Orbia Advance Corporation - Climate Change 2021

C0. Introduction

C0.1

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

Orbia is a community of companies bound together by a shared purpose: to advance life around the world. Orbia's business groups have a collective focus on ensuring food security, reducing water scarcity, reinventing the future of cities and homes, connecting communities to data and information services, and expanding access to health and well-being through providing advanced materials, specialty products and innovative, human-centered solutions. Orbia's business groups span the Precision Agriculture, Building and Infrastructure (B&I), Fluorinated Solutions, Polymer Solutions and Data Communication verticals. Products and services cover the following businesses: Polymer Solutions, a PVC resins producer, caustic soda and phosphates, plastic industrial compounds; Fluorinated Solutions, suppliers of fluorine-based compounds, technologies and services; B&I, focused on providing solutions for water management, heating, cooling, and other infrastructure solutions; Data Communication, a leading manufacturer and distributor of conduits for fiber optics and gas pipes; and Netafim, leader in precision irrigation solutions. The company has commercial activities in more than 100 countries and operations in over 50, with global headquarters in Mexico City, Boston, Amsterdam and Tel Aviv and a team of over 21,000 dedicated employees working worldwide.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2020	December 31 2020	Yes	1 year

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Argentina
Australia
Belgium
Brazil
Canada
Chile
China
Colombia
Costa Rica
Czechia
Denmark
Ecuador
Finland
France
Germany
Guatemala
Hungary
India
Ireland
Israel
Italy
Japan
Lithuania
Mexico
Netherlands
Norway
Oman
Panama
Peru
Poland
Russian Federation
South Africa
Spain
Sweden
Turkey
United Kingdom of Great Britain and Northern Ireland
United States of America
Venezuela (Bolivarian Republic of)

C0.4

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

USD

C0.5

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

Operational control

C-CH0.7

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

Row 1

Bulk organic chemicals

Polymers

Bulk inorganic chemicals

Chlorine and Sodium hydroxide

Other chemicals

Other, please specify (PVC resins, Fluorine-based compounds and phosphates)

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Board-level committee	The Board´s Corporate Practices and Sustainability Committee has oversight on our overall Sustainability strategy, including climate issues: - Every Quarter, our VP of Sustainability and VP of Health, Safety and Environment & Engineering report progress on targets to this committee, including our climate change goals - The Board provides guidance on strategy, for instance they have overseen Orbia's commitment to set Science Based Targets and achieve net zero carbon emissions by 2050 - The Board was also informed about the results of our TCFD-aligned assessment. In addition, Orbia's Critical Risk Committee (CRC), reports to the Audit Committee, and is responsible for identifying and assessing enterprise risks, evaluating the appropriate risk profile for the enterprise, developing risk mitigation plans. and overseeing their implementation. These risks include environmental (and climate) risks.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding risk management policies Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	The Board is regularly updated with all major risks and opportunities related to social and environmental aspects, including climate change.

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify (Vice President, Sustainability)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other C-Suite Officer, please specify (Vice President, Health, Safety and Environment & Engineering)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

The VP of Health, Safety & Environment and Engineering reports to the CEO; the VP of Sustainability reports to this role, and is also part of the Executive Leadership Team (at the same level as the CFO and other key functional roles), influencing our business strategy. All aspects of sustainability, including climate-related, are reported to the VP of Sustainability by the business groups Sustainability leaders. Both roles report progress to the Board on a quarterly basis.

The VP and the Corporate Sustainability team work directly with the Business Group Presidents to identify climate risks and opportunities and embed climate considerations into decision-making and business strategy. Much of this work is based on the TCFD-aligned risk analysis carried out in 2019, as well as our Science Based Targets setting process, and our risk assessments and Sustainability Goals. All Business Groups have a Sustainability team that implements environmental strategies and reports performance on climate-related issues monthly through our reporting platform.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	We have incorporated an ESG modifier to senior management compensation that can impact 10% of the annual bonus (positively or negatively). The targets include making progress on our environmental and social ImpactMark metrics. 2 out of those are directly related to climate issues: 1. Reduce Greenhouse Gas emissions 2. Reduce waste sent to landfill

C1.3a

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

Entitled to incentive	Type of incentive	Activity inventivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	The following objectives are part of the yearly bonus ESG modifier: 1. Reduce Greenhouse Gas emissions 2. Reduce waste sent to landfill
Corporate executive team	Monetary reward	Emissions reduction target	The following objectives are part of the yearly bonus ESG modifier: 1. Reduce Greenhouse Gas emissions 2. Reduce waste sent to landfill
Other, please specify (All Senior Managers across Orbia)	Monetary reward	Emissions reduction target	The following objectives are part of the yearly bonus ESG modifier: 1. Reduce Greenhouse Gas emissions 2. Reduce waste sent to landfill

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	1	1	Anything that has an impact within one year
Medium-term	1	4	Depending on the issue, it can vary from 1-4 years
Long-term	5		5 years and above with no time limit

C2.1b

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

As part of our business processes, we continually identify climate and/or water related risks, including physical, transitional, regulatory, and other risks. The Orbia risk management teams quantify the potential financial impact and timeframe of each risk.

Risks with higher financial impact are prioritized for mitigating action.

A risk with a substantive (high) financial impact on a global Orbia corporate level is one where the potential financial impact was identified as greater than 50 Million USD . However- a risk can be considered substantive for a specific Orbia business group or site with a lower potential financial impact as well. Also- the risk impact can be considered substantive/strategic on a global Orbia level even with a lower potential impact, pending on significant potential influence in terms of safety, environmental or other forms of compliance, business continuity or reputation.

The following are the risk threshold categories as defined by Orbia. The threshold category names have been adjusted to match those used in the CDP reporting requirements.
1. High: $50MM or greater USD
2. Medium-high : $37.5MM USD – $50MM USD
3. Medium : $22.5MM - $37.5MM USD
4. Low-medium: $7.5MM - $22.5MM USD
5. Low: Less than $7.5MM USD

C2.2

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

Value chain stage(s) covered
Direct operations
Upstream
Downstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
Every three years or more

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Climate-related risks were first identified through a specific climate-related risk management process carried out in line with the 2019 TCFD recommendations. 2020 onward, our revamped Enterprise Risk Management process integrates climate-related risks alongside other enterprise risks. We identify physical and transition risks as part of this process and quantify their potential financial impact along with their time horizon. Those risks with higher financial impact and likelihood are prioritized for action.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Current regulation is included in Orbia's climate-related risk assessments. Compliance to existing regulations in all the geographies where we participate or conduct comercial activities is a requirement for all our businesses. Orbia has considered an evolving environment of climate-related regulations and carbon pricing at international, national and local level that could lead to increased input/operating costs for high carbon activities. Threats to securing licenses to operate for high carbon activities are being evaluated for both current and potential upcoming regulations. For example, the Tamaulipas State in Mexico has adopted a carbon tax effective from January 2021. Direct impact for our operations in Mexico is around 12 USD/ton CO2e . This tax is in addition to the carbon exchange market from the Federal Government that started its pilot process in 2020 for large emitters. The German Fuel Emissions Trading Act has introduced a carbon pricing system for fossil fuels in the heating and transportation sectors, which currently are not covered by the European greenhouse gas emissions trading system (ETS). This has an impact on 1.5% of our Scope 1 emissions from our Vestolit site in Germany.
Emerging regulation	Relevant, always included	Emerging regulation is included in Orbia's climate-related risk assessments. Orbia identified a risk of financial loss due to business disruption if our operations failed to prepare for emerging regulations. Orbia has considered an evolving patchwork of climate-related requirements and carbon pricing at international, national and state level that could lead to increased input/operating costs for high carbon activities. Threats to securing licenses to operate for high carbon activities are being evaluated for both current a potential upcoming regulations. For example, tightening regulations related to fugitive emissions and other environmental regulations may result in further investment requirements within our fluorinated solutions Business Group, leading to increased CAPEX and OPEX. The European Green Deal, which overarching aim is making Europe climate neutral in 2050, will have an impact on our European operations. Also, we keep monitoring the evolution of potential regulatory bills as a result of the US returning to the Paris Agreement and President Biden's announcement of a carbon tax of around 51 USD/ton of CO2. According to projections estimated by the IEA for developed economies (IEA WEO, 2019), a carbon price would have a value of 100 USD/ton CO2e by 2030. This would affect our operations in advanced economies. Orbia is aware that several Mexican States such as Coahuila, Nuevo Leon and Jalisco have started discussing regulation to impose a tax on carbon emissions at their local congress. We are monitoring how these regulations evolve and the potential financial impact on our operations in Mexico. Also, in areas of water stress that could be impacted by more frequent droughts, our operations could be impacted by tougher regulations or limits on water supply, resulting in operational interruptions or closures and therefore, revenue loss. 35% of our operations are in areas of water stress.
Technology	Relevant, always included	We evaluate technology from a risk perspective, across our global business. Not investing in low-carbon technologies could lead to financial impact , like increased costs derived from future carbon pricing schemes and regulations, potentially reduced market share linked to failure to adapt to changing customer behaviour and investors being less interested in Orbia due to climate change concerns not being addressed effectively. Orbia is therefore defining a plan to transition to low-carbon technologies, including identifying alternatives to replace coal-based technologies and increasing our use of renewables. Some examples include: phasing out a coal boiler, increasing our renewable electricity consumption investing in tri-generation, and energy efficiency projects. Orbia is also constantly looking for climate-friendly technologies through Orbia Ventures, supporting promising startups via funding or partnerships. Details of recent innovation efforts can be found here: https://www.orbia.com/ventures/portfolio/
Legal	Not relevant, included	Regulation and legal risks are always included in Orbia's climate-related risk assessment. Orbia has never had climate-related litigation claims and there is no foreseeable risk about it. As there are no forseeable warning signs of company-specific risk from our assessment, legal risks from climate change are not considered relevant at the moment, however, we understand this might change in the future; therefore, Orbia keeps monitoring trends on this topic.
Market	Relevant, always included	As part of our TCFD- aligned assessment, we evaluate market transition risks in our business, supply chain, and customer geographies. These include changes in markets driven by policy and technology: Reduced market demand for higher carbon products/commodities, increased demand for energy-efficient, lower carbon products and services, disruption of markets by new low-carbon technologies. For example, HFC R-134a is manufactured from hydrogen fluoride (HF) at our Koura plant in St. Gabriel (US) and also in Mihara (Japan). This gas is used as a refrigerant in food preservation, air conditioning, foaming, propellants, and other uses. Fugitive emissions from this gas from AC systems and refrigerators are minimal. Fugitive emissions of this gas, specifically from AC systems and refrigerators during their operation are low. These types of equipment have low-medium refrigerant charge capacity, long lifetime (from 8-12 and 10-15 years respectively) and low annual leakage/loss rates (15% and 10% respectively) compared to parallel equipment designed to utilize other refrigerants. However, once in the atmosphere, R-134a possesses a high Global Warming Potential and so do contribute to global warming. [1]. Under the Kigali Amendment to the Montreal Protocol, developed countries have begun to reduce their use of HFCs already, while developing countries will begin in either 2024 or 2028. The agreement is designed to reduce HFC use by 85% between now and 2047 and reduce the emissions of high-GWP (global warming potential) HFCs by more than 70 billion tons of carbon dioxide equivalent through 2050 [2]. In this context, demand for HFC-related products is expected to be impacted in the coming years due to the implementation of regulations to phase out HFCs. For instance, a new bill in the US titled the American Innovation and Manufacturing (AIM) Act will implement a gradual phase-down of high-GWP products though mechanisms similar to that already employed by the European Union f-gas regulation and pave the way for implementation and adoption of new low-GWP products including fluorinated materials such as HFO and HFO/HFC blends. [1] http://www.essentialchemicalindustry.org/chemicals/hydrogen-fluoride.html [2] https://www.achrnews.com/articles/133992-the-kigali-hfc-amendment-and-its-potential-worldwide-impact
Reputation	Relevant, always included	As part of our TCFD-aligned assessment, we evaluate global and business unit reputation risks stemming from growing expectations for low carbon, climate resiliency action from stakeholders, including investors, lenders, host governments and customers. This also includes evaluating implications for company reputation and overall confidence in management, social license to operate, and access to capital. Orbia has demonstrated being a transparent company by increasing data disclosed. Scores on some key ESG Indices has been improving, with a good impact on reputation. Since 2019, Orbia is a member of the DJSI MILA Pacific Alliance Index. In 2020, our total score increased by 11%, reflecting a commitment to continuously improve our ESG performance in all aspects of our business. Our CDP Score has been improving from D to B (2020), we have been awarded a Silver Medal in Ecovadis (2021), and we continously work on actions to improve our ratings and stakeholders perception. Additionally, we are responding to the rising interest of investors and stakeholders in climate related issues, and have a dedicated section to Climate Transparency on our website: (https://www.orbia.com/sustainability/climate/), where our TCFD-aligned disclosures are also provided. Our transparency efforts are positively impacting tendering processes for some of our Business Groups.
Acute physical	Relevant, always included	As part of our comprehensive TCFD-aligned risk evaluation, we always assess physical risk to our global operations from existing and climate change-impacted stress for: - Cyclones - Extreme temperatures (hot and cold) - Flooding – including pluvial, fluvial, groundwater and coastal - Landslides (precipitation induced) - Wildfires Some Orbia plants are located in areas at risk of impacts from extreme weather events such as cyclones and flooding. This input informs our global and business unit risk mitigation strategies which are aligned with our overall business planning and risk management processes. For instance, one of our plants in Colombia was impacted a few years ago due to flood. Since then, the site has conducted adaptations to reinforce the site and improved its emergency response plan for flooding which includes an action for the shutdown of operations prior to inundation of crucial assets on site. This type of risks are constantly reviewed and measures are taken to be prepared for future events and ensure minimum impact to the operations and continued production.
Chronic physical	Relevant, always included	As part of our comprehensive TCFD-aligned risk evaluation, we always assess physical risk to our global operations from existing and climate change-impacted stress for: -Extreme temperatures (hot and cold) -Water stress and drought -Human health impacts Some Orbia plants are located in areas at risk of impacts from extreme weather events such as extreme temperatures and water stress. This input informs our global and business unit risk mitigation strategies which are aligned with our overall business planning and risk management processes. For instance, one of our sites in Mexico is in a high water stress area; shortage of process water could result in disruption to manufacturing processes on site. Consequently, this could lead to revenue loss on a short-term scale. Longer term scale events could have a more significant impact on water supply. The site is already discussing plans to guarantee water supply and use this resource more efficiently to ensure continued production and avoid disruptions in the value chain.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

