



2020 Sustainability Report

About this Report

We extend a special thank you to all our colleagues and partners who have supported our sustainability activities and programs in the past year, including Orbia's Corporate Sustainability Team.

This is Orbia's 12th annual Sustainability Report, covering the role we play in society and our impacts on people, communities and the environment. Data in this report relates to the 2020 calendar year. Our last report was published in 2020 covering 2019 performance. The scope of information in this report is all global businesses under Orbia's operational control. All monetary figures in this report are expressed in USD unless otherwise specified.

Environmental and safety data in this report covers sites that were active and operational during 2020, from their date of acquisition or up to their date of divestment, for all sites where we have operational control and excluding joint ventures where we have 50% or less ownership. Environmental data includes manufacturing sites (excluding offices, warehouses, distribution centers or other sites). Safety data includes all facilities including manufacturing sites, offices, warehouses, distribution centers, and R&D labs.

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option. The selection of content for this report was informed by a set of material topics developed through a process described in our [Materiality Assessment Results](#). This report also includes disclosures (see the Appendix) as follows: Sustainability Accounting Standards Board (SASB) 2018 Chemicals Standard; Orbia's annual Communication on Progress for the UN Global Compact; and Orbia's CEO Water Mandate disclosure. A stand-alone document aligned with the recommendations of the [Taskforce on Climate-related Financial Disclosures \(TCFD\)](#) is issued simultaneously with the Sustainability Report.

During 2020, as we refined our greenhouse gas emissions inventory, following recommendations from the World Resources Institute (WRI) we expanded the scope to include certain process emissions related to Scope 1 that had not been previously included, as well as purchased heat, steam and cooling water Scope 2 related emissions. We have also updated our waste reporting in line with GRI's new Waste Standard, GRI 306 (2020).

Our Sustainability Report was assured by an independent third party; the Assurance Statement can be found in the Appendix. Throughout this report, data marked with a check mark (✓) is third-party assured.

We welcome your feedback, queries and suggestions. Please contact:



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Contents

About Orbia

- Purpose
- Profile
- Business Groups & Brands
- Corporate Governance
- Sustainability Governance

Message from our Chairman

Message from our CEO

2020 Highlights

COVID-19 Response

- Protect Our People
- Support Our Communities
- Assure Business Continuity

Sustainability Approach

- Building Blocks of our Sustainability Strategy
- Orbia's ImpactMark
- Sustainability Commitments and Progress in 2020
- ESG Performance Data Summary

4	Sustainable Solutions	30
5	Innovation	32
5	Essential During COVID-19	34
6	Sustainable Solutions in Practice	35
7		
8	Responsible Business	44
	Ethics & Compliance	46
9	Our People	48
	Environment	55
12	Supply Chain	64
	Helping Communities Thrive	65
15		
18	Business Group Spotlights	70
19		
20	Appendices	81
21	GRI Content Index	81
	SASB Index	97
	UN Global Compact commitment	102
22	UN CEO Water Mandate	103
24	Assurance Statement	104
26		
27		
28		



About
Orbia

Message from
our Chairman

Message from
our CEO

2020
Highlights

COVID-19
Response

Sustainability
Approach

Sustainable
Solutions

Responsible
Business

Business Group
Spotlights

Appendices

About Orbia



Purpose

At Orbia, we recognize that we can't take on the world's biggest challenges alone. We take a collaborative, human-centered approach to create a better future.

Our shared purpose is:

To advance life around the world.

Our common values are:



Be Brave

We don't let our fears hold us back. In order to venture into the unknown, we move forward with curiosity and the ambition to create a better world.



Take Responsibility

We realize that our actions have impact. We hold ourselves to the highest level of accountability, never losing sight of the ripple effect we have on each other, our customers and the world.



Embrace Diversity

We embrace diversity, as we know it takes difference to make a difference. We envision a more diverse and inclusive world, starting with our own global community. We welcome diversity in all its forms—identity, culture, background, experience, abilities and opinions—promote fairness in policies and programs and strive for a culture where all employees feel that they belong and can thrive.

Profile

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 basic and advanced materials, specialty products and innovative, human-centered solutions. Orbia's business groups span the Precision Agriculture, Building and Infrastructure, Fluorinated Solutions, Polymer Solutions and Data Communications verticals. The company has commercial activities in more than 100 countries, operations in over 50 and production sites in 37, with global headquarters in Mexico City, Boston, Amsterdam and Tel Aviv and a team of over 21,000 dedicated employees working worldwide.

Orbia trades on the Mexican Stock Exchange (BMV) and is included in the S&P/BMV Total Mexico ESG Index. Since 2015, Orbia has been a component on the FTSE4Good Emerging Index. Since 2019, Orbia is an index component of the Dow Jones Sustainability Indices (DJSI MILA Pacific Alliance Index) and was recognized by the Latin Trade Index Americas. As of 2020, Orbia's consolidated annual revenue totaled \$6.4 billion (USD).

Fast Facts

Commercial activities in
100+
countries

120 production sites
(including one active mine)
in 37 countries

21,000+
employees

4 R&D labs outside of
our production plants



Business Groups & Commercial Brands



Building and Infrastructure

The Building and Infrastructure group is redefining today's pipe industry by creating durable solutions that last longer and require less labor to install. Serving customers in multiple continents, this group is also developing new, sustainable technologies around water collection and management and heating and cooling systems, as well as a revolutionary road surface that makes cities more livable, lovable and resilient for tomorrow.



Fluorinated Solutions

The Fluorinated Solutions group provides fluorine-based products, technologies, and other material applications to support modern living in a vast number of ways. With one operational fluorine mine and robust material science knowledge and production expertise, this group creates chemicals, propellants and advanced materials used across industries including health and medicine, construction, transportation and more.



Precision Agriculture

The Precision Agriculture group helps a world of farmers, growers and producers grow more with less, and feed the planet's consumers more efficiently. With a focus on providing end-to-end irrigation systems, services and digital farming technologies, the group's solutions enable farmers and growers to get higher and better-quality yields while using less water, fertilizer and other inputs.



Data Communications

The Data Communications group operates under the belief that every company, every community and every person around the world deserves a chance to make the most of modern technology. The group produces more than 400 million meters of cable conduit per year and the advanced communication technologies that lay the pathways for fiber and other components—to ultimately carry vital information and data services to the world.



Polymer Solutions

The Polymer Solutions group is as adaptable and dynamic as the materials it produces. It focuses largely on PVC and other vinyl polymers with a wide variety of applications in products that enhance lives and livelihoods, including pipes, cables, flooring, auto parts, household appliances, clothing, packaging and medical devices.

Note

Each of our Business Groups accounts for one or two commercial brands as shown on this page. Throughout this report, we refer to the commercial brands, with which most of our stakeholders readily identify.



