

C0. Introduction

C0.1

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

In 2019, Mexichem S.A.B. de C.V., a maker of PVC pipe, resins, compounds and specialty chemicals with a legacy of more than 50 years of business success and growth, proudly became Orbia Advance Corporation S.A.B. de C.V. Orbia (BMV: 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, Fluor, 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; Fluor, suppliers of fluorine-based compounds, technologies and services; B&I, focused on providing solutions for water management, heating, cooling, and other infrastructure solutions; Datacom, 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 41, with global headquarters in Mexico City, Boston, Amsterdam and Tel Aviv and a team of 22,000 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 2019	December 31 2019	No	<Not Applicable>

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
El Salvador
Finland
France
Germany
Guatemala
Honduras
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: - Regularly, our VP of Sustainability reports 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

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	<ul style="list-style-type: none"> Reviewing and guiding 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

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).

Responsibility for all Group-wide sustainability rests with the dedicated role of VP of Sustainability, this role was created as a stand-alone role to highlight Orbia’s commitment to climate change and sustainability. The VP of Sustainability reports to Orbia’s CEO and all aspects of sustainability, including climate-related, are reported to the VP. The VP and Corporate Sustainability team reach agreements with the Business Group Presidents to integrate climate related issues into their strategy (based on the TCFD analysis carried out in 2019, our Science Based Targets setting process, and wider risk assessment processes as well as our Sustainability Goals). Every Business Group has a Sustainability team that implements environmental strategies and reports performance on climate-related issues monthly through our reporting platform. Our VP of Sustainability is part of the Executive Leadership Team, at the same level as the CFO and other key functional roles, influencing our business strategy

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	From 2020 we have incorporated global corporate objectives that represent 10% of the bonus. These include making progress on our ImpactMark metrics. The ImpactMark has 6 metrics and 2 out of those are directly related to climate issues: 1. Reduce Greenhouse Gas emissions: Science Based Targets validated 2. Reduce waste generated: Zero waste to landfill These objectives are mandatory for the CEO and his first line of management. Each Business President has the discretion to cascade them to their direct reports.

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 incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	The following objectives represent 5% of the yearly bonus: 1. Reduce Greenhouse Gas emissions: Science Based Targets validated 2. Reduce waste generated: Zero waste to landfill
Corporate executive team	Monetary reward	Emissions reduction target	The following objectives represent 5% of the yearly bonus: 1. Reduce Greenhouse Gas emissions: Science Based Targets validated 2. Reduce waste generated: Zero waste 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?

We have 5 levels to define substantive financial impact:

1. Any risk that needs to be addressed immediately: 2.5 times EBITDA or with an impact of 75m USD
2. High impact: 40m USD – 75m USD
3. Medium: 20m-40m USD
4. Low: 10m-20m USD
5. Below 10m 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 TCFD recommendations in 2019. And starting in 2020, our revamped Enterprise Risk Management process will integrate climate-related risks alongside other enterprise risks. We identify physical and transition risks and opportunities as part of this process and quantify their potential financial impact along with their time horizon. Those risks and opportunities with higher financial impact 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 has been included in Orbia's climate-related risk assessment. Compliance to existing regulations in all the geographies where we participate or conduct commercial 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 license to operate for high carbon activities are being evaluated for both current and potential upcoming regulations. For example, the current carbon price in the UK is around 23 USD/tonCO2e (1), according to projections estimated by IEA for developed economies (IEA WEO, 2018), a carbon price would have a value of 89 USD/ton CO2e by 2030 (2). This could result in increases in our input/operating costs. (1) World Bank's Carbon Pricing tool (2) International Energy Agency, World Energy Outlook, 2018. Available at: https://www.iea.org/weo2018/
Emerging regulation	Relevant, always included	Emerging regulation has been included in Orbia's climate-related risk assessment. 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 license 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 the mining processes, 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, in 2019, the congressional resolution of the so-called "Green New Deal" calling on the US government to wean from fossil fuels and curb planet-warming greenhouse emissions across the economy, opened the national debate regarding these issues. If the political tendencies change and the USA adopts policies to align with the Paris Agreement, several of these mechanisms could be adopted by different states by 2030, as has already happened in California, Washington, Virginia, Massachusetts, or Oregon. Even a nationwide carbon pricing mechanism could be expected. If this scenario happens, according to projections estimated by the IEA for developed economies (IEA WEO, 2018), a carbon price would have a value of 89 USD/ton CO2e by 2030. This would affect our operations in the US. Several Mexican States such as Tamaulipas, Nuevo Leon and Jalisco have started discussing regulation to impose a tax on carbon emissions at their local congress. Direct impact for our operations in Mexico would be expected, a tax with a value of approximately 12 USD/ton CO2e is being proposed to take effect in early 2021. This tax is in addition to the carbon exchange market from the Federal Government that is expected to start its pilot process on 2020 for big emitters. 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. 37% of our operations are in areas of water stress.
Technology	Relevant, sometimes included	As part of our TCFD-aligned assessment, we are evaluating 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 migrate to operate with low-carbon technologies, including identifying alternatives to replace coal-based technologies and increasing our use of renewables. We are phasing out our remaining coal-based processes to completely replace them before 2025. And we are increasing our renewable electricity consumption in India, Europe and Latin-America. We are also conducting efforts to launch low-carbon products as will be described in the opportunities section.
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 foreseeable 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 are evaluating market transition risks in our business, supply chain, and customer geographies. These include changes to 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, Hydrogen Fluoride (HF) manufactured in Matamoros (Mexico) is primarily used in the market for the production of refrigerants or hydrofluorocarbons (HFCs). HFCs such as CF3CH2F (R-134a) and CF3CHF2, which are not ozone depleting, are manufactured from hydrogen fluoride and used in refrigerators and air conditioners. These molecules have a high Global Warming Potential and contribute to global warming [1]. To mitigate global warming effects associated to HFCs, the Kigali Amendment to the Montreal Protocol, binds developed countries to begin to reduce their use of HFCs by 2019 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 CO2e through 2050 [2]. In this context, demand for HFC-related products is expected to be impacted due to the implementation of regulations to phase out HFCs. This would directly impact HF consumption in the market. For instance, Mexico has issued an amendment of the Montreal Protocol based on the Kigali accord, so it is subject to the HFC reduction percentages expressed in this amendment [3]. [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 [3] http://www.dof.gob.mx/nota_detalle.php?codigo=5545338&fecha=30/11/2018
Reputation	Relevant, always included	As part of our TCFD-aligned assessment, we are evaluating global and business unit reputation risks stemming from growing expectations for low carbon, climate resilient action from stakeholders, including investors, lenders, host governments and customers. For instance, the Institutional Investors Group on Climate Change (a coalition of more than 70 pension funds and investment managers representing assets of \$16tn) have designed a "net zero" framework to help strip out damaging carbon emissions across their portfolios by 2050. This also includes evaluating implications for company reputation and overall confidence in management, social license to operate, and access to capital. Analysis shows that Orbia demonstrates excellent transparency (Bloomberg ESG, Dow Jones Sustainability Index, disclosure of our response to CDP), however, increasing visibility of climate change risks and opportunities is still needed to reinforce our reputation
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 inundation. 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	Increased severity and frequency of extreme weather events such as cyclones and floods
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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. 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-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