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

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
2 out of 12 of our high priority evaluated sites have a medium risk of potential cyclones and floods, in their location /regions. This means the sites could be partially inundated, resulting in disruption to site operations. Higher intensity events have the potential to result in equipment and infrastructure damage, resulting in temporary shutdown of the site. Roads and other supply line infrastructure can be disrupted or closed, impacting the supply of goods to the site. None of the evaluated sites possess a high physical risk.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
20650000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Value calculated is the average of impact on revenue (2020) in case of flood or cyclones affecting our 12 higher risk sites evaluated for this risk. The risk of significant and harmful floods/cyclones materializing is considered to have a medium impact for only 2 of these sites (low for the others).

Cost of response to risk
19500000

Description of response and explanation of cost calculation
We have invested in making our Cartagena site resilient to potential floods, representing a cost of around 6,000,000 USD in 2011. We used this case to extrapolate the costs and estimate the potential impacts of risks identified in our climate risk assessment (for the 2 medium risk sites). Increase in prices and inflation were considered. We are working with our business units globally to inform our risk mitigation strategies, in alignment with our overall business planning and risk management processes. We expect our external disclosure on risks and their associated costs will further develop as we complete the process.

Comment

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Other, please specify (Increased water stress and drought)

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
1 out of 12 of our high priority evaluated sites has a medium risk due to increased water stress. A shortage of process water could result in disruption to the manufacturing processes on site. Consequently, this could lead to loss of revenue on a short-term scale. Longer term scale events could have a more significant impact on water supply. There could be a lack of available firewater supply which could make the site unable to prevent wider on-site impacts from a fire.

Time horizon
Short-term

Likelihood
More likely than not

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
2430000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure
Value calculated is the average of impact on revenue in case of water stress affecting our 12 higher risk sites evaluated, although only 1 site has a medium risk of this materializing.

Cost of response to risk
110000

Description of response and explanation of cost calculation
The calculation covers the estimated cost of buying additional water to supplement our operations at our 1 medium risk site over one year. Based on historical water shortages, we estimate a requirement of at least 1145 m3 of water per day at a cost of 0.26 USD/m3. This is a short-term cost impact and does not consider potential complications associated with the sourcing and availability of supplementary water sources, or related community concerns. In order to come up with a sustainable and longer-term mitigation measure, we continue to engage and work with our business units globally to inform our risk mitigation strategies. This will be aligned with our comprehensive physical and transition climate risk study aligned with the Taskforce on Climate-related Financial Disclosures (TCFD) framework with baseline (2019) risks and as projected through 2030. Our external disclosure on risks and their associated costs will evolve as we complete the process and we will be integrating them into our overall business planning and risk management processes.

Comment

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Current regulation	Mandates on and regulation of existing products and services

Primary potential financial impact
Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
HFC R-134a is manufactured from hydrogen fluoride (HF) at our Koura sites in St. Gabriel (US) and in Mihara (Japan). This gas is used as a refrigerant in food preservation, air conditioning, foaming, propellants, and other uses. Fugitive emissions from this gas from AC systems and refrigerators are minimal. Fugitive emissions of this gas, specifically from AC systems and refrigerators during their operation are low given that this type of equipment has low-medium refrigerant charge capacity, long lifetime (from 8-12 and 10-15 years respectively) and low annual leakage/loss rates (15% and 10% respectively) compared to other equipment. However, once in the atmosphere, R-134a possesses a high Global Warming Potential (GWP) and therefore, do contribute to global warming. Under the Kigali Amendment to the Montreal Protocol, developed countries have begun to reduce their use of HFCs already, while developing countries will begin in either 2024 or 2028. The agreement is designed to reduce HFC use by 85% between now and 2047 and reduce the emissions of high-GWP HFCs by more than 70 billion tons of carbon dioxide equivalent through 2050. In this context, demand for HFC-related products is expected to be impacted in coming years due to the implementation of regulations to phase out HFCs. For instance, a new bill in the US titled the American Innovation and Manufacturing (AIM) Act will implement a gradual phase-down of high-GWP products through mechanisms similar to those already employed by the European Union F-gas regulation and pave the way for implementation and adoption of new low-GWP products, including fluorinated materials such as HFO and HFO/HFC blends.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
7000000

Potential financial impact figure – maximum (currency)
20000000

Explanation of financial impact figure
The value represents the potential decrease of HFC sales, as a result of these regulations. The total annual refrigerant sales for Orbia's Koura business group have been 698 Million USD. The exact financial impact is uncertain at this time and is dependent on the scope and timeframe of HFC phase-out regulations. For example, a possible drop of 1%-3% in Koura's total sales (due to lower HFC demand) would have the potential financial impact range mentioned above (approx. 7-20 Million USD). This impact could change with the development of the above-mentioned regulations. In any case, Koura is actively acting to mitigate this risk and prevent these potential reduced sales, by making designated significant investments on next generation refrigerants. See details below.

Cost of response to risk
20000000

Description of response and explanation of cost calculation
There are a number of investments our Koura business group is making to develop low-carbon and next generation refrigerants to replace HFCs, as well as phasing out high GWP products. The example cost above is attributed to the estimated cost of setting up a new facility in the UK to develop low GWP leapfrog refrigerants. The estimated range of this investment is 15-25 Million USD, we have used the average value in the field above.

Comment

Identifier
Risk 4

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact
Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Some Mexican States are implementing a mandatory carbon tax that will have a direct impact on our operational costs in Mexico. Specific cases such as the states of Tamaulipas and Jalisco, in which we have operations, are expected to be implementing this type of tax on emissions. Orbia has 4 sites in Tamaulipas and 1 site in Jalisco that will be affected by this regulation.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
650000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
On initial proposals, the cost per ton of CO2e is approximately 12 USD. Final guidelines for calculations are yet to be defined and officially published. The financial figure above is thus an estimation and it can vary depending on the inclusion of direct and/or indirect emissions in the new tax regulation. The impact covers the 4 Tamaulipas sites only.

Cost of response to risk
11600

Description of response and explanation of cost calculation
The Figure above represents legal services expenses related to compliance with the carbon tax and it's mechnisms.

Comment

C2.4

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

C2.4a

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

Identifier
Opp1

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Development of climate adaptation, resilience and insurance risk solutions

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
Our Wavin brand has been investing in further strenghtening our Stormwater Management and Indoor Climate Solutions portfolio. Our Stormwater management solutions help cities be more climate resilient and reduce the costs and damage from increased flooding, in particular in Europe. They also contribute to relieving heat stress and help

alleviate groundwater depletion with infiltration/attenuation units combined with StormHarvester (an all-in-one-tank rainwater reuse and flood drainage system run on smart weather forecasting technology). Our Indoor Climate solutions portfolio includes smart temperature controls (Sentio) as well as other related heating and cooling solutions (Underfloor heating, district heating, mechanical ventilation, ceiling cooling) that result in energy consumption reductions for users among other green building characteristics

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
237000000

Potential financial impact figure – maximum (currency)
335000000

Explanation of financial impact figure
The above are based on estimated revenue forecasts to 2025 for the ranges of solutions mentioned above, expected to grow 30-40% from 2019 revenues

Cost to realize opportunity
58000000

Strategy to realize opportunity and explanation of cost calculation
Figure is based on estimated CAPEX to expand the production capacity of certain products, as well as additional headcount needed to expand commercial and R&D capabilities to grow the above ranges of solutions

Comment

Identifier
Opp2

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
Our Koura brand has been investing in developing next generation, low Global Warming Potential (GWP) propellants and refrigerants. These efforts are designed to adapt our offered solutions to the new low-carbon economy, and are part of Orbia's overall climate responsibility practices. Koura has already introduced Zephex 152a, a propellant gas that delivers more than 90 percent reduction in Global Warming Potential for pressurized MDIs, as compared to current offerings. Driven by F-gas regulation and phase down of HFCs, Koura is investing in leapfrog refrigerants with significantly lower GWP than current or transitional refrigerants. Koura is exploring 4 ranges of refrigerants, one of them being refrigerants for use in Electric Vehicles (EV). Automakers are preparing to phase out cars powered solely by internal combustion engines (ICEs) as governments look to tackle fuel emissions. EV will perform better with the next generation refrigerants we are developing. We are currently engaged in a 4-year research program with several key car companies. In addition to these efforts, Koura runs a refrigerant recovery plant in Japan to help reduce the global warming impact of older generation refrigerants. Expansion has been approved and we will have the largest recovery capacity of any company in Japan. Since 2018, we have increased recovered volumes by 70%, reaching 815 tons in 2020 which we estimate avoids around 1.5 million tons of CO_2 equivalent emissions per year.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
91000000

Potential financial impact figure – maximum (currency)
166000000

Explanation of financial impact figure
The above is based on forecasted revenues between 2025 and 2030, according to market growth and expected demand for these products and services, driven by shifting consumer behavior and tighter environmental regulations. Electric vehicles (EV) and Hybrid Electric Vehicles (HEV) are expected to account for an estimated 30% of all vehicle sales by 2025 and will continue to grow

Cost to realize opportunity
115000000

Strategy to realize opportunity and explanation of cost calculation
Investments cover 5 years. Koura is investing in new facilities in the UK to develop low GWP propellants and refrigerants. One of them is the first in the world to offer dedicated pharmaceutical grade laboratories specialising in the new low carbon footprint medical propellant Zephex® 152a and will facilitate the commercial development of 152a-based inhaled medicines. This will create several highly skilled scientific and technical roles locally. With an operational date set for late 2021, the new facility will allow pharmaceutical companies to develop and test new formulations for the treatment of respiratory diseases including asthma based on Zephex® 152a.
https://www.zephex.com/press-release/koura-announces-major-investment-into-new-greener-medical-propellant-production-facility-in-united-kingdom/
https://www.zephex.com/press-release/koura-to-supply-ground-breaking-low-carbon-footprint-medical-propellant-to-chiesi-farmaceutici-for-inhalation-product-development-and-clinical-trials/

Comment

Identifier
Opp3

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of lower-emission sources of energy

Primary potential financial impact
Reduced direct costs

Company-specific description
Our different Business Groups are implementing resource efficiency projects, including renewable energy projects. These projects will be translated into cost savings thanks to better contract terms for renewables as well as tax exemptions by using renewables. This opportunity covers switching to wind energy in 4 sites in the UK and 1 site in India, however, all our Business Groups are implementing similar renewable energy projects in other European countries, the US, and Latin America,.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
675000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The above figure represents annual savings, including obtaining better contract terms with renewable energy providers as well as carbon tax exemptions (in some cases over 90%) in 4 sites in the UK and 1 site in India.