Corporate Governance

Our Board of Directors (at end March 2021) consists of 12 directors, 8 (67%) of whom are independent, exceeding the minimum number of independent members (25%) required by Mexican Securities Market Law and our bylaws. Mr. Juan Pablo del Valle has presided as Non-Executive Chairman since 2011. Mr. Antonio del Valle Ruiz is the Honorary Lifetime Chairman (not serving as a member of the Board).

Three Committees assist the Board of Directors in carrying out its duties, and are mostly composed of independent Board members, as required by Mexican Securities Market Law.

- **Audit Committee:** Supervises external auditors, analyzes their reports and reports back to the Board of Directors, among other duties.
- **Corporate Practices & Sustainability Committee:** Provides opinions and assistance to the Board of Directors in reviewing important reports and transactions; calling shareholder meetings and in obtaining opinions from independent third-party experts. This Committee also oversees our sustainability strategy and practices.
- **Finance Committee:** Supports the Board of Directors in fulfilling its responsibilities to shareholders regarding the policies, practices and strategies related to managing financial affairs.

Risk Management

An Executive Critical Risk Committee (CRC), chaired by our CEO, comprising our CFO, Business Group Presidents and other key functional heads, assists the Board of Directors in identifying and assessing enterprise risks, evaluating our risk profile, developing risk mitigation plans and overseeing their implementation. The CRC meets quarterly and reports directly to the Audit Committee, and to the Board of Directors as needed.

Orbia's risk mapping process in 2020 included teams from each Business Group who developed a universe of relevant risks by Business Group using researched topics, internal surveys and targeted interviews with business leaders. These results were aggregated to form a Risk Register, which was reviewed and approved by the CRC. Additionally, the CRC reviewed Orbia's position and disclosures on climate change, prepared by our VP of Sustainability, and a cyber risk assessment prepared by Orbia's new Chief Information Security Officer.

For further information:



[Corporate Governance at Orbia.com](#)



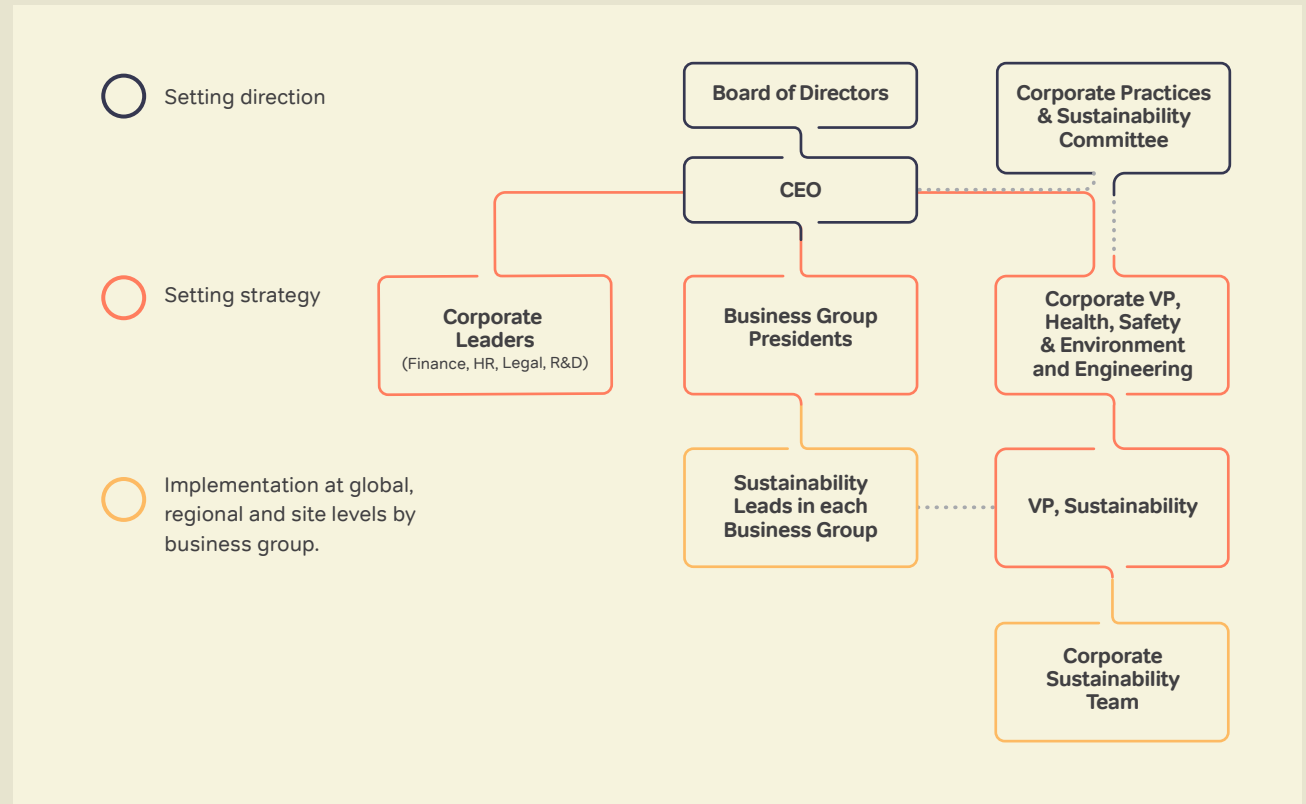
Sustainability Governance

Sustainability is led at Orbia through a matrix structure with functional specialism and leadership held at global, corporate level by a specialized corporate team. Each Business Group drives sustainability through its business, working closely with the sustainability team to implement corporate programs alongside business-specific opportunities. Sustainability is on the agenda at every Executive Team meeting and reviewed by the Corporate Practices & Sustainability Committee at least quarterly. Regular communications are published to all employees, and sustainability goals and targets are part of everyone's workplan and embedded into executive and senior management compensation.

Investor Engagement

During 2020, we held meetings with representatives of our key investors to hear their views about the quality of our disclosure and consult with them on their preferred disclosure topics and formats. The meetings were attended by senior Orbia leaders, including our CFO. We were pleased that, overall, our ESG reporting met the needs of our investors, and was considered by some to be more advanced than that of our peers. However, we received several recommendations that we address in this and future reports, including:

- Add detail on our transition pathway to a low-carbon business model and greater detail in climate reporting;
- Make the link to investment and financial impacts relating to water programs;
- Greater detail in human capital disclosures, and
- Consider improving certain elements of governance and governance disclosure, such as board compensation and board independence.





Message from our Chairman



As a father of five, I often think about how my own children will view humankind's legacy.

