applications that bring customers sustainability benefits - should annually exceed 50% of annual revenue (excluding Linde Engineering). In the area of water Linde offers solutions for municipal water treatment, application in textiles and pulp and paper, aquaculture and water desalination. In 2021, Linde realized 55% of revenues or \$ 15.2 billion with its sustainability portfolio.

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)

139,500,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

The potential financial implications can be calculated based on an assumption of Linde's top line growth and the target that the sustainability portfolio contributes to 50% of the revenue. 50% of \$ 27.9 billion (Linde revenue excluding Linde Engineering) = \$ 13.95 billion. If Linde's top line grows 1% per year then this equates to about \$139.5 million of growth in revenue per year from Linde's sustainability portfolio .(1% of \$13.95 billion = 139.5 million).

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>Description of water-related performance standards for direct operations</p> <p>Description of water-related standards for procurement</p> <p>Reference to international standards and widely-recognized water initiatives</p> <p>Company water targets and goals</p> <p>Commitment to align with public policy initiatives, such as the SDGs</p> <p>Commitments beyond regulatory compliance</p> <p>Commitment to water-related innovation</p> <p>Commitment to stakeholder awareness and education</p> <p>Commitment to water stewardship and/or collective action</p> <p>Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace</p> <p>Commitment to safely managed Water, Sanitation and Hygiene</p>	<p>Water availability is essential to the operations of Linde's plants and responsible water management is an important element of Linde's sustainability strategy and long-term targets. Linde recognizes the importance of water-related issues to the business and its operations and manages them under its company-wide water policy (Water Position Statement), which is published on the company's web site and complements the Global Health, Safety and Environmental (HSE) Policy, Linde's Responsible Care Policy and its Sustainable Development (SD) plan.</p> <p>Link: https://www.linde.com/sustainable-development/policies-and-position-statements</p> <p>The water policy forms the basis for Linde's internal operating procedures related to water management which are described in Linde's water management plan standard. This internal policy provides clear directives and standards to all sites related to water management and risk assessment.</p> <p>The water policy integrates Linde's contribution towards SDG 6 Clean Water and Sanitation and SDG 12 Responsible Production and Consumption through our product portfolio, as well as our water-related actions. Linde also issues indexes that show alignment with GRI, TCFD and SASB.</p> <p>The water policy commits Linde to setting goals and targets. A corporate water target has been established to develop water management plans (WMPs) for sites in areas of high water stress as defined by the WRI Aqueduct Water Risk Atlas mapping tool. The WMPs address site-specific water-related issues to quantity, quality and availability, including water reduction and reuse initiatives, and proactive monitoring of water use efficiency to optimize usage onsite.</p> <p>Beyond regulatory compliance, the policy acknowledges the human right to water access and sanitation, by</p>

	<p>(WASH) in local communities</p> <p>Acknowledgement of the human right to water and sanitation</p> <p>Recognition of environmental linkages, for example, due to climate change</p>	<p>committing to provide fully functioning WASH services at the workplace, facilities and living accommodations under the company direct control. We participate in multi-stakeholder initiatives and community engagement projects, for example to provide clean drinking water and sanitation programs to schools and communities through collaboration with non-profit organizations.</p> <p>Linde continues to develop innovative applications and technologies that can offer customers solutions to increase the quality of drinking water, treat wastewater and protect water ecosystems. These offerings created shared value and enabled more than 225 million people to have access to safe drinking water in 2021.</p>
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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	Please explain
Board Chair	<p>The full Board of Directors, under the Chair's leadership, has responsibility for water-related issues.</p> <p>How the individual's responsibility is related to water: The Board, under the chair's leadership, is responsible for making decisions on important matters related to environment (including water) and climate change, based upon recommendations from the Board's Sustainability Committee. The Board is furthermore informed by the Sustainability Committee on a regular basis about relevant issues related to strategies, policies, risks and opportunities as well as environmental and climate change performance, including performance towards Linde's sustainability targets. The Board also is responsible for reviewing safety and environmental risk, including water risk, at each Board meeting. In addition, the Board has established a strategic business objective to maintain best-in-class performance in environmental responsibility including water performance. Annual payout of executive variable compensation partly depends on performance in this area, which includes achievement of Linde's sustainable development targets.</p> <p>Water-related decision: In 2021, the Linde Board decided to add a dedicated Sustainability Committee on the board. Established in November 2021, this</p>