Cost to realize opportunity
37500

Strategy to realize opportunity and explanation of cost calculation
The switch to a renewable energy provider represented no investment/cost for our sites in the UK, and the above investment for our site in India

Comment

Identifier
Opp4

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Development of new products or services through R&D and innovation

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
As the world transitions to a low carbon economy, the demand for batteries, used in electric vehicles and to support renewable energy, will grow significantly. Our Koura business is investing in a range of solutions that enhance energy storage and drive their sustainability. For instance, we are conducting R&D to improve electrolyte performance; we are investing in a new facility to expand our capability to produce a fluorinated component of batteries; and we are partnering with companies to enable the recovery and recyclability of battery components including fluorine and lithium. In early 2021, Orbia led and announced a $4 million venture capital investment in Battery Resourcers to develop a commercial processing facility for converting used lithium-ion batteries directly into cathode materials (https://www.orbia.com/this-is-orbia/news-and-stories/battery-resourcers/).

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
30000000

Potential financial impact figure – maximum (currency)
100000000

Explanation of financial impact figure
Based on forecasted revenues according to market size and expected demand for these products over the next few years and mainly 2023-2025, driven by shifting consumer behavior and tighter environmental regulations.

Cost to realize opportunity
50000000

Strategy to realize opportunity and explanation of cost calculation
We are investing in R&D and production capacity, as well as developing partnerships to grow offer of products and services related to the battery industry mentioned above. Over the past decade, lithium-ion battery production has increased tenfold to meet revved-up electric vehicle (EV) production and deployment demand, according to data from the International Energy Agency. According to the American Chemical Society, less than 10% of lithium-ion batteries are presently recycled, due to economic, technical and market factors. With a predicted 800%+ increase in the number of EVs expected to hit the road by 2030, battery recycling is an area ready for reinvention.

Comment

Identifier
Opp5

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
Historically, the market share of drip irrigation for extensive crops, such as maize and rice, has been low. This is due to various reasons that differ depending on geography, water availability, infrastructure and access to capital. Netafim has been studying rice cultivation for more than a decade, in collaboration with agricultural experts and customers in multiple field trials. Success of commercial-scale drip irrigation efforts in Turkey and India demonstrates that we can transform rice production worldwide to deliver improved yields, 70% water savings, fertilizer use reduction, >90% reduction of methane emissions and significant reduction of arsenic uptake into rice grains. With rice being the predominant source of nourishment each day for more than 1.6 billion people around the world, transforming rice production can substantially help deliver several of the UN Sustainable Development Goals (2, 6, 13...). As growers and governments integrate climate change into their decision-making criteria and promote the implementation of regenerative and sustainable agriculture practices, the market for these crops is now opening up to drip irrigation globally.

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
270000000

Potential financial impact figure – maximum (currency)
370000000

Explanation of financial impact figure
Extensive crops cover about 88% of irrigated land globally. Nonetheless, micro-irrigation only covers an estimated <1% of this land. Based on the emergence of new incentives such as carbon/water credits, new technological breakthroughs, and wider adoption of sustainability criteria by governments, Netafim predicts a 5% CAGR in sales of irrigation products and solutions for extensive crop cultivation to 2025.

Cost to realize opportunity
25000000

Strategy to realize opportunity and explanation of cost calculation

Netafim is continuously investing in developing solutions for extensive crops, including dedicated R&D and life cycle assessments in collaboration with academic and government research agencies. Further demonstration of the overall environmental benefits of converting to drip irrigation and their contribution to climate resilience will support our work with governments to subsidize drip irrigation conversion. Alternative incentives (carbon/water credits) for farmers who adopt drip irrigation will also drive the growth in new markets.

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes

C3.1b

(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?

	Intention to publish a low-carbon transition plan	Intention to include the transition plan as a scheduled resolution item at Annual General Meetings (AGMs)	Comment
Row 1	No, we do not intend to publish a low-carbon transition plan in the next two years	<Not Applicable>	Orbia-wide discussions and planning are already in progress, but we expect the publication of the plan to take longer than 2 years.

C3.2

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

Yes, qualitative

C3.2a

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

Climate-related scenarios and models applied	Details
RCP 8.5	All mid and long term environmental analysis and risks assessments are based in the IPCC's 2015 A2 scenario. When more accurate scenarios at a local scope are available, for example nationally determined contributions in European countries, these are also considered for the operations within the region. These climate modelling tools are used with future scenarios of forcing agents (e.g., greenhouse gases and aerosols) as input to make a suite of projected future climate changes that illustrates the possibilities that could lie ahead. The A2 storyline and scenario family describes a very heterogeneous world. The underlying theme is self-reliance and preservation of local identities. Using a geographic information software (ArcGIS), the company developed a risk analysis which identified the impact of water availability, sea-level rise and temperature rise at operational sites. The output of this analysis was that only 6% of the operational sites could be affected by physical changes in climate-related variables. The scale of magnitude degree used to determine the exposure to different physical risks of each operational site is the one used by the IPCC. This scale is based on the probability of short return period (less than 25 years). Additionally, the company is making a more detailed analysis at operational sites that have already been impacted, such as the Cartagena site, by shifting rainfall patterns and its proximity to the sea. Cartagena developed an analysis for the next 50 years to incorporate the prevention and adaptation measures necessary to prevent operational disruptions due to flooding and therefore, to prevent the uninterrupted supply to customers. The time horizon(s) considered were 25-50 years, as this is a relevant horizon for life of capital assets. This analysis influences CAPEX planning; also, climate change is impacting supply chain operations that are prompting to study supply chain alternatives.

C3.3

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Orbia's business groups are connected by a shared purpose: to advance life around the world. The main challenges we have committed to addressing with our products and services are: • How do we feed the world sustainably • How can we better manage our water systems • How do we make our cities more liveable, lovable and resilient • How do we connect and empower communities with data • Can health and well-being be made more accessible? • How do we push beyond sustainability to regeneration? Climate change is at the centre of these challenges as we transform into a future fit and resilient business. Our businesses have taken on these challenges and are regularly developing and adapting their strategy to ensure our products and solutions address risks and opportunities of climate change. Case 1: Buildings are responsible for 40% of energy use. Our Indoor Climate Solutions (ICS) enable heating and cooling of buildings at lower energy use and low carbon emissions compared to existing technologies. Typically, using our ICS, users can save up to 21% of energy by using zone control, up to 20% by using underfloor heating instead of radiators and up to 34% in cooling vs. air-conditioning. This is being driven by the EU, encouraging more energy efficient and low carbon technologies and buildings. Orbia has taken a strategic decision to invest and grow this business over the next 5 years. Case 2: We are experiencing floods and drought more erratically due to climate change. Our Stormwater management solutions (SWM) are key to mitigating and addressing flooding and drought in cities and urban areas, making them climate resilient. SWM solutions are able to capture rain/flood waters and store for reuse when rain is scarce. The business has taken a strategic decision to continue expanding the SWM product line and launch it globally over the next 2 years. Case 3: Agriculture accounts for 45% of methane emissions, which has a GWP 28 times that of CO2. An LCA of our products showed that, used in corn fields, drip irrigation has a carbon footprint at least 52% lower than flood irrigation and at least 38% lower than sprinkler irrigation. Netafim has invested extensively to expand the use of drip irrigation. An example is the growth in India, where adoption of precision irrigation grew from 12,000 ha and 60 million USD (2017) to 106,000 ha and 245 million USD (2020).
Supply chain and/or value chain	Yes	Derived from tighter emerging regulations on fossil fuels, our procurement and logistics teams are constantly looking for alternatives, for instance switching from road to rail, or finding recycled or bio-based raw materials when available. Case 1: We piloted a project in Mexico aimed at reducing greenhouse gas emissions in transportation by more than 90%, by transferring domestic shipments from road to rail transport. . Due to the pandemic, we fell short of our plans to switch all shipments (around 450 per year) to rail, which has the potential impact of saving 1,200 tons of CO2e per year. Rail transport varied between 40% and 75% during 2020. Plans to achieve 100% will be resumed once conditions become favorable. This project aligns with our logistics team's strategy targets to reduce our Scope 3 emissions as we work towards carbon neutrality in 2050. Case 2: Wavin operations aim to increase the use of post-consumer recycled PVC to 25% by 2025 in products to reduce dependence on virgin raw materials and avoid carbon emissions. According to UK DEFRA, reycled PVC emits 82% less GHG emissions compared to Virgin PVC. Similarly, Netafim has a target of increasing recycled content in drip lines to 45% by 2030. These are key targets for integrating circularity into our business strategy. Category 1 represents around 7% of Scope 3 emissions for all Orbia operations. This contribution is higher when looking at our extrusion businesses alone, where Category 1 represents around 57% of their Scope 3 emissions. Case 3: Recyclability is a core element in Wavin product design criteria, with a goal to increase recyclability to 90% . We operate a recycling facility in California. We incentivize Netafim customers to return used drip lines, which we recycle to make new products. In 2020, a major expansion of recycling capacity was completed, reaching an annual 12,000 tons per year. Case 4: In 2020, Wavin Colombia implemented logistics solutions to optimize their distribution network, with, among others, a Transportation Management System (TMS). This has improved the route planning process, reducing distance traveled, while delivering the same number of finished products. Results are: a reduction in carbon emissions of 5,087 tons (scope 3, category 4); an average load per truck (ton/truck) change from 2,581 to 2,669; and kilometers per ton (km/ton) 14.6% lower.
Investment in R&D	Yes	Our businesses are constantly investing in developing innovative low global warming potential (GWP) and low carbon products, such as our new medical grade propellant (GWP 90% lower than current propellants), new refrigerants, exploring options for fossil free resin, integrated recycled content and recyclability criteria in design, among others. We are also investing in the development of solutions, such as battery storage innovations, that enable and support the transition to a low carbon economy. Case 1: Conventional PVC production is linear, with fossil crude oil and salt as raw materials. It's also carbon-intensive, where for every kg of PVC produced, about 2.4 kg of CO2e are emitted. In line with business strategy to be future fit and sustainable, our PVC business is exploring options to produce fossil free PVC. See section 2.4 for more examples of R&D
Operations	Yes	Each Orbia business has targets to improve efficiency and transition to cleaner or renewable sources of energy and obtain or maintain an environmental management system. Among other related strategies, several plants have developed plans to adapt to potential extreme weather events. Climate-related risks have influenced our global targets to become carbon neutral by 2050 (reducing Scope 1 and 2 emissions by 47% by 2030, pending validation by the Science Based Target Initiative) and have all plants certified as ISO-14001 or equivalent by 2025. Case 1: Renewable energy consumption increased by 60% in 2020, driven by key projects across most of our Business Groups. As an example, Wavin operations in Europe aim to source 100% of their electricity consumption from renewable sources by 2025, this will enable a 4% reduction of Orbia's GHG emissions. Also, our Dura-Line plant in Goa, India, has formalized a Power Purchasing Agreement to acquire 1,000 MWh per year of solar power starting the second semester of 2021, representing 12-15% of Goa's annual electrical load. Case 2: A trigeneration plant started operating in our Vestolit Altamira I site. Starting in 2021, yearly emissions reductions are predicted at almost 20 thousand tons of CO2e, which would equate to taking over 4,500 cars off the road. Case 3: Technology modification and investments in additional condensers allowed to replace chilled water by cooling water in the PVC process at Altamira I. The projected energy consumption reduction is of 65 KWh per ton of PVC produced.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Capital expenditures	Capital expenditures: Our capital expenditure and allocation process is being revised to accommodate projects that have a sustainability impact. We are working to include additional criteria that would allow us to tag a project as climate change related, where relevant. Through this method, we will ensure that projects that help us achieve our GHG emissions targets are flagged and can be escalated for approval by the VP of Sustainability. The revised capital allocation process will allocate considerable amounts of resources for sustainability-centered projects, allowing for a more robust pipeline of sustainability projects over the upcoming 5-10 years. The proposed initiatives will be evaluated based on their merit to move the needle towards achieving our sustainability targets, in addition to financial and technical consideration. Revenues: Orbia's business groups are connected by a shared purpose: to advance life around the world. The main challenges we have committed to addressing with our products and services are: • How do we feed the world sustainably? • How can we better manage our water systems? • How do we make our cities more liveable, lovable and resilient? • How do we connect and empower communities with data? • Can health and well-being be made more accessible? • How do we push beyond sustainability to regeneration? Climate change is at the centre of these challenges as we transform into a future fit and resilient business. Our businesses have taken on these challenges and are regularly developing and adapting their strategy to ensure our products and solutions address risks and opportunities of climate change. Case 1: Buildings are responsible for 40% of energy use. Our Indoor Climate Solutions (ICS) enable heating and cooling of buildings at lower energy use and low carbon emissions compared to currently used technologies. This is also being driven by EU legislation encouraging more energy efficient and low carbon buildings. Orbia has taken a strategic decision to invest and grow this business over the next 5 years. Case 2: We are experiencing floods and drought more erratically due to climate change. Our Stormwater management solutions (SWM) are key to mitigating and addressing flooding and drought in cities and urban areas, making them climate resilient. SWM solutions are able to capture rain/flood waters and store for reuse when rain is scarce. The business has taken a strategic decision to continue expanding the SWM product line and launch it globally over the next 2 years. Case 3: Agriculture accounts for 45% of methane emissions which is 28 times more potent than CO2 in GWP. According to a 2020 Lifecycle Assessment (LCA) for our Netafim products, used in corn fields, drip irrigation has a carbon footprint at least 52% lower than flood irrigation and at least 38% lower than sprinkler irrigation. Our irrigation business, Netafim, has invested extensively in expanding the use of drip irrigation and has specifically focused its growth strategy in India where the adoption of precision irrigation grew from 12,000 hectares and 60 million USD in 2017 to 106,000 hectares and 245 million USD in 2020. According to further internal research by our experts (https://www.netafim.com/en/blog/grow-more-rice-less-methane/), methane reductions using drip irrigation for rice cultivation are even more pronounced.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