22660000

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 flood or cyclones affecting our 12 higher risk sites evaluated. The risk of floods/cyclones materializing is medium for only 2 sites

Cost of response to risk

15000000

Description of response and explanation of cost calculation

We have invested in making our Cartagena site resilient to potential floods. This cost around 6,000,000 USD in 2011. We used this scope of work and estimate to extrapolate the costs to cover the risks identified in the TCFD risk assessment (2 medium risk sites) and considering the increase in prices and inflation. We are working with our business units globally to inform our risk mitigation strategies, which will be aligned with our overall business planning and risk management processes. We expect our external disclosure on risks and their associated costs will improve 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)
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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)

13860000

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 sum 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

106000

Description of response and explanation of cost calculation

The calculation covers the 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 that we will require 1145 cubic meter of water per day at a cost of 0.26 USD/cubic meter. This is a short-term cost impact and does not include potential complications associated with the sourcing and availability of supplementary water sources in addition to potential community concerns on this topic. 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 improve 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
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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 plant in St. Gabriel (US). 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 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 introduced in 2018 by a bipartisan group of US senators could pave the way for the US adoption off the Kigali amendment to phase down HFC refrigerants [3]. The legislation will ensure that the EPA has the authority to ensure a smooth phase down of HFCs in order to support the next generation technologies. In particular, it refers to two plants – the Honeywell refrigerant plant in Geismar and Orbia Fluor’s facility in St Gabriel, Louisiana. According to the source, this bill gives a \$206bn support to invest, transition and protect American jobs, especially in the Louisiana region.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

28330000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The value represents the potential impact on EBIT if no actions are taken. EBIT numbers and impact on the facilities involved in the refrigerants value chain have been considered.

Cost of response to risk

14000000

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 above covers setting up a new facility in the UK to develop low GWP leapfrog refrigerants

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
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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 proposing an initiative to implement a mandatory carbon tax for all operations 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 emerging regulation.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

4000000

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 only direct emissions or if the new tax will also include indirect emissions. The impact is calculated only for the 4 Tamaulipas sites based on their CO2e emissions for 2019.

Cost of response to risk

2954500

Description of response and explanation of cost calculation

We calculated the cost by assuming an average price for renewable energy per kwh (10% increase on current energy costs by switching to renewable energy) and assumed conversion of all our scope 2 footprint under the jurisdiction of the proposed carbon tax. We also included 200,000 USD for consulting & legal costs to cover negotiations and make the conversion to renewable energy. However, we have not accounted for potential penalties for changing/terminating our long-term contracts. A legal strategy will also be necessary to align current activities to the new tax.

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 strengthening 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.

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)

200000000

Potential financial impact figure – maximum (currency)

260000000

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 and 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. Koura has introduced Zephex 152a, a new propellant gas that will deliver more than 90 percent reduction in Global Warming Potential for pressurized MDIs, as compared to current offerings. Working with global pharmaceutical companies, this propellant is currently undergoing clinical trials. 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.

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)

19000000

Potential financial impact figure – maximum (currency)

187000000

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, 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

24000000

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 will be the first in the world to offer dedicated pharmaceutical grade laboratories specialising in the new low carbon footprint medical propellant Zephex® 152a and will help 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, however, all our Business Groups are implementing similar renewable energy projects in other European countries, the US, Latin America, and India.

Time horizon

Medium-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)

616000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The above is based on annual savings from obtaining better contract terms with renewable energy providers as well as carbon tax exemptions of over 90%.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

The switch to a renewable energy provider represented no investment or cost for our sites in the UK

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.

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.

Comment

C3. Business Strategy

C3.1

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

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative

C3.1b

(C3.1b) 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 sites, by shifting rainfall patterns and its proximity to the sea. Currently, Cartagena is developing an analysis for the next 50 years to incorporate the prevention and adaptation measures necessary to guarantee operational continuity and therefore, 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.