	Committee assists the Board with its oversight of environmental programs, policies, practices and strategies including water conservation and management.
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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>Overseeing major capital expenditures</p> <p>Providing employee incentives</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>Reviewing and guiding corporate responsibility strategy</p> <p>Reviewing innovation/R&D priorities</p> <p>Setting performance objectives</p>	<p>Sustainable development is overseen by the Board and executive leadership and integrated throughout the company.</p> <p>The Linde Board maintains oversight of the company’s values and strategy. Each year, it conducts a comprehensive long-term strategic review of the company’s outlook and business plans and provides advice and counsel to management regarding the company’s strategic issues.</p> <p>Its Audit Committee reviews the guidelines and policies by which Linde undertakes enterprise risk assessment and risk management.</p> <p>The Board has responsibility to review environmental risk at each meeting, including risks from climate change or water-related risks, these may among others include water issues such as the impacts of extreme weather, flooding and hurricanes. Issues related to climate change incl. water-related impacts are a topic at almost each Board meeting.</p> <p>In January 2020, the Linde Board approved Linde’s 10-year SD Targets, and the targets were announced in February 2020, including a target for water stewardship.</p> <p>In early 2022, the Vice President Sustainability briefed the Board on progress towards the company’s 2028 sustainable development targets, incl. performance against the water target.</p> <p>Performance against those targets will be reviewed</p>

		<p>at least annually by the full Board of Directors.</p> <p>In addition, the Board reviews safety and risk matters at each meeting, these may include climate change issues such as the impacts of extreme weather as well as water-related risks.</p> <p>To reinforce a culture where pay is directly linked to performance and to recognize the contributions of individuals to overall Company results, an individual performance component is included in the annual variable compensation design. The Human Capital Committee of the Board will consider various qualitative factors, including driving the Company's key values (incl. sustainable development, safety, health & environment, diversity & inclusion, community engagement, and integrity & compliance) and competencies that are important to the success of the Company (see details of those values in the April 2022 Proxy). Sustainable development includes climate change and other environmental issues like water.</p> <p>In October 2021 the Linde Board decided to added a dedicated Sustainability Committee, which was established in November 2021.</p> <p>The Sustainability Committee assists the Board with its oversight of the Company's programs, policies, practices and strategies related to environmental matters generally, including: sustainable productivity, water conservation and management, energy consumption, product stewardship and zero waste sites.</p> <p>While water by itself is not considered a material risk, water-related issues are integral to Linde operations and are therefore considered in the risk assessment and for strategy decisions (e.g. where to site new plants, type of plant design, etc.).</p>
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W6.2d

(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
Row 1	Yes	<p>In order to assess whether Board members have competency on environmental issues, including issues related to water, the following criteria were used:</p> <ul style="list-style-type: none"> - Current and prior professional experiences of Board members - Participation in trade associations or other councils or committees dealing with environmental issues - Membership in Sustainability or Environmental Board Committees <p>Several Linde Board members have competency and experience in environmental (including water) and climate-related issues, primarily from serving for many years in councils and committees dealing with such matters.</p> <p>Example: Edward G. Galante: Mr. Galante's competence in environmental issues is grounded on his many years of experience serving as a member of Environmental and Sustainability Board Committees. He is a director of Celanese Corporation, where he is a member of the Environmental, Health, Safety, Quality and Public Policy Committee. He is also a director of Clean Harbors, Inc., where he is Chairman of the Environmental, Safety and Health Committee. He is also a director of Marathon Petroleum Corporation, where he is a member of the Sustainability Committee. He was a member of the Board of Directors of Andeavor Corporation (formerly Tesoro Corporation), where he served on the Environmental, Health and Safety Committee until the company merged into Marathon Petroleum in October 2018.</p>

W6.3

(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)

Other C-Suite Officer, please specify
Executive Vice President Clean Energy

Responsibility

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

Linde's EVP Clean Energy is a member of Linde's Executive Team, reporting to the CEO. He is globally responsible for Technology, Business Development and Digitalization, as well as the global Sustainability function.