No additional comments

C4. Targets and performance

C4.1

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

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number
Abs 1

Year target was set
2020

Target coverage
Company-wide

Scope(s) (or Scope 3 category)
Scope 1+2 (market-based)

Base year
2019

Covered emissions in base year (metric tons CO2e)
1999535

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)
100

Target year
2030

Targeted reduction from base year (%)
47

Covered emissions in target year (metric tons CO2e) [auto-calculated]
1059753.55

Covered emissions in reporting year (metric tons CO2e)
1866394

% of target achieved [auto-calculated]
14.1672300511997

Target status in reporting year
Underway

Is this a science-based target?
Yes, we consider this a science-based target, but it has not been approved by the Science-Based Targets initiative

Target ambition
1.5°C aligned

Please explain (including target coverage)
Our SBT carbon target covers 100% of Orbia's global emission based on operational control. We have announced 47% reduction of our Scope 1 + 2 by 2030. This is a Science Based Target aligned with the 1.5°C scenario; submission to the SBTi committee still pending.

C4.2

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

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number
Oth 1

Year target was set
2019

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Waste management	Percentage of sites operating at zero-waste to landfill

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year
24

Target year
2025

Figure or percentage in target year
100

Figure or percentage in reporting year
25

% of target achieved [auto-calculated]
1.31578947368421

Target status in reporting year
Underway

Is this target part of an emissions target?
As stated by the GHG Protocol, Scope 3 - Category 5 emissions are related to waste disposed. Progress to reach our Zero Waste To Landfill target will lead to a reduction in indirect GHG emissions.

Is this target part of an overarching initiative?
Science Based Targets initiative

Please explain (including target coverage)
Scope 3 emissions inventory are a specific request to submit a Science Based Target, for this reason we consider this goal to be covered by the SBTi. The target was developed internally following discussions with stakeholders in our different business groups. This metric covers all of our production facilities in 2020.

C4.3

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

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	6	30800
To be implemented*	8	63700
Implementation commenced*	4	1000
Implemented*	6	116200
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Low-carbon energy consumption	Other, please specify (A mix of 0-emissions renewable electricity)

Estimated annual CO2e savings (metric tonnes CO2e)
37600

Scope(s)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
70000

Investment required (unit currency – as specified in C0.4)
37500

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
This reduction corresponds to all the emissions avoided by claiming certified sourcing of renewable zero emission electricity during 2020. Financial figures, payback period and lifetime of initiative are not comprehensive; we are only sharing values from 1 site out 12 sites that shifted to renewables in 2020. Sharing this number to give a sense of financial figures. Further details on our renewable electricity purchased can be seen in answer to question C8.2e.

Initiative category & Initiative type

Other, please specify	Other, please specify (Reduced consumption of high GHG fuels)

Estimated annual CO2e savings (metric tonnes CO2e)
24200

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
194000

Investment required (unit currency – as specified in C0.4)
0

Payback period
No payback

Estimated lifetime of the initiative
>30 years

Comment
This reduction was estimated based on the direct emissions related to reduction of consumption coal, LPG and diesel in several sites. Financial figures correspond specifically to coal reduction.

Initiative category & Initiative type

Other, please specify	Other, please specify (Electricity consumption from less GHG intensive suppliers)

Estimated annual CO2e savings (metric tonnes CO2e)
25600

Scope(s)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
8000000

Investment required (unit currency – as specified in C0.4)
0

Payback period
No payback

Estimated lifetime of the initiative
3-5 years

Comment
Initiative related to the shift from higher to lower GHG intensive electricity suppliers in one of our Mexico sites. CO2 reductions are provided as estimated avoided GHG emissions.

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Efficient trigeneration)

Estimated annual CO2e savings (metric tonnes CO2e)
19800

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
0

Investment required (unit currency – as specified in C0.4)
0

Payback period
No payback

Estimated lifetime of the initiative
11-15 years

Comment
This Initiative is related to a trigeneration project in one of our plants, aimed to increase energy and fuel efficiency. There is no investment for Orbia, since the project will function with an outsourcing agreement, operating inside the plant. The contractor will conduct the whole necessary investment and will provide the site with highly-efficient (and less carbo-intensive) electricity, steam and cooling water. The site will pay the contractor a fixed per-MWh price for these services for a pre-defined period. Monetary savings are still uncertain and are being examined - we have reported zero for now.

Initiative category & Initiative type

Energy efficiency in production processes	Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)
4400

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2500000

Investment required (unit currency – as specified in C0.4)
5000000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
Initiative related to the use of improved cooling technology to save electricity in one of our Mexico plants.

Initiative category & Initiative type

Other, please specify	Other, please specify (Electricity consumption from less GHG intensive suppliers)

Estimated annual CO2e savings (metric tonnes CO2e)
4700

Scope(s)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
1600000

Investment required (unit currency – as specified in C0.4)
0

Payback period
No payback

Estimated lifetime of the initiative

3-5 years

Comment
Initiative related to the shift from higher to lower GHG intensive electricity suppliers in one of our Mexico sites.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	Our sites in the EU either fall under the ETS or have the ISO 50001 or are subject to the Energy Efficiency directive. In these cases, the sites have the necessary action plan, budgets and responsibility to set and meet the reduction targets as prescribed by their systems. Orbia Corporate is continuously identifying how to enable de-carbonization, while also removing bottlenecks, leaving the specific projects, actions, etc. to the business unit discretion, in such a way that they chose the most cost-effective and emission reduction effective tools.
Dedicated budget for other emissions reduction activities	We are currently working on defining a percentage of our annual capital budget to be dedicated to emission reduction initiatives and other sustainability related projects. Orbia Corporate is continuously identifying how to enable de-carbonization, while also removing bottlenecks, leaving the specific projects, actions, etc. to the business unit discretion, in such a way that they chose the most cost-effective and emission reduction effective tools.
Dedicated budget for energy efficiency	We are currently working on defining a percentage of our annual capital budget to be dedicated to energy efficiency. Orbia Corporate is continuously identifying how to enable de-carbonization, while also removing bottlenecks, leaving the specific projects, actions, etc. to the business unit discretion, in such a way that they chose the most cost-effective and emission reduction effective tools.
Internal incentives/recognition programs	All Senior Manager roles and above now have an ESG modifier in their compensation. Achieving emission and waste reductions can impact +-10% of their annual bonus. Emissions reduction targets have also been added to performance goals of several relevant positions within the different Orbia business groups. In addition, HSE and energy-related positions are regularly evaluated based on their site efficiency performance and their variable compensation is impacted accordingly. Orbia Corporate is continuously identifying how to enable de-carbonization, while also removing bottlenecks, leaving the specific projects, actions, etc. to the business unit discretion, in such a way that they chose the most cost-effective and emission reduction effective tools.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation
Group of products

Description of product/Group of products
Our Indoor Climate Solutions (ICS) range includes Sentio and other energy-efficient heating and cooling systems. Sentio is a simple to install, smart, indoor climate control system for room-by-room heating and cooling. Smart "zone heating" can reduce energy consumption by up to 21% compared to use of single thermostat control. Sentio allows the user to control heating in each room, instead of using a single system to cover the entire home. Users of our ICS can save up to 21% of energy by using zone control, up to 20% by using underfloor heating instead of radiators and up to 34% in cooling vs. air-conditioning. See more information here: https://warmafloor.co.uk/wp-content/uploads/2019/04/07828_002_WAV_Warmafloor-Sentio-Booklet_Web.pdf.

Are these low-carbon product(s) or do they enable avoided emissions?
Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Comparison to alternative product)

% revenue from low carbon product(s) in the reporting year
1

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
3% of our Building and Infrastructure business group revenue in 2020 (1% of Orbia´s) came from energy-efficient Indoor Climate Solutions. Users can save up to 21% of energy by using zone control, up to 20% by using underfloor heating instead of radiators and up to 34% in cooling vs. air-conditioning. See our 2020 Sustainability Report for more details of Sustainable Solutions and Products. p. 35-43 https://www.orbia.com/49bc78/siteassets/6.-sustainability/sustainability-reports/2020/orbia_sustainability-report_2020.pdf

Level of aggregation
Group of products

Description of product/Group of products
An increasing number of our products are manufactured with recycled raw materials, mainly from our Wavin, Netafim and Alphagary brands. Using the LCA methodology, comparing products made from virgin raw materials to products including recycled material, we demonstrate that carbon footprint is lower when using recycled polymer. Carbon footprint of our products will continue decreasing as we increase the use of recycled material. Wavin has a goal of increasing recycled content to 25% (by 2025) and Netafim to 45% (by 2030). See more information here: https://www.wavin.com/en-en/Plastic-Road https://www.wavin.com/en-en/aquacell https://www.netafimusa.com/agriculture/products/product-offering/thinwall-driplines/regen/

Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Lifecycle Assessments (LCA) of products)

% revenue from low carbon product(s) in the reporting year
2

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
See our 2020 Sustainability Report for more details of Sustainable Solutions and Products. p. 35-43 https://www.orbia.com/49bc78/siteassets/6.-sustainability/sustainability-reports/2020/orbia_sustainability-report_2020.pdf

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Level of aggregation
Group of products

Description of product/Group of products
Our Vestolit and Alphagary brands constantly develop resins and compounds to enable our customers to avoid emissions during their transformation process into finished consumer products. For instance, some of our resins have a lower fusion temperature or enable other energy efficiencies during the process. Some PVC resins are used in applications for higher thermal control, therefore allowing for energy savings. Finally, we produce stabilizers that enhance the capabilities of PVC to incorporate recycled materials, therefore enabling circularity.