My purpose, together with my wife, is to do everything possible to raise children that can contribute to making the world a better place. But beyond that, my thoughts today turn to those worldwide facing poverty, hunger, lack of education and limited access to life-sustaining resources. To a planet that needs nurturing and care, and protection of its biodiversity. To the ongoing impacts of the COVID-19 pandemic, to which we have tragically lost 30 of our own and from which we carry 30 families and countless loved ones in our hearts. We have all been altered by disruption and compounding challenges and our natural places have been too. The call to action now is urgent. And it must be answered swiftly.

For me, these thoughts are not comfortable ones, but they are motivating. They bring me back to the importance of setting the right example at home and in business. It is not by accident that Orbia has set our purpose to advance life around the world and is embarking on an ambitious transformation journey to move the needle in solving the world's greatest challenges.

I believe—and we believe—that our reason for being is to contribute positively to affecting the change needed for people and nature to thrive for generations to come. As a business, this entails creating value for all our stakeholders through delivering vital solutions, sustainable growth and financial stability.

From a business performance perspective, we can sum up 2020 as the year in which we stayed on course in the face of unprecedented circumstances. A dip in revenues (-8% versus 2019) was balanced by strong growth of EBITDA margins, reaching 20.5% with careful cost control and operational efficiencies realized across our regions and businesses. I believe this is validation of Orbia's business model, grounded in the diversification of our business lines and geographies, our upstream and downstream integration and our ability to capitalize on synergies. We have the basis to build from this foundation and achieve more growth in the coming years, with an expectation of improving our products and services to significantly contribute to advancing the UN's Sustainable Development Goals (SDGs).



2020 has changed us, in that it has taught us so much about what it means to be resilient, agile, empathetic and above all, courageous.

To continue to deliver on our growth goals, we must be resolute as a Board of Directors and provide the best guidance and support for our CEO and his teams. In early 2021, we welcomed long-serving Orbia leader Sameer Bharadwaj as our new Chief Executive Officer. We are confident that Sameer's rigorous approach and integrity will lend itself to leading Orbia successfully in the next phase of unlocking value and driving operational excellence. On behalf of the entire Board of Directors, I also thank our former CEO, Daniel Martínez-Valle, for his accomplishments. In serving from 2018-2021, Daniel was key in Orbia's formative evolution as a purpose-driven organization.

Let me now turn to corporate governance. We were struck and deeply saddened by the loss of our Board member, friend and colleague Jaime Ruiz Sacristán. In his 18 years of service, Jaime was instrumental to Orbia's growth and success and is the perfect example of the kind of person we all aspire to be: hard-working, responsible, brave and warm.

We recognize that the Board itself must continue to evolve to meet the challenges ahead. To strengthen our leadership and broaden our purview, we added two new independent Board members in 2020 as we did in 2019. The first new member is Jackie Goldstein, a seasoned businessman from Colombia who brings deep knowledge in both upstream and downstream business operations to Orbia. The second new member is Anil Menon, who is based in the United States and brings global expertise gained from his time at Cisco, understanding of digital transformation tools and Asia-Pacific market knowledge to our governance team.



Our agenda has also evolved with the COVID-19 pandemic, in requiring our dedicated focus on risk management, business continuity planning, sustainability and new ways of working. Our mandate to the executive team continues to be to put health and safety first, care for the needs of our people and show up for those stakeholders in our hardest-hit regions worldwide. Our philanthropic investment in COVID-19 relief has amounted to \$1 million, which has been crucial in helping support and build back communities to baseline.

2020 has taught us so much about what it means to be resilient, agile, empathetic and above all, courageous. We have shown up in delivering the essential solutions the world needs, made innovation “business as usual” and improved our social and environmental footprints in and for our communities. The market has noticed, and we are honored to be included for the first time in the [2021 S&P Sustainability Yearbook](#), as a member of the FTSE4Good Index with an improved score and as one of 29 Mexican companies selected for the S&P/BMV Total Mexico ESG Index, where we have held a spot since 2012. In the past year, we have also been in close contact with our investors to better understand

their needs and expectations, which has been invaluable in guiding our performance and disclosure practices. The thing about children is that they keep growing, changing and becoming more mature and accountable for making a difference. This is a fitting analogy for Orbia’s sense of accountability to people and planet. The more we continue growing and evolving and the bigger the obstacles, the harder the challenges and the timelier the needs; the greater our tenacity, determination and—yes—optimism to seize opportunities. I am confident that we are building an Orbia that is true to its namesake: a force for the world. And as my children grow, I am optimistic that they will appreciate the power of a legacy grounded in a purpose far bigger than themselves, and one that has defined the world they and their own children will inherit.

Thank you for your interest in our company and in our annual Sustainability Report. I sincerely wish you and yours a healthy and safe 2021.

Juan Pablo del Valle Perochena

Chairman of the Board of Directors



Message from our CEO

At Orbia, resilience has played a central role in our transformation over the past two years. Our aim is to provide innovative solutions that help us fulfill our purpose to advance life around the world.

We could not imagine the disruption we would face with COVID-19. But the most difficult times can be the ones in which the true bravery and grit of people emerges. In 2020, we saw both as we became more resilient in going the extra mile for our stakeholders.

Looking back on 2020, governance and leadership have been crucial in helping us steer through unprecedented challenges. I thank our Board of Directors for their dedicated guidance to ensure our business continuity, rigorous management of risk and their trust in me on Orbia's transformation journey. I also thank my predecessor Daniel Martínez-Valle for his contributions to establish Orbia as a purpose-driven, values-led, global company that shows up in the best and worst of times alike.

Most importantly, I must thank and pay tribute to Orbia's 21,000+ employees who have worked hard to keep our operations running smoothly, our customers served and to meet demand for essentials in the health care sector. Everyone has given their all. We have focused on ensuring the health, safety and well-being of our team by applying COVID-19 protocols. We introduced teleworking for nearly half of our workforce and provided support to employees and their families in the communities in which we operate. Despite our efforts, we tragically lost 30 of our own: our heartfelt condolences and prayers go out to their families and loved ones. The safety of our people and stakeholders has been, is and will continue to be the number one priority. In 2020, our total recordable incident rate (TRIR) was 0.75. While this is flat relative to 2019, we fell short of our target of 0.6. Getting to a zero-accident future takes a steadfast commitment to cultural transformation. I am engaging with our business group leaders to accelerate this journey.

Although full year revenues of \$6,420M were 8% lower than 2019, we closed the year at \$1,318M in EBITDA, just 3.4% below our 2019 earnings in the context of a [global economic contraction of 4.3 percent](#).





Our EBITDA margins improved to 20.5%, marking a 100 basis point uptick as compared to 2019. Effective cash management throughout the year resulted in free cash flow of \$551M and a conversion rate of 42%. Dura-Line posted significant earnings growth, Netafim ended flat with the prior year, Wavin experienced faster recovery than expected and Vestolit strengthened significantly in the second half due to global demand-supply imbalance. The combination of Orbia's diversified portfolio, vertical integration and rigorous cost containment contributed to our strong showing. With a solid balance sheet, positive pricing trends for many key products heading into 2021 and our investment in higher-end solutions that target some of the world's most pressing challenges, we are positioned to support global economic recovery in the near term and expansion in the longer term, targeting a 4 to 7% increase in EBITDA in 2021.