C3.1d

(C3.1d) 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 and HVAC systems make up at least half of that. 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 technologies and buildings. Orbia has taken a strategic decision to invest and grow this business over the next 5 years to more than 240 million USD/yr. 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 84 times more potent than CO2 in GWP. According to studies, Drip irrigation has a 50% CO2e reduction potential when compared with flood irrigation. Therefore, our irrigation business 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.
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. To date, more than 95% of shipments of our products are transported by road from 8 dispatch points. Through 2020, all current road shipments, around 450 trips per year, will be consolidated and transferred to rail, enabling a saving of 1,200 tons of CO2e per year while maintaining customer service. This project will inform the logistics team's strategy and our targets to reduce our Scope 3 emissions as we work towards carbon neutrality in 2050. Case 2: As part of our commitment to be carbon neutral in 2050, our Wavin business has established an employee electric fleet policy as part of its strategy. The policy will be rolled out in 2020 and will ensure that around 100% of its fleet will be electric by 2025. This policy will require an investment in 80,000 USD in operational costs but no capital costs.
Investment in R&D	Yes	New regulation and market demands derived from climate change influence our decisions of R&D investment. Our businesses are investing in developing low carbon products, such as our new medical propellant that has 90% less GWP, new leapfrog refrigerants, carbon neutral PVC, among others. We are also investing in the development of solutions that enable the transition to a low carbon economy such as battery storage. Case 1: Conventional PVC production is linear, with fossil crude oil and salt as raw materials. It's also carbon-intensive: For every kg of PVC about 2 kg of CO2e are emitted. In line with business strategy to be future fit and sustainable, our PVC business has launched an innovation project to develop a PVC polymer that is carbon neutral (or at least significantly lower carbon) and circular. The aim is to develop a process that can become cost-competitive within 10 years.
Operations	Yes	Operations have targets to improve efficiency and transition to cleaner or renewable sources of energy; reduce waste sent to landfill, among other related strategies to adapt to potential extreme weather events (for relevant sites). Climate-related risks have influenced our global targets to become carbon neutral by 2050 and send zero waste to landfill by 2025. Case 1: Incorporating energy efficiency into asset management strategy will allow Wavin to roll out LED lighting at 12 sites over the next 5 years (2020-2025). This will require a CAPEX of 17 million USD in total. Case 2: Our PVC business in Marl, Germany, integrated the Zero Waste to landfill goal into their business strategy. This allowed them to identify a key opportunity where they were able to recover up to 97% of PVC from the process water. They were able to rework it and sell as a lower spec product providing the business with an additional significant revenue stream, while avoiding the purchase of virgin raw materials, thus avoiding carbon emissions. This process took place over the period of 10 years between 2009 and 2020. Case 3: Wavin will increase the use of recycled PVC from 9% to 25% by 2025 in our products to reduce our dependence on virgin raw materials and avoid carbon emissions. This is a key target for integrating circularity into the business strategy

C3.1e

(C3.1e) 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. This means that we are including additional criteria that allow us to tag a project as climate change related where relevant. This will also allow us to 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 capital allocation process will also ring fence a considerable amount to be spent on sustainability projects. This will also allow for a more robust pipeline of sustainability projects over the next 5-10 years as these will be evaluated separately and on their merit to move the needle towards achieving our sustainability targets and will not need to compete with other projects. The intention is to have this process finalized before the beginning of the new budget cycle later this year. 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 and HVAC systems make up at least half of that. 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 technologies and buildings. Orbia has taken a strategic decision to invest and grow this business over the next 5 years to more than 240 million USD/yr. 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 84 times more potent than CO2 in GWP20. According to studies, drip irrigation has a 50% CO2e reduction potential when compared with flood irrigation. Therefore, our irrigation business 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/), the methane reductions using drip irrigation for rice cultivation are even more pronounced.

C3.1f

(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

C4. Targets and performance

C4.1

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

No target

C4.1c

(C4.1c) Explain why you did not have an emissions target, and forecast how your emissions will change over the next five years.

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	With our current efficiency and renewable energy strategies we expect our GHG emissions to continue with a decreasing trend in coming years (our total scope 1 and 2 emissions decreased 9% in 2019 vs. 2018). We expect to have a yearly reduction between 2 and 3% during the next 5 years, meaning that by 2025 we should have a 15% reduction in our GHG emissions compared to our 2019 baseline.	We did not have a specific target this year because we are in the process of setting our Science Based Targets and expecting to have them approved early 2021. New renewable energy projects are being implemented across our sites in Latin America, Europe and India during 2020 in addition to other energy efficiency projects

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
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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

24

% of target achieved [auto-calculated]

0

Target status in reporting year

New

Is this target part of an emissions target?

As stated by the GHG Protocol, under the Corporate Value Chain (Scope 3) Standard, the category 5 emissions are related to waste disposed. If we decrease our waste sent to landfill, by consequence, our Scope 3 Category 5 emissions should also decrease.

Is this target part of an overarching initiative?

Science Based Targets initiative

Please explain (including target coverage)

This target could be considered as part of the broader Science Based Targets initiative, since it will have an impact on our Scope 3 emissions as mentioned above. The

target was developed internally following discussions with stakeholders in our different business groups. We are in the process of fine-tuning the coverage as we work towards our Zero Waste to Landfill goal as part of our wider Science Based Targets defining process This metric covers all of our production facilities in 2019.

Target reference number

Oth 2

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)

Other, please specify	Other, please specify (SOx emissions reduced by 60%)
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Target denominator (intensity targets only)

<Not Applicable>

Base year

2018

Figure or percentage in base year

1355

Target year

2025

Figure or percentage in target year

542

Figure or percentage in reporting year

1181

% of target achieved [auto-calculated]

21.4022140221402

Target status in reporting year

Underway

Is this target part of an emissions target?

This is part of our program to reduce emissions to air

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This target is not part of any external overarching initiative, but part of our own efforts to reduce emissions to air. This metric covers all of our production facilities in 2019. Figures provided are in tons

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	0	0
To be implemented*	1	0
Implementation commenced*	2	23550
Implemented*	2	16608
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	Wind
-------------------------------	------

Estimated annual CO2e savings (metric tonnes CO2e)

15350

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

616000

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

0

Payback period

No payback

Estimated lifetime of the initiative

3-5 years

Comment

No investment was required to switch to Wind energy. The wind energy contract with the energy provider is renewable every 3 years

Initiative category & Initiative type

Transportation	Other, please specify (Switching from road transportation of our products, to rail transportation)
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Estimated annual CO2e savings (metric tonnes CO2e)

1200

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

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

127740

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

127448

Payback period

No payback

Estimated lifetime of the initiative

16-20 years

Comment

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 Headquarters 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 Headquarters 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 Headquarters 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 HSE and energy-related positions are being evaluated by their site efficiency performance and their variable compensation is impacted accordingly. Orbia Headquarters 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

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. Our Indoor Climate Solutions range includes Sentio and other energy-efficient heating and cooling systems.

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

3

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

3% of our Building and Infrastructure revenue in 2019 was from energy-efficient Indoor Climate Solutions. When compared to alternative products, Sentio reduces energy consumption by 21%, which in turn reduces carbon footprint during the use phase

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 and Netafim brands. Using the LCA methodology comparing products made from virgin raw materials to products including recycled material, we established that when we increase the use of recycled material, the carbon footprint of the product is reduced because the carbon footprint of recycled polymer is less than that of virgin polymer.