Are these low-carbon product(s) or do they enable avoided emissions?
Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Comparison with alternative product)

% revenue from low carbon product(s) in the reporting year
3

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
Includes revenue from the ranges of resins and compounds described above. See our 2020 Sustainability Report for more details of Sustainable Solutions and Products. p. 35-43 https://www.orbia.com/49bc78/siteassets/6.-sustainability/sustainability-reports/2020/orbia_sustainability-report_2020.pdf

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C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
645300

Comment
In 2020, figures for 2019 Scope 1 were updated to include process emissions not related to energy.

Scope 2 (location-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
1426571

Comment
Calculated considering average national CO2 emission factors published by the International Energy Association. In 2020, figures for 2019 Scope 2 were updated to include purchased heating, steam and cooling.

Scope 2 (market-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
1354235

Comment
Scope 2 market-based electricity emission factors are sourced from the International Energy Agency (IEA) data 2020 version where supplier emission factors are not available. We expect to increase the amount of direct primary data from suppliers going forward. In 2020, figures for 2019 Scope 2 were updated to include purchased heating, steam and cooling.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
603969

Start date
January 1 2020

End date
December 31 2020

Comment
2020 Scope 1 data includes process GHG emissions, in addition to fuel-combustion related emissions.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
645300

Start date
January 1 2019

End date
December 31 2019

Comment
2019 Scope 1 data has been updated to include process GHG emissions not related to fuel combustion.

C6.2

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

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment
Some supplier specific emissions factors (EFs) were used in our calculations. We aim and are working to increase availability of supplier-specific EFs, to continuously improve the accuracy of our GHG database.

C6.3

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

Reporting year

Scope 2, location-based
1385858

Scope 2, market-based (if applicable)
1262425

Start date
January 1 2020

End date
December 31 2020

Comment
2020 Scope 2 data includes purchased heating, steam and cooling in Scope 2.

Past year 1

Scope 2, location-based
1426571

Scope 2, market-based (if applicable)
1354235

Start date
January 1 2019

End date
December 31 2019

Comment
2019 Scope 2 data has been updated to include purchased heating, steam and cooling in Scope 2.

C6.4

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

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Fugitive HFCs releases from refrigeration systems

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions excluded

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions excluded

Explain why this source is excluded

Through our work to set our Science Based Targets, we have conducted a full screening of our GHG emissions extensive database. Refrigeration related emissions were found to be irrelevant and negligible in comparison with Orbia's total scope 1 and scope 2 emissions. The overall value of these excluded emissions was found to be less than 5% of the included GHG emissions. Due to high complexity of gathering this data annually, it was decided that the needed resources of data collection are not justified- due to the negligibility of emissions. This conclusion could be re-evaluated in the future, upon any chance in relevant circumstances.

Source

Satellite warehouses and offices

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

Satellite warehouses and offices are those that are not within the physical boundaries of any Orbia production plant. Through our work to set our Science Based Targets, we have conducted a full screening of our GHG emissions extensive database. These emissions were found to be irrelevant and negligible in comparison to Orbia's total scope 1 and scope 2 emissions. The overall value of these excluded emissions was found to be less than 5% of the included GHG emissions. Due to high complexity of gathering this data annually, it was decided that the needed resources of data collection are not justified- due to the negligibility of emissions. This conclusion could be re-evaluated in the future, upon any chance in relevant circumstances.

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

5440200

Emissions calculation methodology

For raw material related-emissions, we have used cradle to gate emission factors obtained from public or private recognized databases (e.g. Ecoinvent). For all other purchased goods and services related-emissions, we have used the cost-based method proposed by the Quantis evaluation tool. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid. We aim to reassess these emissions in the future.

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

0

Please explain

All data was calculated using our internal database to assess the consumption of the different raw materials and other purchased goods and services. Emission factors were sourced from public sources and consultancy services.

Capital goods

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
21700

Emissions calculation methodology
The emissions related to capital goods purchased were estimated using the Quantis Scope 3 evaluation tool, using the value of the purchased capital goods in the reporting year. The resulting emissions form a negligible part in our overall Scope 3 emissions, and are therefore considered not relevant. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All activity data was sourced from our internal data bases.

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

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
181600

Emissions calculation methodology
We used our internal databases for activity data (fuel and electricity consumption). Emission factors were sourced from the IEA (electricity) and DEFRA's WTT (fuels). The resulting emissions form a negligible part in our overall Scope 3 emissions, and are therefore considered not relevant. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All activity data was sourced from our internal data bases.

Upstream transportation and distribution

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
330700

Emissions calculation methodology
Supplier emissions were sourced were possible (less than 1%). Freighted tons and miles were compiled from our internal data base, emissions were calculated with DEFRA emission factors. When freighted tons and miles were not available, the calculations were based on internal estimates (less than 30% of this category's emissions). The resulting emissions form a negligible part in our overall Scope 1+2+3, and are therefore considered negligible. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
A negligible portion was provided directly by our supplier to some US operations.

Waste generated in operations

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
4200

Emissions calculation methodology
We used our internal databases for activity data (mass of waste by disposal method). Emission factors were sourced from DEFRA. The resulting emissions form a negligible part in our overall Scope 3 emissions, and are therefore considered not relevant. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All activity data was sourced from our internal data base and multiplied by public emission factors.

Business travel

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
10500

Emissions calculation methodology
Where possible, data was collected directly from suppliers (travel agencies). Remaining information was calculated using traveled miles and DEFRA emission factors. The resulting emissions form a negligible part in our overall Scope 3 emissions, and are therefore considered not relevant. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
25

Please explain
Some travel agencies were able to provide emissions allocated to us. The rest was covered through traveled miles and public emission factors.

Employee commuting

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
16600

Emissions calculation methodology
We extrapolated the findings of a survey conducted by the Institute for Transportation and Development Policy (ITDP) on GHG emissions from the commute of Orbia employees in Mexico City. The resulting emissions form a negligible part in our overall Scope 3 emissions, and are therefore considered not relevant. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All data was estimated using our internal models.

Upstream leased assets

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
6300

Emissions calculation methodology
Leased assets in our operation refer mainly to leased vehicles. We estimated an average fuel consumption per car from available data. We extrapolated this to all our company. The resulting emissions form a negligible part in our overall Scope 3 emissions, and are therefore considered not relevant. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All data was estimated using our internal models.

Downstream transportation and distribution

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
13600

Emissions calculation methodology
Based on estimated average GHG emission per ton sold and transported where we hold control, we estimated the emissions for the outbound freighted tons we do not control. The resulting emissions form a negligible part in our overall Scope 3 emissions, and are therefore considered not relevant. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All data was estimated using our internal models.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Our global sustainability team has made an initial analysis of these emissions. The conclusion was that these emissions are not relevant. Orbia's variety of products includes thousands of very different items, with many of which undergoing very different processing methodologies. In addition, the access to data needed for such calculation is very limited, and we believe we would have a very limited possibility to influence any emissions related to the processing. Therefore, the highly considerable efforts required to calculate these emissions have been determined as not cost-effective, and the emission are irrelevant. In contrast, we have calculated the emissions from product use, and product end-of-life, and treat these emissions as relevant for current and future reduction efforts. See below.

Use of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
22076400

Emissions calculation methodology
Values were calculated based on the GWP of our fluorinated products and required pumping energy for our extrusion products during the use phase. We used publicly available information and internal LCAs. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid. We aim to reassess these emissions in the future.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All data was calculated using our internal models.

End of life treatment of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
54601300

Emissions calculation methodology
Values were calculated based on the GWP of our fluorinated products. For the rest of our products, we used the Quantis evaluation tool. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid. We aim to reassess these emissions in the future.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All data was calculated using our internal models.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We (as lessors) have not identified relevant lease contract with any third party (lessee)

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Orbia does not operate franchises.

Investments

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
526500

Emissions calculation methodology
We used the cost-based method through the Scope 3 Quantis Evaluation Tool. The resulting emissions form a negligible part in our overall Scope 3 emissions, and are therefore considered not relevant. We have conducted a full Scope 3 GHG inventory screening in 2020, using 2019 data. Our overall production figures have changed less than 1% year over year (2019 vs 2020), therefore we believe this value is still valid.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
All emissions were calculated using the Scope 3 Quantis Evaluation Tool.

Other (upstream)

Evaluation status
Not evaluated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We have not identified other relevant emissions in our value chain.

Other (downstream)

Evaluation status
Not evaluated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We have not identified other relevant emissions in our value chain.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
No

C6.10

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

Intensity figure
0.22

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
1866395

Metric denominator
metric ton of product

Metric denominator: Unit total
8300774

Scope 2 figure used
Market-based

% change from previous year
8

Direction of change
Decreased

Reason for change
General transition to cleaner energy grids in the regions we operate and increased consumption of certified renewable electricity.

C7. Emissions breakdowns

C7.1

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

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	579806	IPCC Fourth Assessment Report (AR4 - 50 year)
CH4	379	IPCC Fourth Assessment Report (AR4 - 50 year)
N2O	552	IPCC Fourth Assessment Report (AR4 - 50 year)
HFCs	23232	IPCC Fourth Assessment Report (AR4 - 50 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Germany	65309
Argentina	78
Brazil	1937
Canada	212
China	6
Colombia	105827
Costa Rica	171
Czechia	347
Denmark	549
Ecuador	1062
United States of America	120044
Finland	179
France	665
Guatemala	199
Hungary	469
India	344
Ireland	182
Italy	350
Japan	18837
Lithuania	183
Mexico	268484
Norway	121
Netherlands	1419
Oman	56
Peru	500
Poland	766
South Africa	153
Sweden	221
Turkey	129
United Kingdom of Great Britain and Northern Ireland	14894
Venezuela (Bolivarian Republic of)	1
Belgium	159
Russian Federation	51
Australia	1
Chile	14
Israel	3
Spain	7
Panama	40

C7.3

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

By business division
By facility
By activity

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Fluorinated Solutions	106661
Polymer Solutions	475723
Data Communication	2094
Precision Agriculture	951
Building & Infrastructure	18540

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Altamira Compuestos	15431	22.407533	-97.895293
Altamira II	25815	22.453146	-97.987771
Altamira PVC	74988	22.407533	-97.895293
Andinos - Colombia - Barranquilla - Celt	28	4.916205	-74.046667
Andinos - Colombia - Bogotá	223	4.595468	-74.163708
Andinos - Colombia - Guachené	35	3.13303	-76.39174
Andinos - Ecuador - Durán	1062	-2.191214	-79.82391
Andinos - Venezuela - CUA	1	10.167855	-66.897998
Argentina - Planta Pablo Podestá	78	-34.580023	-58.610246
Bogotá - Geosistemas	57	4.916205	-74.163708
Brasil - Anápolis	22	-16.402601	-48.937017
Brasil - Joinville Floresta	86	-26.337979	-48.846319
Brasil - Ribeiro Neves	33	-19.787366	-44.010545
Brasil - Sao Jose dos Campos	1342	-27.553411	-48.619858
Brasil - Suape	76	-8.398121	-35.060988
Brasil - Sumaré	298	-22.82007	-47.246744
Cali - Colpozos	285	3.490394	-76.507896
Cartagena - Resinas	104885	10.326722	-75.503948
Coatzacoalcos	60530	18.112961	-94.399378
Cuautitlán	161	19.652829	-99.191232
El Salto	18370	20.490261	-103.22373
La Presa	8929	19.525327	-99.120524
Lechería	7005	19.615371	99.189363
León	200	21.087885	-101.681612
Matamoros	22061	25.90719	-97.55164
Magal	0	32.3867	35.033955
Mexichem Colombia - Cajicá	313	4.595523	-74.165804
Mina Villa de Zaragoza	9924	21.941647	-100.577946
El Patio San Luis Potosí	1709	22.111257	-100.91655
Perú - Amanco	176	-12.05875	-76.948808
Perú - Geotextiles	95	-12.05875	-76.948808
Perú - Arequipa	208	-16.41931	-71.509073
Poncitlán	0	20.381741	-102.957433
Querétaro DL	4	20.607719	-100.4203
RCA - Costa Rica	171	9.979466	-84.165975
RCA - Guatemala	199	14.599499	-90.539061
RCA - Panamá	40	9.05924	-79.430145
PMV Minera	43	18.005298	-94.743222
San Luis Potosí DL	40	22.111248	-100.916557
Tlaxcala Compuestos	26	19.168273	-98.227892
Tlaxcala PVC	7674	19.168273	-98.227892
Tultitlán	14005	19.614095	-99.181728
Marl	64109	51.681563	7.100299
Sparks, Nevada	115	39.527895	-119.724202
Gainesville, Texas	114	33.657908	-97.152932
Clinton, Tennessee	108	36.10165	-84.124722
Elyria, Ohio	109	41.359269	-82.122423
McAlester, Oklahoma	97	34.925377	-95.824824
Mountain Grove, Missouri	91	37.125345	-92.278139
Gravenhurst, Ontario	212	44.995893	-79.321291
Evansville, WY	101	42.85858	-106.216867
Pedricktown, NJ	11121	39.765328	-75.420032
Cartagena Compuestos	0	10.326722	-75.503948
Henry, IL	59733	41.133548	-89.347029
Mihara	18837	34.392411	133.082727
St. Gabriel	45689	30.235727	-91.099571
Rocksavage	6922	53.313628	-2.721378
Sohar	56	24.429516	56.569919
Neemrana	78	27.981117	76.39402
Johannesburg	97	-26.023924	27.950247
Hyderabad	70	17.169561	78.292594
Goa I	142	15.370961	73.935767
Foshan	6	23.124325	113.006518
Chinley	479	53.336509	-1.947333
Melton Mowbray	123	52.752347	-0.906
Leominster	1494	42.533303	-71.708668
Pineville	632	35.102368	-80.886713
Kostelec nad Labem	184	50.234759	14.584053
Hammel	549	56.25238	9.850467
Joutsa	1	61.759525	26.079
Kangasala	178	61.476556	23.991944