As a few examples of shifting our mix, in 2020, Wavin delivered new stormwater and indoor climate control solutions to improve resilience in cities. Koura launched a refrigerant with cross-industry applications and significantly lower global warming potential than previous materials. Netafim expanded into precision

agriculture services to improve outputs while reducing water consumption. Dura-Line kept the remote economy connected by meeting the demand surge for broadband. Vestolit operated at maximum utilization to keep the world supplied with key materials needed for water, infrastructure and building safety amid significant supply shortages. Alphagary led in developing new polymer compounds to drive superior performance in customer applications with an eye on a cleaner, greener future.

Our mandate now is to accelerate sustained earnings growth through cultivating each of our businesses for profitability, executing with discipline on organic and inorganic growth initiatives and looking at opportunities to unlock our valuation potential on our journey. Innovation, operational excellence and commercial excellence are key to gaining traction.

The theme that runs through it all is sustainability. We seek to make an impact on material topics. To see progress on the key ESG performance indicators that make up our ImpactMark, we have focused first on fortifying our most valuable capital: our people. In moving forward to support employee development

and foster a diverse community, we brought on board a new global Chief People Officer, harmonized our global compensation practices and have remained focused on attracting, developing and retaining the best talent through implementing a people-centric management strategy and expanding our learning and training resources. We have been working towards ambitious environmental goals including net zero carbon emissions by 2050 with midway science-based targets, zero waste to landfill by 2025 and wider adoption of renewables and material recycling in our plants. On the strength of our climate commitments, understanding our footprint and tightening our governance, we are one of the first companies in our industry to align to TCFD and we significantly improved our climate change score in the Carbon Disclosure Project to a B (management level). For the second year in a row, we were selected as a Dow Jones Sustainability Index member with an 11% increase in our rating.



We have introduced sustainability considerations into our capital expenditure approval process and have made ESG performance metrics part of our leaders' compensation and evaluations. Crucial to continuity, we have maintained our ethical foundation of conducting business in full compliance with applicable laws and our Code of Ethics. In 2020, we added to our ethics & compliance bench and rebranded our Ethics Helpline during a communication and training campaign. And to bring us forward into the future, we welcomed a new Chief Information Officer and a team who is leading the charge to modernize our enterprise systems, improve cybersecurity and bring the best of digital transformation tools into our ways of doing business.

We are walking the talk on sustainability and we will walk further and faster. But we can also pick up the pace. Whether through scaling our successful LaunchPad intrapreneurship program beyond our 2020 reach of 4,300 employees or continuing to invest in strategic partnerships to develop decarbonization, circular and clean technologies as through Orbia Ventures' first investments in SeeTree, Silvec Biologics, Battery Resourcers and StormSensor, fueling our innovation engine will help us support better lives for present and future generations.

The extent of the economic impact of COVID-19 is still uncertain. But by staying true to our purpose in working bravely, responsibly and inclusively to meet global needs, we can keep contributing to sustainable development as we create value for all.

The opportunities in this for us are huge.
And so is our resolve.

Sincerely,

Sameer S. Bharadwaj

Chief Executive Officer



About
Orbia

Message from
our Chairman

Message from
our CEO

2020
Highlights

COVID-19
Response

Sustainability
Approach

Sustainable
Solutions

Responsible
Business

Business Group
Spotlights

Appendices

2020 Highlights





Finance and Governance

\$6.4B
total revenue

**New ESG
compensation
modifier**

introduced to senior management
compensation, applicable from 2021

\$61.5 million
invested in R&D

and completed first two
Orbia Ventures investments

**20.5% EBITDA
Margin**

**Free Cash Flow
Conversion Ratio**
41.9%

Solutions for Resilience

**97,000 farmers
in India**

have access to community irrigation
programs to grow more with less



**Launched a
refrigerant with
85% lower GWP**

than comparable products while offering
high-cooling capacity and energy efficiency

**Improved
stormwater
drainage**

trial at a leading European port
using Tegra smart road gully

**PlasticRoad
in Mexico**

1,000 kilos of recycled plastic waste
used to make a section of road in
Chapultepec Forest



**12% growth in data
communications
solutions**

to provide critical connectivity services
during the pandemic in North America

**Meeting demand
for stabilizers that
support a circular
economy**

Orbia invested \$6 million to expand our
UK stabilizer plant, built to environmental
standards



About
Orbia

Message from
our Chairman

Message from
our CEO

2020
Highlights

COVID-19
Response

Sustainability
Approach

Sustainable
Solutions

Responsible
Business

Business Group
Spotlights

Appendices

People



21,688
employees in 40+ countries

Community

**300,000 people
wash hands daily**

thanks to Orbia's contribution to
UNICEF in support of COVID-19
relief efforts

**Resilient Cities
Network**

new partnership

Environment



**B score in CDP
Climate Change**
(improved from D in 2019)

+61% **renewable
energy**
versus 2019

-19% **SO_x
emissions**
versus 2019

-50% **hazardous
waste**
sent to landfill versus 2019

ESG Ratings

**Sustainability Yearbook
Member 2021**

S&P Global

Member of

**Dow Jones
Sustainability Indices**

Powered by the S&P Global CSA

2nd consecutive year (score increased by 11%)



**FTSE4Good
Member**
inclusion since 2015



**EcoVadis
Silver Medal**

[About Orbia](#)[Message from our Chairman](#)[Message from our CEO](#)[2020 Highlights](#)[COVID-19 Response](#)[Sustainability Approach](#)[Sustainable Solutions](#)[Responsible Business](#)[Business Group Spotlights](#)[Appendices](#)

COVID-19 Response

In a year unlike any other in our lifetime, 2020 brought unprecedented challenges and unforeseen opportunities. As we addressed the far-reaching changes of this past year, we were guided by what did not change: our values.

Being brave, embracing diversity, and taking responsibility underpinned our COVID-19 response in every area of our company and our business relationships. Our response plan addressed three overarching objectives:



Protect Our People



Support Our Communities



Assure Business Continuity





Protect Our People

With a global workforce, we aimed to keep our employees in different regions and countries safe and well by providing support and resources for periods of lockdown and working from home.

In addition to providing facilities for home working, equipping employees who continued to work onsite with Personal Protective Equipment (PPE) and comprehensively adapting our sites to COVID-19 needs (signage, distancing, working cubicles, new health protocols and training etc. in line with directives in each country), we provided a range of psychological, medical, health and wellness, nutrition and other resources for employees in different countries, especially those where healthcare systems were unable to adequately face the challenges of COVID-19.