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

1.6

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

Using the LCA methodology, comparing products made from virgin raw materials to products including recycled material, we established that when we increase the use of recycled material, the carbon footprint of the product is reduced because the carbon footprint of recycled polymer is less than that of virgin polymer.

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)

588002

Comment

The base year is 2019, considered by Orbia to establish the GHG emissions reduction targets.

Scope 2 (location-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1119078

Comment

Calculated considering average national CO2 emission factors published by the International Energy Association

Scope 2 (market-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1046742

Comment

Calculated considering CO2 emission factors provided directly by some suppliers. We expect to increase the amount of direct primary data from suppliers going forward.

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)

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)

588002

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

These emissions are the result of combustion of fuels from mobile and stationary sources

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 factors were used, the aim is to increase this number

C6.3

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

Reporting year

Scope 2, location-based

1119078

Scope 2, market-based (if applicable)

1046742

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

These are our emissions related to our purchased electricity consumption.

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?

No

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

2079312

Emissions calculation methodology

We are currently in the process of completing our scope 3 inventory. Therefore, the emissions presented for this category are only those related to the raw materials for which we had available cradle-to-gate emission factors. We expect to complete this category via a cost-based method and fine-tune the data in upcoming iterations.

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

0

Please explain

All data was calculated using our internal database for raw materials and public emission factors. Included raw materials are: polyethylene resins, polypropylene resins and PVC resins used by our Wavin, Netafim, and Duraline Business Groups.

Capital goods

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 are currently in the process of completing our scope 3 inventory. In an internal assessment, this category was determined as a low priority (given the nature of our businesses). We are working on estimating values for this category via a cost-based method.

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

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

181552

Emissions calculation methodology

This value was calculated using the primary data for scope 1 and 2 and the cradle-to-gate emission factors for fuels and electricity.

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

0

Please explain

This data was calculated using our own data, publicly available emission factors for fuels and the IEA emission factors for electricity.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

160354

Emissions calculation methodology

We are currently in the process of completing our scope 3 inventory. Therefore, the quantity presented for category 4 represents readily available data on freighted weight and distance of logistic services purchased by the company. Data provided here covers 90% of upstream transportation and distribution for 2 of our Business groups (Polymer Solutions and Koura). The remaining 3 (Netafim, Wavin, and Duraline) have a coverage between 20% to 60%. We expect to complete this category via a cost-based method and fine-tune the data in upcoming iterations.

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

1

Please explain

We were able to obtain freighted weight and distance from our internal systems and make calculations using DEFRA's emission factors. Only a small percentage of our suppliers were able to provide direct greenhouse gas emissions.

Waste generated in operations

Evaluation status

Not relevant, calculated

Metric tonnes CO₂e

4192

Emissions calculation methodology

This value was calculated using the same primary data disclosed in our sustainability report 2019 and waste disposal emission factors from publicly available sources.

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

0

Please explain

Activity data was used from our internal systems and the emission factors used came from public sources.

Business travel

Evaluation status

Not relevant, calculated

Metric tonnes CO₂e

10487

Emissions calculation methodology

We are currently in the process of completing our scope 3 inventory. Therefore, the quantity presented for category 6 represents readily available data on carbon emissions from air travel. Data provided here covers 100% of air travel from Netafim, and a range between 50%-90% of air travel from Polymer Solutions, Duraline and Wavin. We expect to complete this category via a cost-based method and fine-tune the data in upcoming iterations.

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

32

Please explain

A high percentage of the travel agencies we contract were able to provide direct emissions for the tickets purchased by our organisation, the rest was calculated from our internal databases and publicly available emission factors, from DEFRA, 2019 version.

Employee commuting

Evaluation status

Not relevant, calculated

Metric tonnes CO₂e

16629

Emissions calculation methodology

We are currently in the process of completing our scope 3 inventory. Therefore, the quantity presented for category 7 only represents partial data. We expect to complete this category via a cost-based method and fine-tune the data in upcoming iterations.

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

0

Please explain

This data was estimated through a survey conducted for a fraction of our employees on business commute activities.

Upstream leased assets

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 are currently in the process of completing our scope 3 inventory. In an internal assessment, this category was determined as a low priority (given the nature of our businesses). We are working on estimating values for this category via a cost-based method.

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

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 are currently in the process of completing our scope 3 inventory. This category was determined to be very complex to estimate as neither the activity data (freighted weight and distance) nor the cost can be extracted from internal databases. As defined by the GHG Protocol Guidelines, this category refers to the transportation and distribution services not paid by Orbia; therefore, we have little control of this information. We are working on creating a model to estimate this category.

Processing of sold products

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 are currently in the process of completing our scope 3 inventory. We are working on estimating values for this category via a cost-based method and fine-tune the information in upcoming iterations.

Use of sold products

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 are currently in the process of completing our scope 3 inventory. In an internal assessment this category it was determined not to be a priority for our business goals for this iteration of the inventory, therefore, it has not yet been calculated. We expect to report this value in upcoming iterations of the inventory.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1163225

Emissions calculation methodology

We are currently in the process of completing our scope 3 inventory. Therefore, the quantity presented for category 12 was estimated through the Quantis Scope 3 calculation tool and the total amount of materials used to produce our products.

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

0

Please explain

Activity data was extracted from our database and the emission factors came from the Quantis calculator tool, which is able to estimate this category by inputting the mass of the raw materials involved in the manufacturing process. We have included here the mass of all the raw materials used by our 5 Business Groups in their manufacturing processes.

Downstream leased assets

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 are currently in the process of completing our scope 3 inventory; this includes identifying a reasonable methodology to estimate this category.

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

Our business model does not include franchises. Therefore, this category is not applicable.

Investments

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 are currently in the process of completing our scope 3 inventory. We expect to report this value in upcoming iterations of the inventory.

Other (upstream)

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

All our value chain emissions are accounted for in the previous categories.

Other (downstream)

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

All our value chain emissions are accounted for in the previous categories.