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Serrieres	29	45.902325	5.837029
Sorgues	47	44.01385	4.889576
Varennes	590	46.291543	3.425363
Twist	922	52.641412	7.106509
Zsambek	469	47.545381	18.731108
Balbriggan	181	53.605575	-6.184051
S.M. Maddalena	350	44.904102	11.600488
Baltics Vilnius	183	54.627701	25.147146
Hardenberg	1246	52.566193	6.631615
Holand	121	59.802048	11.444419
Buk	486	52.348872	16.52665
Sochaczew	179	52.198125	20.192055
Strzelin	101	52.404036	16.865753
Eskilstuna	221	59.370968	16.683764
Adana	129	36.983408	35.391394
Chippenham	886	51.470218	-2.106321
Forest Works	1124	54.750426	-1.612809
Hazlehead	4469	53.538558	-1.727663
Bykovo	51	38.061509	38.061509
Caloto - Geosistemas	0	3.210059	-76.420308
Denver, PA	19	40.223576	-76.112498
Doncaster	889	53.488512	-1.185
Erwin, Tennessee	76	36.130276	-82.436797
Fareham Southampton	3	50.870166	-1.255722
Joinville Gloria	79	-26.288632	-48.86484
Horni Pocernice	0	50.122406	14.613469
Muzquiz	988	27.882263	-101.512374
North Salt Lake, Utah	131	40.857473	-111.909585
Rio Verde	532	21.966143	-100.008897
St. Niklaas	159	51.149056	4.126486
Tenille, Georgia	56	32.949928	-82.799816
Tlumacov	163	49.261358	17.497471
Westeregeln	279	51.957013	11.376339
Temiskaming, Ontario	0	47.493495	-79.675355
Vadodara	15	22.547857	73.462372
Valencia	7	39.477738	-5.43038
Yinchuan	0	38.463906	106.100619
Yiftach	0	33.125323	35.551687
Sandersville, Georgia I	71	32.999553	-82.83551
Santiago	14	-33.327818	-70.706482
Adana Netafim	0	36.979655	35.621797
Cabo de Santo Agostinho	0	-8.281274	35.078684
Cape town	56	-33.841484	18.731544
Chennai	38	22.294669	73.164061
Fowler	45	36.762922	-119.705432
Fresno	242	36.764151	-119.718105
Hatzerim	3	31.240549	34.717515
Lurin	20	-12.290645	-76.841172
Melbourne	1	-37.816516	144.786125
Muzquiz – La Sabina Mine	0	27.882263	-101.512374
Poncitlán Geosistemas	0	20.381741	-102.957433
Reynosa	51	26.008416	-98.26832
Ribeirao Prieto	0	-21.12044	-47.831812
Rucphen	173	51.957172	4.229192

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Natural gas combustion for co-generation	147327
Natural gas combustion for heating	308315
Other fuels burned at sites	92027
Process	56300

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

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	582385	<Not Applicable>	Chemical businesses are included: Fluorinated Solutions and Polymer Solutions
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Germany	583929	583929	2448487	0
Argentina	2339	2339	7265	0
Belgium	67	67	334	0
Brazil	10615	10615	106360	0
Canada	941	941	7131	0
Colombia	15139	15139	94326	0
Costa Rica	107	107	11535	0
Denmark	2770	2770	15685	0
Ecuador	3229	3229	16274	0
United States of America	120630	101360	292506	46682
Finland	86	0	733	733
France	1465	1465	26596	0
Guatemala	3903	3903	10229	0
Hungary	1499	1499	5903	0
India	20710	19064	27543	2188
Ireland	1693	0	5110	5110
Italy	2012	2012	6533	0
Japan	5280	5280	10514	0
Lithuania	214	214	3101	0
Mexico	484718	415325	959838	0
Norway	52	0	6014	6014
Netherlands	10775	10775	25790	0
Oman	1556	1556	3476	0
Panama	96	96	553	0
Peru	4710	4710	23599	0
Poland	33384	11435	49354	30927
Russian Federation	376	376	1263	0
South Africa	3207	3207	3580	0
Sweden	127	127	9445	0
Turkey	14824	14824	31804	0
United Kingdom of Great Britain and Northern Ireland	14742	6712	64356	35004
Venezuela (Bolivarian Republic of)	339	339	1077	0
Australia	2152	2152	3023	0
Chile	622	622	1549	0
China	1477	1477	2398	0
Israel	27303	26903	55168	808
Spain	913	0	3517	3517
Czechia	7856	7856	15851	0

C7.6

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

By business division
By facility

C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Fluorinated Solutions	109261	102795
Polymer Solutions	1004270	923604
Building & Infrastructure	133828	104323
Data Communication	75553	71034
Precision Agriculture	62945	60669

C7.6b

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Altamira Compuestos	0	0
Altamira II	31146	25509
Altamira PVC	64477	56996
Andinos -Barranquilla - Celta	973	973
Andinos - Colombia - Bogotá	3746	3746
Andinos - Colombia - Guachené	1487	1487
Andinos - Ecuador - Durán	3229	3229
Andinos - Venezuela - CUA	339	339
Argentina - Planta Pablo Podestá	2339	2339
Bogotá - Geosistemas	771	771
Brasil - Anápolis	554	554
Joinville- Floresta	2593	2593
Ribeirao das Neves	522	522
Brasil - Sao Jose dos Campos	1219	1219
Brasil - Suape	1164	1164
Brasil - Sumaré	3337	3337
Cali - Colpozos	39	39
Caloto - Geosistemas	221	221
Cartagena - Resinas	6913	6913
Coatzacoalcos	204247	166067
Cuautitlán	6622	5870
El Salto	58300	50586
Hermosillo	325	325
La Presa	6913	5849
Lechería	2438	2262
León	9162	8382
Matamoros	50112	45774
Mexichem Colombia - Cajicá	989	989
Mina Villa de Zaragoza	23536	21665
El Patio San Luis Potosí	1674	1418
Perú - Amanco	2756	2756
Perú - Geotextiles	570	570
Perú - Arequipa	821	821
Poncitlán	0	0
Querétaro DL	69	69
RCA - Costa Rica	107	107
RCA - Guatemala	3903	3903
RCA - Panamá	96	96
PMV Minera	1573	1573
San Luis Potosí DL	1584	1584
Tlaxcala Compuestos	0	0
Tlaxcala PVC	8380	7403
Tultitlán	2391	2222
Marl	571454	571454

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Sparks, Nevada	2235	2235
Gainesville, Texas	4439	4439
Clinton, Tennessee	2073	2073
Elyria, Ohio	7003	7003
McAlester, Oklahoma	6292	6292
Mountain Grove, Missouri	8497	8497
Sandersville, Georgia I	7746	7746
Gravenhurst, Ontario	941	941
Pedricktown, NJ	12254	12254
Henry, IL	19270	0
Mihara	5280	5280
Rocksavage	2506	2506
Sohar	1556	1556
Neemrana	3686	3686
Johannesburb	1851	1851
Hyderabad	4906	4224
Goa I	2907	2907
Chinley	1668	1668
Melton Mowbray	2538	2538
Leominster	3911	3911
Pineville	4004	4004
Erwin, Tennessee	3126	3126
Temiskaming, Ontario	0	0
Hammel	2770	2770
Joutsa	42	0
Kangasala	44	0
Serrieres	337	337
Sorgues	533	533
Varennes	595	595
Twist	6179	6179
Zsambek	1499	1499
Balbriggan	1693	0
S.M. Maddalena	2012	2012
Baltics Vilnius	214	214
Hardenberg	9147	9147
Holand	52	0
Buk	20219	2106
Sochaczew	4066	229
Strzelin	9099	9099
Eskilstuna	127	127
Adana	9643	9643
Chippenham	4829	0
Forest Works	415	0
Hazlehead	1373	0
St. Niklaas	67	67
Westeregeln	6296	6296
Doncaster	1396	0
Bykovo	376	376
Cartagena Compuestos	0	0
Denver, PA	1405	1405
Evansville, WY	3668	3668
Fareham Southampton	16	0
Horni Pocernice	2333	2333
Joinville Gloria	899	899
Kostelec nad Labem	2973	2973
Muzquiz	2981	2981
North Salt Lake, Utah	4395	4395
Rio Verde	4368	4368
St. Gabriel	18803	18803
Tenille, Georgia	3281	3281
Tlumacov	2550	2550
Magal	8994	8994
Hatzerim	12301	12192
Yiftach	6008	5717
Riberao Preto	326	326
Cabo de Santo Agostinho	0	0
Vadodara	5470	5470
Chennai	3740	2777
Reynosa	4420	4420
Capetown	1357	1357
Santiago	622	622

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Fresno	6462	6462
Melbourne	2152	2152
Adana Netafim	5180	5180
Rucphen	1629	1629
Lurin	563	563
Valencia	913	0
Yinchuan	1002	1002
Fowler	1767	1767
Poncitlan Geosistemas	0	0
Foshan	476	476

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	1113531	1026399	These emissions only apply to the chemical operations: Fluorinated Solutions and Polymer Solutions.
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C-CH7.8

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

Purchased feedstock	Percentage of Scope 3, Category 1 tCO2e from purchased feedstock	Explain calculation methodology
Polymers	42.05	We have used cradle to gate emission factors obtained from public or private recognized databases (Ex. Ecoinvent). Values. We conducted a full Scope 3 inventory screening in 2019. Our production changed less than 1% year over year (2019 vs 2020), therefore the figure reported here corresponds to that same year as we believe it is still a relevant estimation of this category's emissions.
Soda ash	0.59	We have used cradle to gate emission factors obtained from public or private recognized databases (Ex. Ecoinvent). We conducted a full Scope 3 inventory screening in 2019. Our production changed less than 1% year over year (2019 vs 2020), therefore the figure reported here corresponds to that same year as we believe it is still a relevant estimation of this category's emissions.
Other (please specify) (Mainly VCM with other chemicals)	48.11	We have used cradle to gate emission factors obtained from public or private recognized databases (Ex. Ecoinvent). We conducted a full Scope 3 inventory screening in 2019. Our production changed less than 1% year over year (2019 vs 2020), therefore the figure reported here corresponds to that same year as we believe it is still a relevant estimation of this category's emissions.
High Value Chemicals (Steam cracking)	3.78	We used cradle to gate emission factors obtained from public or private recognized databases (Ex. Ecoinvent). We conducted a full Scope 3 inventory screening in 2019. Our production changed less than 1% year over year (2019 vs 2020), therefore the figure reported here corresponds to that same year as we believe it is still a relevant estimation of this category's emissions.