COVID-19: Protecting Employees in 2020

- Emotional and financial support provided to transition over 54% of the workforce to new environments during 2020, either working in hybrid or full home working arrangements.
- Care network created to support our colleagues and their families across the countries most affected by COVID-19, including a corporate doctor, 22 physicians, 5 nurses, and 6 health and safety engineers.
- 6 global Guided Meditation sessions conducted, helping more than 3,400 employees to manage stress during the pandemic.

For further information:



[Responsible Business:](#)
[Our People](#)



Support Our Communities

We offered support in different ways:

1. We partnered with K Health, a digital primary care app developer, which resulted in the introduction of the platform in Mexico. The app was downloaded by thousands of citizens to check for COVID-19 symptoms remotely and help avoid unnecessary hospital visits as well as help officials and public sector stakeholders plan for interventions in highly-affected areas.
2. Engaged with partners such as UNICEF, CARE and Doctors without Borders as well as national and local health authorities to support them in providing hand-washing stations, face shields, inhalers and food and medicine kits in several countries.

For further information:

 [Responsible Business: Helping Communities Thrive](#)

COVID-19: Supporting Communities in 2020

Almost

\$150,000

in employee contributions to support colleagues who have been hard-hit by COVID-19, matched by Orbia to achieve a **total \$300,000** contribution

Over

\$1 Million

Total support provided by Orbia for COVID-19 relief

220,000+

face shields produced and donated in Europe and several Latin American countries

110,000+

inhalers donated in Mexico and India



Assure Business Continuity

During the pandemic, we maintained our supply to customers around the world, recognizing the highly essential nature of certain business lines to help meet the challenges of COVID-19.

For example, the almost instantaneous spike in demand for internet connectivity infrastructure to enable the uptake of teleworking and remote schooling everywhere, and the heightened and urgent need for medical equipment, especially inhaler ingredients and components to meet new respiratory and other conditions meant that our customers depended upon, and benefited from, our continued operation.

For further information:



[Sustainable Solutions:
Essential during COVID-19](#)

COVID-19: Assuring Business Continuity in 2020

12%

increase in data communications products in North America versus prior year volumes

15%

increase in revenue from propellants for respiratory condition treatment

Continued
to supply

essential products to our customers, despite increased demand and supply chain disruptions

330,000+

face shields produced at plants in 4 countries through rapid factory conversions



Sustainability Approach

At Orbia, we believe that advancing solutions to enhance the quality of life around the world delivers business success and social and economic value for all those connected directly and indirectly to our activities.

Our purpose-led focus on addressing the world's most pressing challenges drives our business agenda and our strategic approach to sustainability.





Our approach rests on two pillars, supported by several action programs:

Delivering innovative, sustainable solutions that enhance the resilience of people, society and the planet.

Our solutions contribute to:

- Increasing food availability using less water, land and energy.
- Building cities that are smart, safe, sustainable and regenerative.
- Connecting and empowering communities through better data access.
- Supporting innovation to deliver advanced healthcare technologies.

Acting in line with the highest standards of ethical conduct, accountability, responsibility and transparency.

Our accountabilities include:

- Operating in compliance with laws and regulations and our Code of Ethics.
- Mitigating climate change, promoting circularity and engaging in environmentally positive practices.
- Maintaining an empowering, safe and supportive workplace.
- Contributing to the quality of life in our communities.
- Engaging stakeholders and reporting our progress.

For further information:



[Sustainability Policy](#)



Building Blocks of our Sustainability Strategy

Our strategy was born out of several processes we undertook over the past few years.

Our Transformation Journey

In 2019, we transitioned into Orbia Advance Corporation, adopting not only a new name, but also a refreshed corporate purpose “to advance life around the world”, a new organization and realignment of our capabilities, focusing us on being an organization that helps deliver a better future for all.

Our Materiality Assessment

As part of our transformation, we engaged globally with all key stakeholder groups, reaching hundreds of individuals across 50 countries, to solicit their views on Orbia’s most significant economic, social and environmental impacts, relevant trends and expectations of our global Group. The results yielded material sustainability topics both at the Group level and the level of each of our five Business Groups. Our aggregation of these inputs at a corporate level used a weighted mechanism based on Business Group revenues and also based on the volume of responses by stakeholder group.

Orbia’s Top 10 Material Impacts

SUPPLY CHAIN



Sustainable sourcing



Quality & safety of products

PRODUCTS



Solutions for resilience



Innovation

PEOPLE & COMMUNITIES



Health & Safety



Employee development, engagement & retention



Investment in local communities

ENVIRONMENT



Circular economy



Emissions



Water use & discharge

In 2020, we continue to be guided by this materiality assessment. We recognize that the COVID-19 pandemic has led to new ways of working and doing business and we expect to reassess the implications of COVID-19 on our material priorities during 2021. In any event, existing priorities such as health and safety, solutions for resilience and investment in local communities have been critical elements of our COVID-19 response to date and will likely remain priorities for our stakeholders in the coming years.

For further information:



[Materiality Assessment Results](#)



Our support for the Sustainable Development Goals (SDGs)

In considering our role as a business that aspires to benefit global sustainable development and deliver solutions to the world's most pressing challenges, we pledged support for the United Nations' SDGs and determined which of the 17 SDGs we can most effectively contribute to.

We align primarily with seven goals that represent the greatest opportunities for Orbia to help deliver the future we all need. We describe the ways in which we have advanced these SDGs during the past year in the [Sustainable Solutions](#) section of this report.



Feeding the world sustainably



Making health and well-being more accessible



Better managing water systems



Empowering communities with data



Making cities more livable, lovable and resilient



Responsible management of chemicals and waste



Mitigating our impacts on the climate



Orbia's ImpactMark

Our ImpactMark is more than just an innovative “living” logomark—it is a visual representation of our purpose-driven performance year-on-year. The ImpactMark reflects Orbia's commitment to advancing life around the world by marking our progress on six key performance indicators related to the themes of people, planet, and profit. The ImpactMark is updated annually and reflects our progress over three-year cycles, with the outermost rung representing the most recent year.

The 2020 update of the ImpactMark demonstrates Orbia's ongoing journey towards striving to achieve a more perfect circle.





Sustainability Commitments and Progress in 2020

For all goals with the exception of SOx, our baseline year is 2019. The baseline year we use for SOx emissions is 2018, as 2019 was an atypical year in terms of operations at our main contributing site, due to a one-month planned shutdown for maintenance.