Within the Clean Energy function market developments, trends and risks are assessed, including related to water, e.g. trends in water usage and the resulting demand for water solutions and applications. The Director Water Technology is part of the Technology function and responsible for assessing, reviewing and developing (new) water applications and solutions.

The VP Sustainability, equivalent to the Chief Sustainability Officer, reports into the EVP Clean Energy. and is responsible to review performance of Linde's environmental targets incl. its water target. The VP Sustainability regularly reports to the Sustainability Board Committee, at least quarterly, incl. on performance against environmental targets. Responsibility for performance lies with the businesses.

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

Other C-Suite Officer, please specify

Executive Vice President and Chief Human Resources Officer (CHRO)

Responsibility

Other, please specify

Assessing water-related risks and managing environmental compliance

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

Linde's CHRO is the highest executive officer responsible for environmental issues and compliance. He has global responsibility for HR, Marketing, Talent Management and SHEQ. Environmental compliance, safety and risk (for people and the environment incl. water) are managed under the Vice President SHEQ, reporting to the CHRO.

The SHEQ department is responsible for the global SHEQ management system and the development of global methodologies, policies and standards, and the monitoring of compliance with those. The SHEQ department further tracks at least annually the water stress status of Linde sites as part of its eKPI (environmental KPI) collection process.

The Board reviews environmental and safety risks at each meeting, incl. risks from climate change or water-related risks. These may include issues such as the impacts of extreme weather, flooding and hurricanes. Issues related to climate change incl. water-related impacts are a topic at almost every Board meeting.

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	The Board has confirmed the importance of setting nonfinancial objectives as part of variable compensation to reinforce leadership's focus on maintaining a culture that supports both short- and long-term sustainable results. It has established non-financial goals with respect to elements such as safety, environmental responsibility, global compliance, productivity and talent management. These measures are described in Linde's April 2022 proxy. Annual pay-out of executive variable compensation depends on performance in several strategic non-financial areas, including best-in-class performance in safety, environmental responsibility (including water-related issues such as meeting the water targets), global compliance, productivity (incl. water productivity) and talent management. Selected key strategic and non-financial outcomes were included in variable compensation to recognize that these are also critical to measuring our businesses' health and the potential for future success.

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	Please explain
Monetary reward	Corporate executive team Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO) Chief Purchasing Officer (CPO) Chief Risk Officer (CRO) Chief Sustainability Officer (CSO) Other, please specify	Reduction of water withdrawals Improvements in efficiency - direct operations Other, please specify Achievement of SD Water Target in relation to water management	The Board has confirmed the importance of setting nonfinancial objectives as part of variable compensation to reinforce leadership's focus on maintaining a culture that supports both short- and long-term sustainable results. It has established non-financial goals with respect to elements such as safety, compliance, sustainability and inclusion. These measures are described in Linde's April 2022 proxy statement. Annual pay-out of executive variable compensation depends on performance in several strategic non-financial areas, as noted.