C6.7

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

No

C6.10

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

Intensity figure

0.198

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

1634744

Metric denominator

metric ton of product

Metric denominator: Unit total

8244839

Scope 2 figure used

Market-based

% change from previous year

11

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	586924	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	431	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	647	IPCC Fourth Assessment Report (AR4 - 100 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	50040
Argentina	16
Brazil	1771
Canada	99
China	0
Colombia	114767
Costa Rica	180
Czechia	13266
Denmark	572
Ecuador	1100
United States of America	123179
Finland	187
France	744
Guatemala	396
Honduras	24
Hungary	355
India	881
Ireland	207
Italy	395
Japan	18429
Lithuania	113
Mexico	244248
Norway	133
Netherlands	1376
Oman	72
Panama	226
Peru	648
Poland	1374
South Africa	99
Sweden	259
Turkey	207
United Kingdom of Great Britain and Northern Ireland	12042
Venezuela (Bolivarian Republic of)	4
Belgium	170
El Salvador	297
Russian Federation	59
Australia	21
Chile	47
Israel	0
Spain	0

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)
Fluor	95671
Polymer Solutions	450948
Data communication	2392
Precision Agriculture	957
Building & Infrastructure	38033

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	3441	22.407533	-97.895293
Altamira II	22440	22.453146	-97.987771
Altamira PVC	73019	22.407533	-97.895293
Andinos - Colombia - Barranquilla - Celt	34	4.916205	-74.046667
Andinos - Colombia - Bogotá	273	4.595468	-74.163708
Andinos - Colombia - Guachené	28	3.13303	-76.39174
Andinos - Ecuador - Durán	1100	-2.191214	-79.82391
Andinos - Venezuela - CUA	4	10.167855	-66.897998
Argentina - Planta Pablo Podestá	16	-34.580023	-58.610246
Bogotá - Geosistemas	95	4.916205	-74.163708
Brasil - Anápolis	23	-16.402601	-48.937017
Brasil - Joinville Floresta	83	-26.337979	-48.846319
Brasil - Ribeiro Neves	32	-19.787366	-44.010545
Brasil - Sao Jose dos Campos	1224	-27.553411	-48.619858
Brasil - Suape	74	-8.398121	-35.060988
Brasil - Sumaré	246	-22.82007	-47.246744
Calif - Colposos	347	3.490394	-76.507896
Cartagena - Resinas	113635	10.326722	-75.503948
Coatzacoalcos	50841	18.112961	-94.399378
Cuautitlán	255	19.652829	-99.191232
El Salto	17978	20.490261	-103.22373
Hermosillo	54	29.020585	-110.902806
La Presa	8164	19.525327	-99.120524
Lechería	6983	19.615371	99.189363
León	131	21.087885	-101.681612
Matamoros	23184	25.90719	-97.55164
Magal	0	32.3867	35.033955
Mexichem Colombia - Cajicá	330	4.595523	-74.165804
Mina Villa de Zaragoza	12136	21.941647	-100.577946
El Patio San Luis Potosí	1500	22.111257	-100.91655
Perú - Amanco	214	-12.05875	-76.948808
Perú - Geotextiles	142	-12.05875	-76.948808
Perú - Arequipa	276	-16.41931	-71.509073
Poncillán	26	20.381741	-102.957433
Querétaro DL	84	20.607719	-100.4203
RCA - Costa Rica	180	9.979466	-84.165975
RCA - Guatemala	396	14.599499	-90.539061
RCA - Honduras	24	15.55962	-87.978546
RCA - Panamá	226	9.05924	-79.430145
PMV Minera	51	18.005298	-94.743222
San Luis Potosí DL	23	22.111248	-100.916557
Tlaxcala Compuestos	16	19.168273	-98.227892
Tlaxcala PVC	8777	19.168273	-98.227892
Tultitlán	10508	19.614095	-99.181728
Marl	48837	51.681563	7.100299
Sparks, Nevada	135	39.527895	-119.724202
Gainesville, Texas	139	33.657908	-97.152932
Clinton, Tennessee	93	36.10165	-84.124722
Elyria, Ohio	131	41.359269	-82.122423
McAlester, Oklahoma	78	34.925377	-95.824824
Mountain Grove, Missouri	86	37.125345	-92.278139
Gravenhurst, Ontario	61	44.995893	-79.321291
Evansville, WY	121	42.85858	-106.216867
Pedricktown, NJ	11994	39.765328	-75.420032
Cartagena Compuestos	24	10.326722	-75.503948
Henry, IL	71237	41.133548	-89.347029
Mihara	18429	34.392411	133.082727
St. Gabriel	35784	30.235727	-91.099571
Rocksavage	44	53.313628	-2.721378
Sohar	72	24.429516	56.569919
Neemrana	328	27.981117	76.39402
Johannesburg	76	-26.023924	27.950247
Hyderabad	95	17.169561	78.292594
Goa I	387	15.370961	73.935767
Foshan	0	23.124325	113.006518
Chinley	533	53.336509	-1.947333
Melton Mowbray	148	52.752347	-0.906
Leominster	1474	42.533303	-71.708668
Pineville	512	35.102368	-80.886713
Kostelec nad Labem	13068	50.234759	14.584053
Hammel	572	56.25238	9.850467