C-CH7.8a

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

	Sales, metric tons	Comment
Carbon dioxide (CO2)	0	
Methane (CH4)	0	
Nitrous oxide (N2O)	0	
Hydrofluorocarbons (HFC)	54177	Refrigerant R-407c, R-404ª, R-507, R-125, R-410a, R-32, R-135a, R-134a
Perfluorocarbons (PFC)	0	
Sulphur hexafluoride (SF6)	0	
Nitrogen trifluoride (NF3)	0	

C7.9

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

Decreased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	37600	Decreased	1.9	37,600 tons of CO2e were reduced as a result of a higher proportion of certified renewable electricity consumed in 12 new sites located in Europe and Middle East. Total Scope 1+2 GHG emissions in the previous year were 1,999,535 tons of CO2e, therefore we arrived at 1.9% through (37,600/1,999,535)*100 = 1.9% Further details about our purchased renewable electricity are provided in our response to question 8.2
Other emissions reduction activities	42000	Decreased	2.1	42,000 tons of CO2 were reduced as a result of shifting to a cleaner electricity supplier in North America, consuming less GHG intensive fuels (LPG, diesel, coal), in operations in North America and East Asia, and as a result of implementing energy efficiency projects (trigeneration and cooling technology) in North America. Total Scope 1+2 GHG emissions in the previous year were 1,999,535 tons of CO2e, therefore we arrived at 2.1% through (42,000/1,999,535)*100 = 2.1%
Divestment	0	No change	0	Not applicable.
Acquisitions	0	No change	0	Not applicable.
Mergers	0	No change	0	Not applicable.
Change in output	0	No change	0	Not applicable.
Change in methodology	0	No change	0	Not applicable.
Change in boundary	0	No change	0	Not applicable.
Change in physical operating conditions	0	No change		Not applicable.
Unidentified	6400	Decreased	0.3	Orbia's GHG inventory is vast and comprised of thousands of data inputs in over 120 production sites. In our analysis efforts, we have managed to locate the reasons for increased/decrease of emissions for the grand majority of the emission trends. However, despite our efforts, for this small part of the emission reduction- we could not find the specific reason. We will continue to work on and enhance our analysis abilities. Total Scope 1+2 GHG emissions in the previous year were 1,999,535 tons of CO2e, therefore we arrived at 0.3% through (6,400/1,999,535)*100 = 0.3%
Other	46100	Decreased	2.3	Emissions decrease as a result of the annual update of location based emission factors (IEA) and lower GHG emissions from heating, steam and cooling purchased. Total Scope 1+2 GHG emissions in the previous year were 1,999,535 tons of CO2e, therefore we arrived at 2.3% through (46,100/1,999,535)*100 = 2.3%

C7.9b

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

Market-based

C8. Energy

C8.1

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

More than 25% but less than or equal to 30%

C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	765	2831518	2832283
Consumption of purchased or acquired electricity	<Not Applicable>	130983	2486916	2617900
Consumption of purchased or acquired heat	<Not Applicable>	0	67996	67996
Consumption of purchased or acquired steam	<Not Applicable>	0	749834	749834
Consumption of purchased or acquired cooling	<Not Applicable>	0	922091	922091
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	3587	<Not Applicable>	3587
Total energy consumption	<Not Applicable>	135335	7058355	7193690

C-CH8.2a

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

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	2725072
Consumption of purchased or acquired electricity	<Not Applicable>	1834530
Consumption of purchased or acquired heat	<Not Applicable>	59709
Consumption of purchased or acquired steam	<Not Applicable>	749834
Consumption of purchased or acquired cooling	<Not Applicable>	922090
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	69
Total energy consumption	<Not Applicable>	6291304

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)
Natural Gas

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
2512006

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
60694

MWh fuel consumed for self-generation of steam
1647160

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

MWh fuel consumed for self-cogeneration or self-trigeneration
804153

Emission factor
0.00193

Unit
metric tons CO2e per m3

Emissions factor source
*From EPA "Emission Factors for Greenhouse Gas Inventories" version 2018

Comment
The value we have reported combines fuel consumed for self-generation of heat, generation of vapor, generation in cogeneration and for running owned lift trucks.

Fuels (excluding feedstocks)
Motor Gasoline

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
9174

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
5100

MWh fuel consumed for self-generation of steam
0

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

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

Emission factor
0.00233

Unit
metric tons CO2e per liter

Emissions factor source
*From EPA "Emission Factors for Greenhouse Gas Inventories" version 2018

Comment
The amount reported under "fuel consumed for self-generation of heat" corresponds to all mobile use of this fuel. We cannot provide a disaggregation for stationary applications

---

Fuels (excluding feedstocks)
Diesel

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
75539

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
64069

MWh fuel consumed for self-generation of steam
0

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

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

Emission factor
0.00269

Unit
metric tons CO2e per liter

Emissions factor source
"From DEFRA Conversion factors 2019: condensed set (for most users)

Comment
The amount reported under "fuel consumed for self-generation of heat" corresponds to all mobile use of this fuel. We cannot provide a disaggregation for stationary applications

---

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
102557

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
20495

MWh fuel consumed for self-generation of steam
0

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

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

Emission factor
0.00151

Unit
metric tons CO2e per liter

Emissions factor source
"From EPA "Emission Factors for Greenhouse Gas Inventories"" version 2018"

Comment
The amount reported under "fuel consumed for self-generation of heat" corresponds to all mobile use of this fuel. We cannot provide a disaggregation for stationary applications.

Fuels (excluding feedstocks)
Butane

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
3336

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
3336

MWh fuel consumed for self-generation of steam
0

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

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

Emission factor
0.00177

Unit
metric tons CO2e per liter

Emissions factor source
*From EPA "Emission Factors for Greenhouse Gas Inventories" version 2018

Comment
Butane is used in one of our sites to provide heat to the process.

Fuels (excluding feedstocks)
Propane Gas

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
1069

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
869

MWh fuel consumed for self-generation of steam
0

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

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

Emission factor
0.00152

Unit
metric tons CO2e per liter

Emissions factor source
*From EPA "Emission Factors for Greenhouse Gas Inventories" version 2018

Comment
The amount reported under "fuel consumed for self-generation of heat" corresponds to all mobile use of this fuel. We cannot provide a disaggregation for stationary applications

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Fuels (excluding feedstocks)
Bituminous Coal

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
127836

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
127836

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

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

Emission factor
2.5836

Unit
metric tons CO2e per metric ton

Emissions factor source
*From EPA "Emission Factors for Greenhouse Gas Inventories" version 2018

Comment
This data refers to a coal boiler we own.

Fuels (excluding feedstocks)
Other, please specify (Bio LPG)

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
765

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
765

MWh fuel consumed for self-generation of steam
0

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

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

Emission factor
0.00076

Unit
metric tons CO2e per liter

Emissions factor source
*From Chippenham supplier "Calor"

Comment
The amount reported under "fuel consumed for self-generation of heat" corresponds to all mobile use of this fuel.

C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	115929	115929	3587	3587
Heat	48555	48555	0	0
Steam	1716561	1716561	0	0
Cooling	0	0	0	0

C-CH8.2d

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

	Total gross generation (MWh) inside chemicals sector boundary	Generation that is consumed (MWh) inside chemicals sector boundary
Electricity	112411	112411
Heat	0	0
Steam	1716561	1716561
Cooling	0	0

C8.2e

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

Sourcing method
Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type
Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling
United States of America

MWh consumed accounted for at a zero emission factor
46682

Comment
Renewable electricity consumed at the Vestolit plant located in Henry Illinois, provided by AEP

Sourcing method
Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type
Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling
United Kingdom of Great Britain and Northern Ireland

MWh consumed accounted for at a zero emission factor
40043

Comment
Renewable electricity consumed at the following Wavin sites: Balbriggan, Chippenham, Doncaster, Forest Works, Hazlehead, Certificate of origin provided by Örsted

Sourcing method
Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type
Other, please specify (Renewable Mix)

Country/area of consumption of low-carbon electricity, heat, steam or cooling
Finland

MWh consumed accounted for at a zero emission factor
733

Comment
Renewable electricity consumed at the following Wavin sites: Joutsa and Kangasala. Certificate of origin provided by GREENE

Sourcing method
Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type
Hydropower

Country/area of consumption of low-carbon electricity, heat, steam or cooling
Norway

MWh consumed accounted for at a zero emission factor

6014

Comment
Renewable electricity consumed at the Wavin site: Holand. Certificate of origin provided by FJORDKRAFT

Sourcing method
Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type
Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling
Poland

MWh consumed accounted for at a zero emission factor
30927

Comment
Renewable electricity consumed at Buk (Wavin) and Sochaczew (Duraline). Certificate of origin provided by TAURON

Sourcing method
Green electricity products (e.g. green tariffs) from an energy supplier, not supported by energy attribute certificates

Low-carbon technology type
Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling
India

MWh consumed accounted for at a zero emission factor
1281

Comment
Renewable electricity purchased at the Netafim site in Chennai, India, from a wind farm.

Sourcing method
Other, please specify (Generated by community solar panels and purchased by Netafim)

Low-carbon technology type
Solar

Country/area of consumption of low-carbon electricity, heat, steam or cooling
Israel

MWh consumed accounted for at a zero emission factor
808

Comment
Renewable electricity purchased at the Netafim sites in Hatzerim and Yiftach, Israel, from solar panels.

Sourcing method
Green electricity products (e.g. green tariffs) from an energy supplier, not supported by energy attribute certificates

Low-carbon technology type
Other, please specify (Renewables MIX)

Country/area of consumption of low-carbon electricity, heat, steam or cooling
Spain

MWh consumed accounted for at a zero emission factor
3517

Comment
Renewable electricity purchased at the Netafim site in Valencia, Spain from a mixed renewable source.

Sourcing method
Other, please specify (Leased Solar Panels)

Low-carbon technology type
Solar

Country/area of consumption of low-carbon electricity, heat, steam or cooling
India

MWh consumed accounted for at a zero emission factor
907

Comment
Renewable electricity generated at site by a third party in Hyderabad, India (TATA Energy).

Sourcing method
Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type
Other, please specify (Renewable Mix)

Country/area of consumption of low-carbon electricity, heat, steam or cooling

United Kingdom of Great Britain and Northern Ireland

MWh consumed accounted for at a zero emission factor
71

Comment
Renewable electricity consumed at Fareham Southhampton (Wavin). Certificate of origin provided by OPUS ENERGY.

C-CH8.3

(C-CH8.3) Does your organization consume fuels as feedstocks for chemical production activities?
No

C9. Additional metrics

C9.1

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

Description
Energy usage

Metric value
0.87

Metric numerator
Energy from Scope 1 and Scope 2 in MWh

Metric denominator (intensity metric only)
Total production in tons.

% change from previous year
3

Direction of change
Decreased

Please explain
Decrease was related to lower energy consumption (-4%) and a slightly lower (around -1%) production due to the Covid-19 Pandemic

Description
Waste

Metric value
0.01

Metric numerator
Total waste disposed in tons

Metric denominator (intensity metric only)
Total production in tons

% change from previous year
13

Direction of change
Decreased

Please explain
Waste generation in 2019 was specially elevated due to atypical construction/demolition activities compared to our lower values in 2020.

C-CH9.3a

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

Output product
Other, please specify (Chemical products from chemical sites)

Production (metric tons)
7181200

Capacity (metric tons)
10061200

Direct emissions intensity (metric tons CO2e per metric ton of product)
0.08

Electricity intensity (MWh per metric ton of product)
0.26

Steam intensity (MWh per metric ton of product)
0.1

Steam/ heat recovered (MWh per metric ton of product)
0

Comment
Capacity from 2 sites is missing as it was not available at the closure of this response.