	<p>all employees eligible for Variable Compensation are entitled to this incentive</p>		<p>(NB: Sustainability aspects include meeting Linde’s targets, which includes the water target.)</p> <p>After the end of the year, management presented to the Human Capital Committee the degree of achievement in meeting each goal, and for each element, provided its view of the relative degree of importance to long term success.</p> <p>Based on the results, the Human Capital Committee determined that the Company’s performance with respect to the strategic and non-financial goals was favorable and set the Corporate strategic and non-financial payout factor at 140% of target variable compensation (relative to a 200% maximum). The Human Capital Committee noted the following as examples of actions that support the Company’s strategic objectives in determining 2021 variable compensation payouts:</p> <ul style="list-style-type: none"> - reduced 500 million gallons of water in operations through sustainable productivity initiatives. - CDP Water Security Response <p>Reduction of water withdrawal and improvements in efficiency are part of Linde’s sustainable productivity (SD) activity, and also part of the SD 2028 water target to develop water management plans (WMPs) at sites in areas of high water stress. The WMPs include awareness raising activities, local stakeholders engagement as well as establishing specific procedures (behavior changes) like tracking water figures and water risk monitoring.</p>
<p>Non-monetary reward</p>	<p>Corporate executive team Chief Executive Officer (CEO) Chief Financial Officer (CFO)</p>	<p>Implementation of water-related community project</p>	<p>Non-monetary rewards include non-financial awards or recognition to C-suite employees or other employees.</p> <p>Linde has an active employee community engagement program. Each year projects are submitted for recognition in their</p>

	<p>Chief Operating Officer (COO)</p> <p>Chief Purchasing Officer (CPO)</p> <p>Chief Risk Officer (CRO)</p> <p>Chief Sustainability Officer (CSO)</p> <p>Other, please specify</p> <p>All employees - Recognition of employee community engagement in water-related projects</p>	<p>geographic segments, and then globally. Projects selected are then recognized and financial awards are granted to the benefitting communities or organizations. These are celebrated in Linde's annual Community Engagement brochure, which is published online.</p> <p>For example, one of our projects recognized helped support a local community with water sanitation in India. During the execution of a new project at a local hospital customer, APAC's Bangalore team reached out to community stakeholders and learned of a problem with water sanitation at a nearby school. With the procurement and engineering expertise of the Bangalore team, help from three other nearby Linde sites, and assistance from our construction contractors, it was a problem that could be solved. The team improved the water system by installing new purifiers and piping to optimize efficiency, and the team created a means for water collection for local gardens. The project also included lessons on hand hygiene and water conservation for schoolchildren. The team is proud of the potential health impacts for more than 100 children who study at the school.</p>
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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?

No

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)

☞ Linde includes risk factors about catastrophic weather events, such as flooding and drought, in its annual report (Form 10-K in Item 1A Risk Factors - page 10). This risk is related to water stress factors, such as availability. This also includes how Linde responds to such risks.

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	11-15	<p>Linde evaluates the effects of water-related issues as operational risks in the regions in which it operates and those in which new sites are planned, particularly in emerging markets. Water issues considered in Linde's long-term business objectives: water availability and quality are key elements integrated in the company's long-term strategy and growth objectives. For example, for every new plant, facility site studies are performed including physical and environmental parameters, such as water availability and potential water risk to plant operation. The scope covers typical production plant lifetime of minimum 15 – 20 years.</p> <p>In addition, Linde's 2028 long-term water target was developed to implement best water management practices and drive water efficiency improvements, particularly addressing the potential risk of water scarcity which would impact Linde's growth objectives. By 2028, 100% of our production sites located in areas of highest water stress will have established and implemented a water management plan to adapt to potential and future water shortages.</p> <p>Additionally, as part of Linde productivity activity and portfolio, with support from our regional and global operations excellence teams, processes are in place to optimize water use efficiency and drive reduction opportunities at production sites across various regions. In 2021, these efforts yielded 2 million m³ in water savings and delivered \$4 million savings from water-related projects.</p>
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	<p>Water issues considered in Linde's long-term strategy: Water availability and quality were identified as key elements integrated in the company's long-term business strategy and growth objectives.</p>