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Joutsa	1	61.759525	26.079
Kangasala	186	61.476556	23.991944
Serrieres	11	45.902325	5.837029
Sorgues	56	44.01385	4.889576
Varenes	677	46.291543	3.425363
Twist	956	52.641412	7.106509
Zsambek	355	47.545381	18.731108
Balbriggan	207	53.605575	-6.184051
S.M. Maddalena	395	44.904102	11.600488
Baltics Vilnius	113	54.627701	25.147146
Hardenberg	1317	52.566193	6.631615
Holand	133	59.802048	11.444419
Buk	1003	52.348872	16.52665
Sochaczew	216	52.198125	20.192055
Strzelin	156	52.404036	16.865753
Eskilstuna	259	59.370968	16.683764
Adana	207	36.983408	35.391394
Chippenham	1179	51.470218	-2.106321
Forest Works	1986	54.750426	-1.612809
Hazlehead	8148	53.538558	-1.727663
Bykovo	59	38.061509	38.061509
Caloto - Geosistemas	0	3.210059	-76.420308
Cedis Boulevard	297	13.702143	-89.164392
Denver, PA	7	40.223576	-76.112498
Doncaster	836	53.488512	-1.185
Erwin, Tennessee	68	36.130276	-82.436797
Fareham Southampton	4	50.870166	-1.255722
Joinville Gloria	89	-26.288632	-48.86484
Horni Pocernice	0	50.122406	14.613469
Muzquiz	3859	27.882263	-101.512374
North Salt Lake, Utah	160	40.857473	-111.909585
Rio Verde	735	21.966143	-100.008897
St. Nikaas	35	51.149056	4.126486
Tenille, Georgia	50	32.949928	-82.799816
Tlumacov	198	49.261358	17.497471
Westeregeln	247	51.957013	11.376339
Temiskaming, Ontario	38	47.493495	-79.675355
Vadodara	21	22.547857	73.462372
Valencia	0	39.477738	-5.43038
Yinchuan	0	38.463906	106.100619
Yitfah	0	33.125323	35.551687
Sandersville, Georgia I	77	32.999553	-82.83551
Santiago	47	-33.327818	-70.706482
Adana Netafim	0	36.979655	35.621797
Cabo de Santo Agostinho	0	-8.281274	35.078684
Cape town	22	-33.841484	18.731544
Chennai	50	22.294669	73.164061
Fowler	50	36.762922	-119.705432
Fresno	282	36.764151	-119.718105
Hatzerim	0	31.240549	34.717515
Lima	15	-12.290645	-76.841172
Melbourne	21	-37.816516	144.786125
Muzquiz – La Sabina Mine	0	27.882263	-101.512374
Poncillán Geosistemas	0	20.381741	-102.957433
Reynosa	43	26.008416	-98.26832
Ribeira Prieto	0	-21.12044	-47.831812
Rucphen	59	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	83591
Natural gas combustion for heating	385021
Other fuels burned at sites	119390

(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	533691	<Not Applicable>	Chemical businesses are included: Fluor 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	306134	306134	734129	0
Argentina	2949	2949	8400	0
Belgium	1656	1656	4141	0
Brazil	13646	13646	116646	0
Canada	882	882	6210	0
Colombia	13900	13900	103675	59
Costa Rica	28	28	13832	0
Denmark	2155	2155	14271	0
Ecuador	3890	3890	21733	0
United States of America	119796	98761	233449	47548
Finland	84	84	802	0
France	2030	2030	29452	0
Guatemala	4021	4021	13152	0
Honduras	80	80	253	0
Hungary	1597	1597	6002	0
India	27138	27138	37795	0
Ireland	2294	1721	4552	1516
Italy	2045	2045	6273	0
Japan	5924	5924	11349	0
Lithuania	225	225	2859	0
Mexico	474812	430958	930445	0
Norway	52	52	6442	0
Netherlands	11269	11269	25788	765
Oman	1962	1962	4303	0
Panama	259	259	1383	0
Peru	6296	6296	28367	0
Poland	34599	34599	48799	0
Russian Federation	264	264	751	0
South Africa	4693	4693	5215	0
Sweden	116	116	8892	0
Turkey	13751	13751	29825	0
United Kingdom of Great Britain and Northern Ireland	15601	8728	37569	33776
Venezuela (Bolivarian Republic of)	346	346	1240	0
Australia	2226	2226	2996	0
Chile	986	986	2267	0
China	819	819	1313	0
Israel	31210	31210	56184	0
Spain	807	807	2798	0
Czechia	8480	8480	16669	0
El Salvador	55	55	338	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)
Fluor	102219	95096
Polymer Solutions	724065	669113
Building & Infrastructure	151307	141046
Data communication	73252	73252
Precision & Agriculture	68235	68235

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	17059	15327
Altamira II	31111	25350
Altamira PVC	64609	56021
Andinos -Barranquilla - Celta	1133	1133
Andinos - Colombia - Bogotá	3618	3618
Andinos - Colombia - Guachené	1495	1495
Andinos - Ecuador - Durán	3890	3890
Andinos - Venezuela - CUA	346	346
Argentina - Planta Pablo Podestá	2949	2949
Bogotá - Geosistemas	759	759
Brasil - Anápolis	656	656
Joinville- Floresta	3216	3216
Ribeirao das Neves	662	662
Brasil - Sao Jose dos Campos	1775	1775
Brasil - Suape	1467	1467
Brasil - Sumaré	4595	4595
Cali - Colpozos	31	31
Caloto - Geosistemas	212	212
Cartagena - Resinas	5116	5116
Coatzacoalcos	179072	168058
Cuatitlán	6212	5103
El Salto	55300	55300
Hermosillo	1650	1550
La Presa	11866	5477
Lechería	2421	2421
León	7168	7168
Matamoros	46552	41363
Mexichem Colombia - Cajicá	814	814
Mina Villa de Zaragoza	21507	19206
El Patio San Luis Potosí	711	1077
Perú - Amanco	3941	3941
Perú - Geotextiles	710	710
Perú - Arequipa	1040	1040
Poncitlán	1379	1187
Querétaro DL	2612	2612
RCA - Costa Rica	28	28
RCA - Guatemala	4021	4021
Honduras	80	80
RCA - Panamá	259	259
PMV Minera	1637	1637
San Luis Potosí DL	1333	1333
Tlaxcala Compuestos	1822	1526
Tlaxcala PVC	7663	6436
Tultitlán	2318	1994
Marl	294547	294547