Impact Area	Goal	Target Year	Baseline	Performance in 2020
Climate Change	Achieve net zero carbon emissions*	2050	2 million tons CO ₂ e	1.87 million tons CO ₂ e ✓
	Reduce Scope 1 and 2 GHG emissions by 47%**	2030	2 million tons CO ₂ e	1.87 million tons CO ₂ e ✓ (-7%)
Air emissions	Reduce sulfur oxide (SOx) emissions by 60%	2025	1,355 tons	952 tons ✓ (-30% versus 2018)
Environmental Management	100% of sites certified with an environmental management system	2025	55% (70/127 plants)	59% (71/120 plants)***
Waste	100% of plants will send zero waste to landfill	2025	24% of plants	25% of plants ✓
Safety	Total Recordable Incident Rate (TRIR) below 0.2 total for employees and contractors	2025	0.71	0.75 ✓

Notes

Figures with this check mark (✓) are third-party assured.

*Scope 1+2

** Pending submission to the Science Based Target initiative, and subsequent approval.

*** Total number of active plants decreased in 2020.



ESG Performance Data Summary

Environment	Units	2018	2019	2020	YoY	GRI	SASB	SDG
Scope 1 Energy	MWh	2,882,746	2,931,020	2,835,871 ✓	-3%	302-1	RT-CH-130a.1	13
Electricity, cooling heat and steam	MWh	2,723,899	4,525,516	4,357,821 ✓	-4%	302-1	RT-CH-130a.1	13
Total energy consumption	MWh	5,606,645	7,456,536	7,193,692 ✓	-4%	302-1	RT-CH-130a.1	13
Energy intensity	MWh/ton	1.19	0.90	0.87 ✓	-3%	302-3	RT-CH-130a.1	13
Renewable energy purchased	MWh	55,737	81,890	130,983 ✓	60%	302-1	RT-CH-130a.1	7, 13
Renewable energy generated	MWh	-	1,773	3,587 ✓	102%	302-1	RT-CH-130a.1	7, 13
Renewable energy as % of total energy	%	-	1%	2% ✓	1%	302-1	RT-CH-130a.1	7, 13
GHG emissions Scope 1	Tons CO ₂ e	589,078	645,300	603,969 ✓	-6%	305-1	RT-CH-110a.2	13
GHG emissions Scope 2	Tons CO ₂ e	1,215,035	1,354,235	1,262,425 ✓	-7%	305-2	RT-CH-110a.2	13
GHG emissions total Scope 1+2	Tons CO₂e	1,804,113	1,999,535	1,866,394 ✓	-7%	305-1	RT-CH-110a.2	13
GHG emissions intensity Scope 1	Tons CO ₂ e/ton	0.13	0.08	0.07 ✓	-13%	305-4	RT-CH-110a.2	13
GHG emissions intensity Scope 2	Tons CO ₂ e/ton	0.26	0.16	0.15 ✓	-6%	305-4	RT-CH-110a.2	13
GHG emissions intensity Scope 1+2	Tons CO₂e/ton	0.38	0.24	0.22 ✓	-8%	305-4	RT-CH-110a.2	13
NOx	Tons	689	753	647 ✓	-14%	305-7	RT-CH-120a.1	3, 12
SOx	Tons	1,355	1,181	952 ✓	-19%	305-7	RT-CH-120a.1	3, 12
VOCs	Tons	108	92	114 ✓	24%	305-7	RT-CH-120a.1	3, 12
Total other air emissions	Tons	2,152	2,077	1,713 ✓	-18%	305-7	RT-CH-120a.1	3, 12
Total water withdrawal	1,000 m ³	15,753	15,946	15,646 ✓	-2%	303-3	RT-CH-140a.1	6, 12
Total water discharge	1,000 m ³	10,540	11,902	11,725 ✓	-1%	303-4	RT-CH-140a.1	6, 12
Water withdrawal intensity	m³/ton	3.35	1.93	1.88 ✓	-3%	303-3	RT-CH-140a.1	6, 12
Total non-hazardous waste	Tons	54,407	56,104	52,124 ✓	-7%	306-3		12
Total hazardous waste	Tons	12,426	13,251	7,593 ✓	-43%	306-3	RT-CH-150a.1	12
Total waste	Tons	66,833	69,355	59,717 ✓	-14%	306-3		12
Percentage of total waste recycled, reused, recovered	%	51%	50%	52% ✓	2%	306-3	RT-CH-150a.1	12
Percentage of total waste to landfill	%	42%	37%	38% ✓	1%	306-3		12
Waste intensity	Tons/ton	0.014	0.008	0.007 ✓	-13%	306-3		12

Notes

2019 Scope 1 and 2 data has been updated to include process emissions not related to energy in Scope 1 and purchased heating, steam and cooling in Scope 2. Intensity calculations in 2019 reflect methodology change from tons sold (prior years) to tons manufactured (2019 and going forward). Tons manufactured are generally higher than tons sold, as calculations include internal company transfers of intermediate products.



ESG Performance Data Summary

Social	Units	2018	2019	2020	YoY	GRI	SASB	SDG
Employees								
Total employees	No.	21,900	22,123	21,688	-2%	102-8		8
Contractors	No.	2,124	2,649	3,727	41%	102-8		8
Women in management roles	%	17%	19%	19%	✓ 0%	405-1		5
Employee training	hours	473,759	522,243	377,996	✓ -28%	404-1		8
Average training hours	hours/year/employee	21.63	23.61	17.43	✓ -26%	404-1		8
Safety (total employees and contractors)								
Total Recordable Incident Rate	TRIR	1.03	0.71	0.75	✓ 4%	403-9	RT-CH-320a.1	3
Lost time Injury Rate	LTIR	0.36	0.33	0.36	✓ 6%	403-9	RT-CH-320a.1	3
Fatalities	No.	1	1	1	✓ 0%	403-9	RT-CH-320a.1	3
Community investment								
Total giving	\$	3,711,183	2,888,737	2,546,331	✓ -12%	413		2,4,6
Total giving (cash)	%	96%	54%	40%	✓ -26%	413		2,4,6
Total giving (in-kind)	%	4%	46%	60%	✓ 30%	413		2,4,6
Governance								
Women in Board	Number (%)	2(17%)	3(23%)	3(21%)	0%	405-1		5
Independent Directors	%	50%	54%	64%	+19%	102-22		

Notes

YoY: Year on year variation (2020 vs. 2019)

Figures with this check mark (✓) are third-party assured.



Sustainable Solutions

Advancing life around the world, in-line with global sustainable development priorities, requires a strong focus on science and technology, a culture of innovation that permeates all our business processes, and strong skills and capabilities in our areas of expertise.

As a group of companies, with a team of more than 21,000 individuals, bound by a common purpose and a shared vision, we work to deliver sustainable solutions in all our markets. This chapter includes key examples of Orbia solutions contributing to the UN Sustainable Development Goals.