			<p>Example on how Linde's future strategy has been influenced by a water-related issue:</p> <p>Every new plant investment is influenced by water-related issues. Each project undergoes a study on physical and environmental parameters, such as water availability and potential water risk to plant operation. The scope covers typical production plant lifetime of minimum 15 – 20 years. Design decisions are among others dependent on water availability and/or discharge, or recycle opportunities.</p> <p>Linde uses the CDP scenario toolkit to determine and evaluate long-term physical risks from climate change, including risks from rising sea levels or water scarcity. Those risks are taken into account when assessing (strategic) investments and are the basis to define mitigation actions/adaptation plans (such as specific investments in R&D).</p> <p>In addition, Linde analyzed water availability for next 20 years using WRI Aqueduct Water Risk Atlas, which showed that by 2040, under a more pessimistic scenario, an additional 20% of Linde's sites will see an increase in their baseline water stress level to high or extremely high. This is taken into account in Linde's long term strategic planning and to achieve its long-term objectives.</p>
Financial planning	Yes, water-related issues are integrated	11-15	<p>Linde evaluates the effects of water risks in the regions in which it operates and in the regions in which it plans to build new sites.</p> <p>Water issues are relevant in several ways for Linde's financial planning.</p> <p>The availability of water is one of many factors taken into consideration when determining where to site new plants or for selecting the appropriate plant design.</p> <p>Linde financial planning (including R&D expenses, capital expenditures and OPEX) is impacted by the type of new plants coming on-stream, where those are sited, and the specific plant designs. Water availability and quality are key aspects to consider for a new plant design and are therefore impacting the amount of CAPEX spent as well as operating cost factors.</p>

			<p>Linde sites are built to last for 15-20 years or longer and elements such as water availability are projected for the life of the plant. Expected future cost of water or measures to mitigate water risk are factored into the financial long-term project plan. For example, a site in North America was planned for an area with little available water. The plant was designed to run on closed-system glycol rather than on electricity and water which also impacts the financial business plan of the project.</p>
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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

CAPEX due to water included voluntary projects for permanent process efficiency improvements to primary process equipment and control equipment. Based on 2021 projects, increases in expenditures due to such projects and other efforts resulted in approximately 2 million m³ savings of water and are reported in Linde's SD productivity efforts.

OPEX for cost of procured water as part of utilities cost: Water consumption increased from 2020, mainly due to new plant startups and an increase in business/output in 2021. This was partly compensated by continuous productivity improvements resulting in water savings. In Linde's 2020 SD report, we reported an example from South Latin America, where the business has achieved an overall water reduction for the past few years, totalling more than 2,125,834 cubic meters of water saved.

Linde does not disclose more information regarding the trend of water-related CAPEX and OPEX or make additional projections, due to its confidentiality.

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	<p>Linde used scenario analysis as part of its climate risk assessment to analyze potential long-term physical risks from climate change. Linde evaluated several public scenarios and selected the RCP 2.6 and RCP 4.5 scenarios as a basis for its risk assessment. RCP 2.6 is aligned with Linde’s aspiration to contribute to limit global warming to below 2 degrees, whereas the RCP 4.5 is the more conservative scenario.</p> <p>Linde’s scenario analysis showed that Linde might be exposed to several acute and chronic physical climate change risks in the long term, resulting e.g. from an increase in mean temperature, higher CO2 concentration in the air, or higher water stress. This could lead to higher operating cost, and in the worst case loss of revenue due to reduced production capacity. For example, by 2040, 20% additional sites could see an increase in their baseline water stress to high or extremely high, for example at plants at the China Coast.</p>

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 Climate-related	<p>Linde wanted to analyze the potential risks in case global warming cannot be limited below 2 degrees, and the impact on its business and company assets.</p> <p>For its scenario analysis Linde therefore applied the general assumptions of the RCP 4.5, including a temperature increase of</p>	<p>Linde’s scenario analysis shows that there are potential long-term threats from catastrophic events or the increase in mean temperature, causing among others higher water stress in regions where Linde operates.</p> <p>Furthermore, Linde’s analysis of future water stress using the WRI Aqueduct tool showed</p>	<p>Management was informed about the outcome of the scenario and risk analysis. As a result, mitigation strategies were defined to address the particular outcomes/risks for specific assets and regional areas. Linde’s adaptation plan covers Linde’s industrial gases business representing 100% of the company’s production</p>