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Sparks, Nevada	1596	1596
Gainesville, Texas	5928	5928
Clinton, Tennessee	1806	1806
Elyria, Ohio	7085	7085
McAlester, Oklahoma	4983	4983
Mountain Grove, Missouri	7218	7218
Sandersville, Georgia I	7167	7167
Gravenhurst, Ontario	859	859
Pedricktown, NJ	13252	13252
Henry, IL	19623	0
Mihara	5924	5924
Rocksavage	1386	1386
Sohar	1962	1962
Neemrana	6184	6184
Johannesburb	3187	3187
Hyderabad	5982	5982
Goa I	3246	3246
Chinley	1840	1840
Melton Mowbray	3160	3160
Leominster	5303	5303
Pineville	3425	3425
Erwin, Tennessee	3395	3395
Temiskaming, Ontario	23	23
Hammel	2155	2155
Joutsa	43	43
Kangasala	42	42
Serrieres	405	405
Sorgues	786	786
Varenes	842	842
Twist	5879	5879
Zsambek	1597	1597
Balbriggan	2294	1721
S.M. Maddalena	2045	2045
Baltics Vilnius	225	225
Hardenberg	9536	9536
Holand	52	52
Buk	20483	20483
Sochaczew	5574	5574
Strzelin	8542	8542
Eskilstuna	116	116
Adana	9370	9370
Chippenham	6430	1618
Forest Works	679	182
Hazlehead	2085	521
St. Nikolaas	60	60
Westeregeth	5708	5708
Doncaster	1889	477
Bykovo	264	264
Cartagena Compuestos	722	722
Denver, PA	1385	1385
Evansville, WY	2558	2558
Fareham Southampton	21	21
Horni Pocernice	2363	2363
Joinville Gloria	936	936
Kostelec nad Labem	3602	3602
Muzquiz	3004	3004
North Salt Lake, Utah	4488	4488
Rio Verde	3526	3526
St. Gabriel	19609	19609
Tenille, Georgia	3071	3071
Tlumacov	2514	2514
Magal	9472	9472
Hatzerim	14532	14532
Yitfah	7206	7206
Riberao Preto	245	245
Cabo de Santo Agostinho	94	94
Vadodara	8106	8106
Chennai	3620	3620
Reynosa	4253	4253
Capetown	1506	1506
Santiago	986	986

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Fresno	6764	6764
Melbourne	2226	2226
Adana Netafim	4381	4381
Rucphen	1734	1734
Lima	605	605
Valencia	807	807
Yinchuan	819	819
Cedis Boulevard	55	55
Fowler	847	847
Poncitlan Geosistemas	26	26

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	826284	764209	These emissions only apply to the chemical operations: Fluor 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	100	The amount reported in question C6.5 is a partial value calculated from plastic resins purchased, which for our extrusion Wavin, Netafim, Alphagary and Dura-Line businesses groups represent around 80% of their purchased raw materials. We are working on completing our calculations for scope 3 category 1 as follows: 1) Calculate CO2 emission from the other purchased raw materials 2) Estimate CO2 emissions from other goods and services via a cost-based method

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)	43119.96	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	29224	Decreased	1.8	This data comes from the calculation of GHG emissions from renewable energy considered as purchased electricity
Other emissions reduction activities	0	No change	0	
Divestment	0	No change	0	
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	0	No change	0	
Change in methodology	126271	Decreased	7.7	This decrease was a result of the global transition towards cleaner energy grids, which results in lower carbon intensity per MWh of electricity in the countries we operate in.
Change in boundary	0	No change	0	
Change in physical operating conditions	0	No change	0	
Unidentified	0	No change	0	
Other	0	No change	0	

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	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	696	2928551	2929247
Consumption of purchased or acquired electricity	<Not Applicable>	81890	2580558	2664221
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	1773	<Not Applicable>	1773
Total energy consumption	<Not Applicable>	84359	5509109	5593469

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)	2787891
Consumption of purchased or acquired electricity	<Not Applicable>	1823766
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	59
Total energy consumption	<Not Applicable>	4611657

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

2519303

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

78845

MWh fuel consumed for self-generation of steam

1995647

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

444697

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

10.32

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

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 is used to run lift trucks.

Fuels (excluding feedstocks)

Diesel

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

98929

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

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 value we have reported combines fuel consumed for self-generation of heat and for running owned lift trucks.

Fuels (excluding feedstocks)

Biodiesel

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

118

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

0.0025

Unit

metric tons CO2e per liter

Emissions factor source

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

Comment

The amount reported is used to run lift trucks.

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

117155

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

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

Fuels (excluding feedstocks)

Butane

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

10620

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

0.00177

Unit

metric tons CO2e per liter

Emissions factor source

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

Comment

The amount reported is used to run lift trucks.

Fuels (excluding feedstocks)

Propane Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

2404

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

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 is used to run lift trucks.

Fuels (excluding feedstocks)

Bituminous Coal

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

169816

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

169816

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 CO2 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

578

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

0.00077

Unit

metric tons CO2e per liter

Emissions factor source

*From Chippenham, UK supplier "Calor"

Comment

The amount reported is used to run lift trucks.

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	118852	118852	1773	1773
Heat	0	0	0	0
Steam	4471	4471	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	118852	118852
Heat	0	0
Steam	4471	4471
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/region of consumption of low-carbon electricity, heat, steam or cooling

United States of America

MWh consumed accounted for at a zero emission factor

46598

Comment

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

Sourcing method

Other, please specify (Generated renewable electricity by Solar Panels)

Low-carbon technology type

Solar

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

Colombia

MWh consumed accounted for at a zero emission factor

59

Comment

Self-generated renewable electricity at the Vestolit site in Cartagena, Colombia, from a solar panel array.

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Wind

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

Central Europe

MWh consumed accounted for at a zero emission factor

35292

Comment

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

Sourcing method

Other, please specify (Generated renewable electricity by Solar Panels)

Low-carbon technology type

Solar

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

Netherlands

MWh consumed accounted for at a zero emission factor

765

Comment

Self-generated renewable electricity at the Wavin site in Hardenberg, Netherlands, from a solar panel array.

Sourcing method

Other, please specify (Generated renewable electricity by Solar Panels)

Low-carbon technology type

Solar

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

United States of America

MWh consumed accounted for at a zero emission factor

950

Comment

Self-generated renewable electricity at the Netafim site in Fresno, California, from a solar panel array.

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

0,68

Metric numerator

Energy from Scope 1 and Scope 2 in MWh

Metric denominator (intensity metric only)

Total production in tons

% change from previous year

3.7

Direction of change

Increased

Please explain

This increase was driven mainly by a higher energy consumption in our Coatzacoalcos and Matamoros plants, both located in Mexico. Production in these 2 sites was lower due to planned maintenance shut-downs.

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

0.98

Direction of change

Increased

Please explain

Derived from increased waste disposed. One of the reasons is related to demolition and renovation work in some of our sites (mainly Rocksavage in the UK).