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

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

	Investment in low-carbon R&D	Comment
Row 1	Yes	All our business groups are constantly conducting R&D to develop low carbon products. For example, our Wavin brand has invested in the development of low carbon Indoor Climate Solutions (including Sentio and Calefa), as well as our recent spin-off Joint-Venture for PlasticRoad. Koura is also developing low carbon refrigerants and propellants and energy storage solutions, as described in previous sections. Our Vestolit brand is exploring options to develop a fossil-free resin and Alphagary constantly develops compounds to meet low carbon needs of diverse customers. Orbia Ventures, our Venture Capital Fund, also supports R&D efforts startup companies working in climate related technologies. See more info here: https://www.orbia.com/ventures/portfolio/

C-CH9.6a

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

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Product redesign	Large scale commercial deployment	≤20%		Our Alphagary brand invested in the development of VINASTAB, calcium-based stabilizers that bring PVC to life for a variety of applications, including healthcare masks and tubing, irrigation systems, electric vehicle charging systems, rainwater harvesting and flood protection products, as well as purpose-designed formulations that support the use of recycled PVC in a variety of applications.
Product redesign	Small scale commercial deployment	21 - 40%		Investments in the development of low GWP medical propellants and refrigerants by Koura
Product redesign	Pilot demonstration	≤20%		Our Vestolit innovation team is actively working on three technologies to transform the carbon footprint of PVC: • Carbon capture: PVC manufactured using a process that captures carbon dioxide that would otherwise be emitted into the atmosphere, for example, industrial gas emissions from suitable industries. • Circular: PVC manufactured using carbon derived from post-consumer mixed plastic waste. • Bio: PVC manufactured using carbon sourced from plants. In all three cases, we are actively working with our customers to advance this industry transformation.

C10. Verification

C10.1

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

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

C10.1a

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

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
independent-assurance-statement-2020.pdf

Page/ section reference
All

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.1b

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

Scope 2 approach
Scope 2 market-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
independent-assurance-statement-2020.pdf

Page/ section reference
All

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
independent-assurance-statement-2020.pdf

Page/ section reference
All

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.2

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

C10.2a

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISAE3000	All our energy consumption is included in our assurance scope conducted by Deloitte

independent-assurance-statement-2020.pdf

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

EU ETS

Other carbon tax, please specify (UK UMBRELLA CLIMATE CHANGE AGREEMENT FOR THE PLASTICS SECTOR)

C11.1b

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

EU ETS

% of Scope 1 emissions covered by the ETS

11

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1 2020

Period end date

December 31 2020

Allowances allocated

65067

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO2e

66163

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

The figures above represent the Vestolit site in Marl, Germany, which is covered by the EU-ETS and accounts for 11% of Orbia's Total Scope 1 emissions in 2020. The Verified Scope 1 figure reported here has also been reported to the Germany authorities.

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

Other carbon tax, please specify

Period start date
January 1 2020

Period end date
December 31 2020

% of total Scope 1 emissions covered by tax
0

Total cost of tax paid
32545

Comment
The Climate Change Levy covers 4 Wavin sites in the UK. This does not include Scope 1 emissions, as these sites are levied for external electricity usage (Scope 2) only.

C11.1d

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

Regulatory fines that are incurred at individual sites rapidly accumulate for a company with more than 100 locations. The impacts of non-compliance can be local and direct, but the greater impact will be global.

Many companies leave it to their sites to manage HSE legal compliance locally. However, what we often see is that each site will have a completely different approach – ranging from very basic "legal registers" (no more than Excel files with titles of laws), to very comprehensive in-country solutions with on-site support. This results in not having a consistent global picture and to confidently ensure substantial compliance across all jurisdictions.

This is why our HSE and Sustainability structure has been strengthened over the past year to include Environmental compliance experts at Corporate and Business Group level, which among others, are responsible for monitoring carbon-pricing regulations and preparing for compliance. In 2020, we hired a Center of Excellence Environmental Leader who will be responsible for standardising environmental compliance and management systems across the organization. We are implementing a Global Compliance Management platform (ENHESA) to have a better understanding of current and future applicable regulations. This platform will provide a global real-time dashboard for follow-up of compliance status of all our Business Groups.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?
No

C11.3

(C11.3) Does your organization use an internal price on carbon?
No, and we do not currently anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Collect climate change and carbon information at least annually from suppliers

% of suppliers by number
5

% total procurement spend (direct and indirect)
80

% of supplier-related Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
In 2020 we lauched our Ecovadis program, we are initially targeting suppliers that represent the 80% of the total spend in our Building & Infrastructure Business Group in Europe and 80% of the spend in raw materials in our Datacom Business Group at global level. Our list of suppliers goes beyond 20,000; following this approach allows us to identify and prioritize the suppliers with the highest impact on the organization. The EcoVadis sustainability assessment includes many ESG topics, including climate issues such as GHG emissions, renewable and non-renewable energy consumptions, reduction targets and others. The above percentages cover Wavin EMEA and Dura-Line global. These 2 Business Groups will be part of the first trial and learnings from this will be taken forward to the rest of the Business Groups, which will start engaging with suppliers in coming months

Impact of engagement, including measures of success
Orbia launched the Ecovadis program for the groups described above on July 2020. After one year of implementation we have made good progress: 56% have already completed the assessment 5% is in progress 39% Procurement teams are approaching these suppliers to get them to engage them in the process As mentioned above, The EcoVadis sustainability assessment includes many ESG topics, including climate issues such as GHG emissions, renewable and non-renewable energy consumptions, reduction targets and others. Therefore, through the active encouragement of our suppliers to complete these assessments, we are also actively encouraging them to take climatei action, and are helping to initiate emission reductions up our supply chain.

Comment

C12.1b

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

Type of engagement
Collaboration & innovation

Details of engagement
Other, please specify (Collaborations on R&D for low-carbon products, take-back schemes)

% of customers by number
35

% of customer - related Scope 3 emissions as reported in C6.5
35

Portfolio coverage (total or outstanding)
<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement
Engaging with our customers is key given the enabling role our businesses play in helping our customers achieve their climate and environmental strategies. We can help reduce their footprint through innovation of our products and solutions. By engaging regularly with our customers, we are actively listening to their concerns and trying to provide solutions to their environmental and climate-related issues. As an example, after continuous engagement with customers from the pharmaceutical industry, Koura was able to develop a low GWP medical propellant. The above figure represents an estimated % of customers based on revenues from those customers (and covers all our business groups). Using the same logic, we estimate the same % of Category 11 Scope 3 emissions

Impact of engagement, including measures of success
Developing partnerships and working together on innovative solutions that help reduce our collective environmental footprints. For instance, we have several take-back programs to allow our customers to reduce their waste disposal and we collaborate with clients on R&D projects to develop low carbon products. Some measures of success include: - Our reel return program at Dura-Line has been very successful. . In 2020, Dura-Line collected more than 97,000 used reels from customers (42%), enabling 19 million lbs. of metal reels to be recycled or repurposed - Our low GWP propellant, developed in collaboration with key pharmaceutical customers, won the 2020 Chemicals Northwest Awards (for Innovation) and was shortlisted for the 2021 Chemical Industry Awards (for Sustainability).

C12.1d

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

Orbia started a partnership with the Resilient Cities Network in 2021 (https://www.orbia.com/this-is-orbia/news-and-stories/resilient-cities-network-partnership/). Some of the objectives of this partnership include working with cities to develop cutting edge infrastructure investment solutions across water supply systems, urban food systems, and connectivity, to make cities more climate-resilient. This long-term partnership will help drive forward the transition toward resilient cities by promoting sustainable infrastructure investments. The work will utilize Orbia's expertise in material innovation and draw on the intellectual heft of R-Cities members who are leaders in creating safe, smart, and equitable solutions in urban environment. Projects with some cities have already been identified and kicked off.

We also regularly engage with analysts and investors regarding climate-related issues, such as our risks, opportunities, performance and goals.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Trade associations

Funding research organizations

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association
Global FACT (Forum for Advanced Climate Technologies)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
Global FACT (Forum for Advanced Climate Technologies): Is a US-based non-profit membership organization comprised of the world's leaders in advanced climate technologies, promotes education, awareness, and policies that support the important role of new-generation, low- and reduced-global warming potential (GWP) advanced climate technologies in protecting the environment, while meeting the rapidly increasing demand for safe alternatives. https://www.globalfact.org/.

How have you influenced, or are you attempting to influence their position?
Koura is an active member of the FACT, promoting the development of low GWP propellants and refrigerants alongside other key players in the fluorinated gas market such as Arkema, Chemours and Honeywell.

Trade association
European Plastic Pipes and Fittings Association (TEPPFA)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
The TEPPFA is committed to sustainability. Plastic pipes have an expected lifetime of > 100 years (below ground) and save energy during > 50 years in buildings. At end of life they are recyclable. In addition, as part of their sustainability approach implements an Environmental Product Declaration (EPD) that offers a standard way of communicating the output from a life-cycle assessment, which assesses Global warming potential (CO2 equivalent) among other characteristics.

How have you influenced, or are you attempting to influence their position?
Our Wavin Sustainability leaders are very active with the TEPPFA regarding circular economy initiatives and influencing policy around this topic in Europe.

Trade association
VinylPlus - European Council of Vinyl Manufacturers (ECVM)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
VinylPlus® is the voluntary commitment to sustainable development of the European PVC industry, working to improve the sustainability performance of PVC. The Vinyl Plus strategy is established by its members and one of the five key challenges that have been identified, is a commitment to minimize climate impacts through reducing energy and raw material consumption . In order to achieve this challenge several targets were established, tackling a number of critical challenges, in the EU-28, Norway and Switzerland. Vinyl Plus has been recognized for its voluntary commitment to address climate change, and already contributing in the improvement of product sustainability and moving the European PVC industry towards a circular economy. https://vinylplus.eu/About-VinylPlus/the-organisation/board

How have you influenced, or are you attempting to influence their position?
A Senior Executive from our Vestolit business is member of the Steering Board of VinylPlus, therefore being key to shaping the ten-year voluntary commitment of the European PVC industry (the European Council of Vinyl Manufacturers is one of its 4 founding members)

Trade association
Asociación Nacional de la Industria Química (ANIQ)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
ANIQ is the National Chemical Industry Association in Mexico and it represents 95% of the private production of chemicals in the country, with its 285 members. It has a strong Climate Change working group which participated in the development of the national climate change agenda and goals, including the design of the Mexican Carbon Market. Its mission is to promote the sustainable development and global competitiveness of the chemical industry in Mexico, in harmony with the community and the environment.

How have you influenced, or are you attempting to influence their position?
Orbia, through our Alphagary, Vestolit and Koura businesses, participates in the ANIQ´s Climate Change Committee to influence public policy in favor of solutions to reducing the industry´s impact on climate change in Mexico.

Trade association
Alliance for Responsible Atmospheric Policy

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
The Alliance for Responsible Atmospheric Policy is US-based industry coalition. It addresses the issue of stratospheric ozone depletion. It is the primary voice of manufacturers, businesses and trade associations who make or use fluorinated gases for the global market. It coordinates industry participation in the development of economically and environmentally beneficial international and domestic policies at the nexus of ozone protection and climate change. The Alliance concurrently monitors policy developments at the international, federal, and state government levels. Its overarching goal is to encourage responsible, reasonable, and cost-effective ozone protection and climate change policies to be determined at the international level http://www.alliancepolicy.org/about-us/membership

How have you influenced, or are you attempting to influence their position?
Our Koura business is member of the Alliance, promoting regulation to reduce the impact of fluorinated gases on climate change by adopting best practices and collaborating on the development of alternatives

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C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?
Yes

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

We do not have a process in place yet to ensure this at Corporate level. However, we are working on a strategy to strengthen our governance structure around policy influence activities across our Business Groups.

As part of this, we will make sure all our engagement related to policy is aligned with our corporate purpose, values, and sustainability strategy and commitments (including our climate change strategy and commitments). We have started a reporting process to ensure that all memberships and engagements, direct or indirect, that influence policy, are reported to corporate level for assessment. Corrective actions will be taken when necessary to make sure all actions are consistent with our corporate climate change strategy.

C12.4

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

Publication
In voluntary sustainability report

Status
Complete

Attach the document
Orbia_Sustainability Report_2020_Final.pdf

Page/Section reference
Climate, p. 57-58, data tables p. 87-89, SASB Index p. 100-101

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication
In mainstream reports, incorporating the TCFD recommendations

Status
Complete

Attach the document
Orbia annual-report-2020.pdf
orbia-2020-tcfd-report.pdf

Page/Section reference
Our Annual Financial Report includes a section on Climate Risks and Opportunities (p. 115-116 of the attached) In addition, to complement our Financial Report with more details, Orbia has published our first standalone TCFD report (Attached)

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C15. Signoff

C-FI