		<p>2.5-3 degrees, a PPM concentration of 500 by 2050, sea level increase by ~0.3 m by 2050, an increase in climate-related physical impacts (e.g. drought), as well as an increase in extreme weather events.</p> <p>The time horizon was until 2050. This covers the lifetime of Linde's production plants which usually have a contractual run time of 15-20 years.</p> <p>In addition, Linde carried out a specific analysis of future water stress development until 2040, using the WRI Aqueduct Water Risk Atlas (using pessimistic scenario), in order to determine on a site level, if Linde plants could be subject to high or very high water stress in the long-term. The analysis was focusing on Linde gas production plants which represent over 80% of Linde's global revenues and are dependent on water for their production process. Linde used the WRI Aqueduct Water Risk Atlas tool to map the production sites based on their GPS coordinates and identify the ones with water-stress related risks.</p>	<p>that in a pessimistic scenario by 2040, 20% additional Linde sites could see an increase in their baseline water stress to high or extremely high, for example plants at the China Coast.</p> <p>On the other hand, increased levels of water stress could represent a business opportunity for Linde, in existing and new geographic markets, as Linde helps authorities and communities to cope with water issues such as waste water management and offers applications and solutions to produce sufficient amounts of drinking water, e.g. with its SOLVOCARB application.</p>	<p>assets. It includes contingency plans for immediate reaction, required plant upgrades due to changing physical conditions for the mid-term (e.g., 5-10 years), and long-term (10+ years) activities, e.g., related to R&D and innovation (e.g., new water solutions, applied for new plants).</p> <p>Linde's water target is managed as part of the company's sustainable productivity activity to continuously evaluate water use efficiency and identify areas of improvement in order to optimize water use and consumption.</p> <p>While water has not been identified as a risk in our annual report (Form 10-K), we include water-related issues in our risk assessment and strategic decision making, and recognize the importance of this critical and vital resource to our operations. The current and future availability of water is essential for Linde's production processes and therefore considered in (strategic) business decisions, e.g. where to site new plants or for plant design specifications.</p>
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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

Responsible water management is an essential element of Linde's sustainability strategy. As such, the company manages water-related issues in a risk-based and stress assessment context, to implement best management measures at sites in areas of high water stress. Linde water target ensures continuous efforts to optimize water use efficiency and identify areas of improvement to reduce water use. We are currently exploring the Water Risk Monetizer tool to assess the true cost of water, which assesses water availability and quality risks, and puts them into financial terms to support better informed decisions and prioritization of water-related investment projects. The outcome is to integrate valuation practices in our strategic planning exercise by utilizing risk-adjusted costs and mitigate future impacts from water scarcity.

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	Please explain
Row 1	Yes	<p>There are 2 ways to classify a product as a low-water impact product.</p> <p>1) Low water impact of a product/service during production: A product that has no or only minor impact on a water resource during production (no or little water consumption / pollution).</p> <p>In 2021, only 4% of Linde's water discharge was waste water, the rest was once-through water which was withdrawn and fed back into the original water source without changes to water quality, thus no impact on the</p>	<p>1) In order to produce Linde's main products, atmospheric gases (e.g. oxygen) different plant designs can be used. Some designs foresee the usage of water for cooling purposes, others are e.g. using air-cooled closed loop cooling systems and operate without using water (thus no water impact). This means that products could have a different impact on water withdrawal/use, depending on the way they are produced. If a Linde product is produced with a production process with no or little water impact (e.g. air cooling systems or once through systems) it can be classified as a low-</p>