C-CH9.3a

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

Output product

Polymers

Production (metric tons)

3018675

Capacity (metric tons)

3232600

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

2.78

Electricity intensity (MWh per metric ton of product)

2.89

Steam intensity (MWh per metric ton of product)

0

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

0

Comment

This category includes the facilities of the Vestolit Group that produce PVC Resins.

Output product

Other base chemicals

Production (metric tons)

561975

Capacity (metric tons)

1070266

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

0.23

Electricity intensity (MWh per metric ton of product)

1.54

Steam intensity (MWh per metric ton of product)

0

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

0

Comment

We are reporting the data of the following sites: Chlorine and Caustic Soda produced in the facilities of Coatzacoalcos and El Salto (Mexico), Sodium Hypochlorite produced in Cajica (Colombia), Sodium Tripolyphosphate and Hexametaphosphate produced in Lechería and Tultitán (Mexico).

Output product

Other, please specify (Plastic Compounds)

Production (metric tons)

265246

Capacity (metric tons)

493288

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

0.13

Electricity intensity (MWh per metric ton of product)

2.65

Steam intensity (MWh per metric ton of product)

0

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

0

Comment

This category includes the facilities of the Alphagary Group that produce Plastic Compounds.

Output product

Other, please specify (Fluorspar)

Production (metric tons)

1170040

Capacity (metric tons)

1720000

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

0.01

Electricity intensity (MWh per metric ton of product)

0.04

Steam intensity (MWh per metric ton of product)

0

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

0

Comment

This data refers to our mine Las Cuevas in San Luis Potosí (Mexico)

Output product

Other, please specify (Hydrofluoric Acid)

Production (metric tons)

445978

Capacity (metric tons)

589008

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

0.05

Electricity intensity (MWh per metric ton of product)

0.21

Steam intensity (MWh per metric ton of product)

0

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

0

Comment

This data refers to the Hydrofluoric Acid that we produce in Matamoros (Mexico)

Output product

Other, please specify (Refrigerants)

Production (metric tons)

56159

Capacity (metric tons)

69745

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

2.34

Electricity intensity (MWh per metric ton of product)

2.88

Steam intensity (MWh per metric ton of product)

0

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

0

Comment

This data adds up the refrigerants and propellants production of our sites in St. Gabriel (USA), Mihara (Japan) and Rocksavage (UK).

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	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 as described in previous sections.

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 Wavin brand has invested in R&D to develop Sentio and Calefa, low carbon Indoor Climate solutions
Product redesign	Full/commercial-scale demonstration	21 - 40%		Investments in the development of our low GWP medical propellant and refrigerants by Koura
Other, please specify (Process redesign)	Pilot demonstration	≤20%		Vestolit is investing in developing a heterogeneous catalyst to replace a homogeneous catalyst in the downstream part of the thermal cracking column where Vinyl Chloride Monomer is produced. The heterogeneous catalyst will allow the reaction to occur at much lower temperatures compared to the current process. This approach will improve the energy efficiency of the process and reduce the carbon footprint of the reaction.

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

Orbia_SR 2019 assurance statement Deloitte.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

Orbia_SR 2019 assurance statement Deloitte.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 Orbia_SR 2019 assurance statement Deloitte.pdf	Energy consumption	ISAE3000	All our energy consumption is included in our assurance scope conducted by Deloitte

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.

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

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 2019

Period end date

December 31 2019

% of total Scope 1 emissions covered by tax

0

Total cost of tax paid

51221

Comment

The above includes 4 of our Wavin sites in the UK. The Climate Change Levy from UK only considers electricity consumption (scope 2).

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.

For instance, as a result of anticipated energy-related regulations in our regions of operation, an Energy Manager will also join the team before end 2020. The Global Energy Manager will be responsible for assessing the energy usage of Orbia and all its subsidiaries. S/he will continuously identify opportunities to make Orbia and its facilities more energy efficient and develop plans towards carbon neutrality in 2050. Responsibilities include, but are not limited to: monitoring energy consumption, identifying efficiency and renewable measures, overseeing energy laws abidance, support business decisions and seek out opportunities for optimum prices of fuels and (renewable) electricity.

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, but we 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

Being this our first year of implementation of the 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 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. A month after launching we had made significant progress: 88% of our targeted suppliers have accepted to respond to the EcoVadis assessment. 8% have already completed the assessment (in less than a month after receiving it) 4% declined. Procurement teams are approaching these suppliers to get them to engage them in the process.

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**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 dairy industry in the US, Netafim was able to develop an irrigation and fertilizing solution using manure, preventing lixiviation and runoff to rivers, while at the same time substituting chemical fertilizers. The above figure represents an estimated % of customers based on revenues from those customers and covers Vestolit, Dura-Line, Wavin, and Netafim.

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: - The above solution by Netafim has received the 2020 U.S. Dairy Sustainability Award for Outstanding Community Impact for its innovative Effluent Subsurface Drip Irrigation (SDI-E) system for forage crops (<https://www.netafim.com/en/news-and-events/news/effluent-subsurface-drip-irrigation-solution-for-dairies-receives-2020-u.s.-dairy-sustainability-award-for-outstanding-community-impact/>). We are now getting requests to implement this in other regions in the US for dairy and pork farms. - Our reel return program at Dura-Line has been very successful, with a 21% increase in volumes returned, from 2018 to 2019. - Our new low GWP propellant, developed in collaboration with key pharmaceutical customers, won the 2020 Chemicals Northwest Awards, for Innovation

C12.1d

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

Our CEO has signed the 1.5 Business Ambition and the UN "Recover Better" statement, showing leadership in commitments to climate change and by doing so, encouraging other stakeholders, such as governments to keep their climate commitments and actions.

We also regularly engage with analysts and investors regarding climate-related issues, such as our performance and goals. We have also expressed our support for the Taskforce on Climate-related Financial Disclosures publicly.

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

(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 2019.pdf

Page/Section reference

21, 22, 49-51, 71-73

Content elements

Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication

In voluntary communications

Status

Complete

Attach the document

Orbia ESG Summary 2019.pdf

Page/Section reference

all

Content elements

Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C15. Signoff

C-FI

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

C15.1