A New Partnership for Sustainable Living

In early 2021, we announced a new partnership with the [Resilient Cities Network \(R-Cities\)](#), the world's leading city-led network. Through our brands Wavin, Netafim and Dura-Line, we will work with R-Cities members to develop innovative solutions to ongoing challenges such as transportation infrastructure, water supply, urban food systems, and connectivity that can enhance urban quality of life. These initiatives will aid progress towards three Sustainable Development Goals



“Resilient Cities Network is a city-led organization that is building urban resilience around the world. Active in more than 100 cities in 40 countries, we deliver projects that can be brought to scale across our global city network and have a positive impact on the lives of urban dwellers. Our unique partnership with Orbia aims to accelerate this important work—delivering projects that incorporate innovative solutions cities can apply to address the complex and interrelated challenges of globalization, urbanization and climate change.”

Lauren Sorkin

Executive Director, Resilient Cities Network



Innovation

Our purpose to advance life around the world is our inspiration; innovation is our springboard.

We will not solve the world's most pressing challenges by doing what we have always done. We will only create a resilient future by pushing the boundaries, not only of science and technology, but also of our own imagination and determination. We need to adopt a mindset of innovation that becomes a natural part of the way we do things across the entire organization.

A foundational culture of innovation will drive our realization of resilient solutions for people and for the planet. This is our approach at Orbia and in 2020, we made new strides in advancing innovation in practice and innovation in spirit.

\$61.5M investment in innovation R&D in 2020

A selection of 2020 achievements include:

Investing in Startups

Following the establishment of our multi-year \$130 million venture capital fund [Orbia Ventures](#) in 2019, in 2020 we continued our outreach and assessment of early-stage startups.

We screened over 550 investment opportunities and conducted due diligence on more than 20 startups that offer new technologies in one of our seven defined focus areas:



Agriculture and food tech



Circular economy



Building and infrastructure



Energy storage



Smart cities

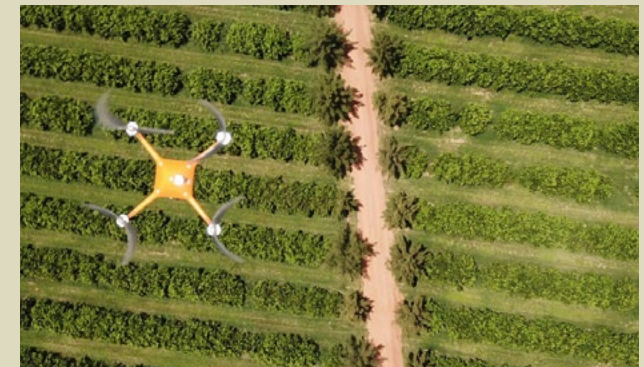


Medical



Communications

During the year, Orbia Ventures completed two investments.



SeeTree

[SeeTree](#) offers farmers an 'intelligence network' for trees, an end-to-end service to manage and optimize the health and productivity of their trees, using artificial intelligence (AI) based on records of each individual tree.

Silvec Biologics

[Silvec Biologics](#) is developing the first non-GMO process to inoculate against tree, vine, and bush diseases in seedlings and mature trees. This breakthrough technology can prevent widespread farming losses from disease.



Empowering Intrapreneurship

Launched in 2020, our internal innovation program, LaunchPad, invites Orbia employees to suggest value-generating ideas and receive development funding and support if approved. 140 trained Innovation Champions support the ongoing implementation of the Launchpad challenges throughout Orbia. During the year, we ran four Launchpad Challenges across three Business Groups. These yielded more than 780 individual ideas resulting in 11 innovations that are now progressing with management funding. Overall, LaunchPad initiatives are projected to deliver in excess of \$50 million in value (efficiencies or new revenue) in the next five years, while supporting the delivery of resilient solutions for our customers in different sectors.

Educating for Innovation

Our Innovation Academy aims to drive Orbia's innovation culture through upskilling and training. In 2020, thousands of employees engaged in more than 6,400 hours of specialized innovation training covering Rapid Prototyping, Advanced Analytics, Circular Economy, Open Innovation and more.

Designing Innovation

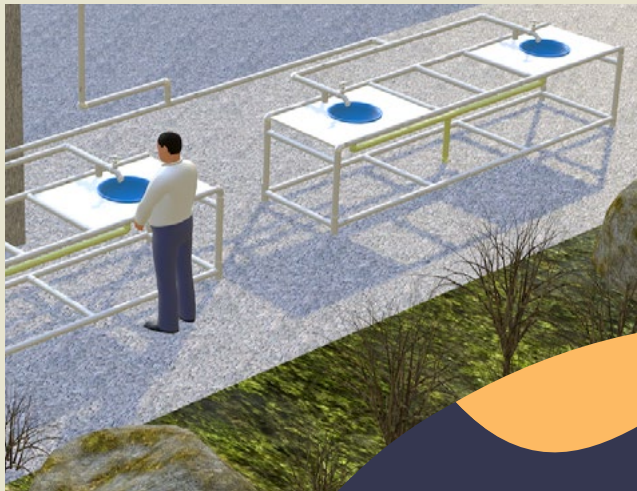
We continued to build our team at [Orbia Lighthouse](#), our venture studio, and completed assessments of new projects in areas such as electric vehicles, leak detection in urban water networks and more.

Advanced Analytics

We launched a program that focuses on identifying opportunities to leverage advanced technologies such as machine learning (ML) and artificial intelligence (AI) to solve problems or generate value in ways that we could not have achieved with existing technologies or capabilities.



Essential During COVID-19



The COVID-19 pandemic disrupted life as we had known it across the world, and more rapidly than we could have imagined. Despite the challenges, at Orbia, we have remained grounded in our values and focused on our three priorities: keeping our people safe, supporting our communities and ensuring business continuity.

Through the pandemic, we quickly realized that several of our business lines were essential to support healthcare, hygiene and sanitation, food security, telecommunications and other industrial demand in different sectors. In all cases, we went the extra mile to maintain and increase supply where needed and support our customers around the globe as they navigated a new set of priorities.

Key Orbia products that proved essential during COVID-19 included:

Medical grade propellants

During 2020, we increased our production of metered dose inhalers for asthma patients by 12% to meet increased demand during this time.

Medical Grade PVC Compound

During 2020, we helped meet a significant increase in demand for these materials, used in a range of medical equipment, including IV bags, tubes, oxygen masks, face shields, and other equipment used in hospitals and healthcare centers around the world.

Chlorine and fluorine derivatives

We maintained supply of derivatives used in many essential healthcare, hygiene and sanitation applications through 2020 to all existing and new customers.

Data communications conduits and infrastructure

We accelerated production of our essential conduits and installations to meet service provider demands to expand capacity with urgency, to support the explosion in Internet needs and data communication traffic.

Protective face shields

Some of our factories converted production lines to enable production of PPE to support our employees, communities and markets.

Precision irrigation equipment

In particular, our remote sensor technology for drip irrigation enabled farmers to continue to monitor their crops and secure agricultural output. Our service to farmers was not disrupted during COVID-19.