		<p>water source and ecosystem.</p> <p>2) Products that help minimize impacts on water: Products for water treatment can help purify water or treat water in a way that it doesn't cause any harm to the environment when discharged. Also, products that help in the recycling and re-use process of water can be considered low water impact, as they help to reduce water consumption.</p>	<p>water impact product.</p> <p>The majority of Linde's products are produced using production processes with low water impact (mostly once-through water systems), some with moderate water impact (cooling towers).</p> <p>2) Linde offers a wide range of applications that treat and reuse process water, all while maximizing treatment capacity, reducing VOC emissions, improving safety and reducing costs.</p>
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W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	<p>Company-wide targets and goals</p> <p>Site/facility specific targets and/or goals</p> <p>Country level targets and/or goals</p>	<p>Targets are monitored at the corporate level</p> <p>Goals are monitored at the corporate level</p>	<p>Responsible management of water is an essential element of Linde's sustainability strategy and long-term goals and targets which are embedded into the business and its direct operations.</p> <p>Water is a key element to many of Linde's production processes, and responsible and effective management of water is therefore important for operations liability. Water-related issues such as availability and exposure were identified to be part of two priority factors in Linde's sustainable development materiality assessment .</p> <p>Linde therefore deemed it important to define targets for water stewardship and water productivity (as embedded in Linde's overall productivity target).</p> <p>Approach to setting and monitoring global targets and/or goals: Linde's corporate SD targets were developed based on a materiality assessment, considering internal and external stakeholder views and expectations, including stakeholders'</p>

		<p>interest that look for non-financial information as well as contribute to ESG frameworks and collective actions on water-related policy agendas such as UN SDG, in particular SDG 6 Clean Water and Sanitation and SDG 12 Responsible Production and Consumption.</p> <p>In response to local water issues and security with respect to quantity, quality, and availability, Linde’s company-wide SD water target is focused on implementing water management plans (WMPs) at sites in highly water stressed locations and optimizing freshwater usage to minimize risk exposure now and in the future. This applies globally and is based on a risk scenario analysis under different climate scenarios and projections over the next 20 years. Linde’s engagement activities include monitoring water data, implementing efficiency and productivity improvement projects to conserve water and minimize impacts on freshwater use.</p> <p>Each country and/or local production site are also encouraged to adopt specific sub-targets where applicable. As such, 9 sites (1 in Thailand, 8 in Brazil) have voluntarily adopted the water management target and scope based on local assessment of water-related risks exposure. Additionally, Linde’s South Latin America has set a specific-regional target to continuously improve their site-specific water intensity performance YoY. 2021 results yielded more than 400,000 m³ of water savings compared to previous year (9.2% reduction). Nearly 50% of these sites in scope have improved their intensity compared to the baseline year.</p> <p>Efforts towards meeting the water target and implementing water conservation measures also contribute to Linde’s 2028 sustainable productivity target. Focusing on these initiatives to improve water efficiency contributed to 2 million m³ of water savings and \$4.8 million savings).</p> <p>Linde’s community engagement target also includes activities/initiatives at the site level such as engagement with local stakeholders or NGOs to provide clean water and sanitation to communities (e.g., to schools) and to clean up local waterways.</p>
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W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number

Target 1

Category of target

Monitoring of water use

Level

Company-wide

Primary motivation

Water stewardship

Description of target

Linde's 2028 water target is to implement water management plans (WMPs) at 100% of its high water use sites located in areas of high water stress. The water stress and risk assessment were carried out using the WRI Aqueduct Water Risk Atlas mapping tool and supported by local determinants of water risks and stress levels. The scope focuses on sites with greater than 50,000 m³ per year of water withdrawn for its operations (excl. once-through non-contacting cooling water) identified in areas of high and extremely high baseline water stress. By 2028, 100% of those sites are targeted to implement a WMP addressing site-specific risks to water quantity, quality and availability, as well as adaptation measures towards water conservation and reduction initiatives supported by continuous tracking of water KPIs and improved water efficiency. Additionally, an annual review pertaining to changes in water regulations, permitting, and current and future pricing structures is performed.

Quantitative metric

Other, please specify

of sites with water management plans

Baseline year

2018

Start year

2018

Target year

2028

% of target achieved

36

Please explain

In 2021, 36% of the sites within the scope of the target initiated the development of their WMP. These are driven by each operating segment and country business units and rolled out to be monitored at the corporate level with potential replication opportunities identified where possible.

Linde focused on improving the water data reporting systems, and definition in place,

increasing reporting frequency from annually to monthly, investigating, identifying and sharing opportunities for improving water efficiency across its operations. Additionally, the sites have engaged with the water treatment suppliers to optimize water use and explore alternate water sourcing initiatives to reduce freshwater use.

Target reference number

Target 2

Category of target

Water withdrawals

Level

Company-wide

Primary motivation

Cost savings

Description of target

Sustainable productivity projects are initiatives resulting in savings in emissions, waste, water, etc. plus financial savings. Linde has a target to deliver \$1.3 billion cost savings from productivity initiatives by 2028 that are in line with business strategic objectives. These include efficiency projects and other measures resulting in reductions in water withdrawal and consumption.

Linde has processes and specific initiatives in place to drive water use reduction opportunities at the production sites, and optimize water use efficiency, resulting in a reduction of absolute water withdrawal at those sites (water savings). In 2021, these efforts resulted in financial savings of \$187 million from productivity increases, along with 2 million m³ in water savings through water-related projects and initiatives and other savings of resources.

Quantitative metric

Other, please specify

Cost savings from productivity projects (including water projects)

Baseline year

2018

Start year

2018

Target year

2028

% of target achieved

38

Please explain

Linde measures the achievement of this target based on the financial/cost savings achieved. Cumulatively, from 2018 to 2021, Linde achieved \$497 million in productivity savings, along with a reduction of energy and water usage (incl. 2 million m³ reduction in water withdrawal). The cumulative cost savings achieved represent 38% of the target value of \$ 1.3 billion in cumulative cost savings.

W8.1b

(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.

Goal

Providing access to safely managed Water, Sanitation and Hygiene (WASH) in local communities

Level

Company-wide

Motivation

Climate change adaptation and mitigation strategies

Description of goal

This goal is qualitative (without a tracked, time-specific, quantitative target). The goal is to provide access to clean drinking water to people and communities through Linde's products and applications.

Why the goal is important to Linde:

It supports our mission statement of "making our world more productive" and shows actions related to water - to enable safe drinking water to be provided to millions of people in countries where we operate. It indicates how Linde's products help contribute to access to drinking water, as well as to water security, reducing other water-related risks, and/or achieving other water commitments. This goal helps contribute to the UN SDGs.

How the company is implementing the goal:

Linde offers various products and applications for water treatment methods, in order to produce clean drinking water. One example is Linde's SOLVOCARB application. Linde provides an overview of all water products on its company web site and has a dedicated sales team that seeks to match these products with customers' needs.

Indicators used to assess the progress:

Linde annually measures how many people are benefitting from safe drinking water through Linde's applications, solutions and products. The indicator used to assess the status of the goal is the amount of people having access to safe drinking water via Linde's technologies and water product portfolio. There is no quantitative target on

specific amount of people to be reached or rate of increase over time.

Baseline year

2021

Start year

2021

End year

2022

Progress

Linde’s mission of making our world more productive includes providing products that offer environmental benefits, including safe drinking water to customers and communities, therefore contributing to water security. This goal was achieved: Linde enabled more than 225 million people to have access to safe drinking water (an increase compared to 2020) through our environmental technologies and our gases portfolio.

As this is an annual goal, for this goal the baseline year and the starting year is always the reporting year and the end year is always set as the year after the reporting year.

W9. Verification

W9.1

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

Yes

W9.1a

(W9.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1 Current state	Water withdrawal from municipal supplies, fresh surface water sources, fresh groundwater, once-through cooling water returned to fresh water sources, net fresh water consumption.	Other, please specify ISO 14064-3	Verification protocols specific to water do not exist (like they do for GHGs). Linde's audit also included verification of certain GHG data. The auditors used the same principles in ISO 14064-3 to audit all environmental KPIs. For a copy of the verification statement, see https://www.linde.com/sustainable-development/reporting-center



W10. 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.

W10.1

(W10.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Executive Vice President Clean Energy	Other C-Suite Officer