Sustainable Solutions in Practice

In 2020, alongside navigating the COVID-19 pandemic, we continued to advance life around the world through our innovative, sustainable solutions to the many challenges facing humanity that we address through our business. In this section, we share progress made across different sectors and topics.



Enhancing food security and helping farmers thrive



Managing stormwater for resilient cities



Enabling connectivity for smarter, safer, low-carbon, cost-efficient cities



Cooling supply chains without warming the planet



Exploring options for fossil-free resin



Enabling a low-carbon transition

“Incorporating sustainability considerations in capital allocation is now a regular part of our thinking and practice. By supporting solutions for resilience in our markets, I believe, we are supporting the resilience of Orbia as a company with a long-term future. In fact, this thinking was reinforced in meetings Orbia held this year with several of our key investors, who made their expectations clear. From a financial standpoint, investing in sustainable innovation and practices makes sense.”



Edgardo Carlos
Chief Financial Officer, Orbia



Enhancing Food Security and Helping Farmers Thrive

Netafim's proven Community Irrigation model in India brings together public and private sector decision-makers to organize smallholders into "irrigation communities". Through the community model, farmers benefit from regular water supply through improved infrastructure, efficient irrigation equipment, modern farming practices and a hub of technical and commercial assistance that enables them to deliver strong yields, assure a regular income and contribute to their local economy. As part of this model, Netafim trains farmers and provides agronomic support over a period of 5 years to help farmers be self-sustaining over the long term.

In 2020, we commenced a significant expansion of the Community Irrigation model in partnership with Megha Engineering and Infrastructure Limited (MEIL). The expansion includes three projects covering 66 villages and 35,000 farmers on an area of 50,000 hectares in the Nandwadgi and Singatalur regions of Karnataka bringing our total reach since 2017 to more than 97,000 farmers across 202 villages.

Based on our experience of our first Community Irrigation project in Ramthal (2014-2017), we expect initiatives that commenced both in 2018 (ongoing until 2023) and in 2020 to deliver up to 30% higher yields across a broad range of planned crops while reducing water requirements for irrigation by 40% compared to current farming practice.

Netafim's Community Irrigation Projects in India

Accumulated	2018	2019	2020
Projects	1	5	8
Villages	28	136	202
Farmers	7,000	62,000	97,000
Hectares	12,000	56,000	106,000
Value	\$60 million	\$160 million	\$245 million

Main crops:

Corn	Peanut	Sunflower	Bean	Vegetables
Flowers	Onions	Chili	Rice	Cotton

Sustainable Rice at Scale

At Netafim, we have been studying rice cultivation for more than a decade, in collaboration with agricultural experts and customers in multiple field trials. Success of the commercial-scale drip irrigation in Turkey and India demonstrates that we can transform rice production worldwide to deliver improved yields, 70% water savings, fertilizer reduction, >90% reduction of methane emissions and significant reduction of arsenic uptake into rice grains. With rice being the predominant source of nourishment each day for more than 1.6 billion people around the

world¹, transforming rice production can substantially help deliver Sustainable Development Goal #2: Zero Hunger.

Any Crop, Anytime, Anywhere

In early 2021, Netafim acquired Gakon Horticultural Projects, a leading Dutch turnkey greenhouse solutions provider. In response to the growing trend towards locally grown fresh produce, expanding greenhouse availability and offering state-of-the-art greenhouse solutions will offer farmers new possibilities to grow any crop, anywhere, any time. With Gakon's specialist expertise in all aspects of greenhouse project execution and Netafim's established leadership in advanced irrigation technologies, already in use in 80% of the world's professional high-end greenhouses, local food cultivation can now become a reality around the world.

"We are excited to be able to apply our deep knowledge and skills of greenhouse horticulture to new markets and be part of a group that is set to drive forward sustainable and profitable crop production."

Pieter van Berchum

Director of Gakon Horticultural Projects

1. <https://www.worldatlas.com/articles/most-important-staple-foods-in-the-world.html>



Managing Stormwater for Resilient Cities

Urban flooding is a large and costly problem for local governments, and it's growing.

“With shorter cycles of extreme floods and damage, Europe’s current average losses of €4.9 billion a year could reach €23.5 billion by 2050, a rise of almost 380 percent.”² Stormwater is excessive rainfall that is not absorbed into the ground, flowing through the city into drain sewers, picking up contamination and debris on its way. Such runoff can cause serious flooding, pollution, damage to property, harm to aquatic life, rivers, lakes, aquifers and also to humans. Not only that, uncontrolled stormwater damage requires large municipal budgets to fund clean-up and restoration.

Wavin has dedicated its business to delivering stormwater solutions that take the frustration out of a rainy day and offer peace of mind to city dwellers. Under our Wavin brand, using our unique technology, we offer gutters, roof drainage systems, gullies, subsurface attenuation and infiltration tanks and tree bunkers. In 2020, we applied these solutions around the world to enable people to live in cleaner cities.



AquaCell infiltration tank made from 100% recycled material

2. <https://www.scientificamerican.com/article/europes-flood-losses-to-soar-by-2050/> Accessed April, 2021



Wavin is building a global offering of data driven sustainable infrastructure services to support their customers in solving some of their most urgent challenges. In this journey, Wavin has started a cooperating with one of the leading ports in the world.

At critical locations, Wavin has equipped drainage equipment with monitoring functionality. This enables our client to secure flawless operation under all weather conditions as well as optimizing planning of its maintenance activities.



Tegra Gully made from post-consumer recycled material

Sweden

With heavy stormwater accumulation hindering residential and commercial expansion and construction in Swedish cities, Wavin's XL pipes offered relief. For Sundsvall's Tivoli Works wastewater plant, we created a novel solution deploying a 550-meter-long sea pipeline, which we constructed in 50-meter sections, to transport purified water out into the sea. See a video of the Tivoli works water pipeline [here](#).

Colombia

The city of Bogotá, with over 8 million inhabitants, urgently needed a system to separate rainwater from wastewater. Rainwater that is channeled to a wastewater plant is both a waste of city resources and also prevents sustainable use of rainwater for irrigation. The solution: Wavin's patented Tegra gullies throughout the city filter out debris and contaminants and channel rainwater for storage and reuse, rather than treatment. Similarly, we are using innovative trenchless diagnostic and rehabilitation technologies to continue upgrading 8 kilometers of the city's sewer network, avoiding the need for excavation of roads and other disruption during installation. These improvements serve more than 150,000 people in 15 neighborhoods and will enable Bogotá to manage water efficiently for the benefit of its population for many years to come.

Netherlands



WaviCore stormwater solution

To solve a unique problem experienced in cities in the Netherlands, where water levels are so high that regular stormwater solutions are not effective, we developed a new product, WaviCore, a slotted subsurface pipe that is run between the gullies so that infiltration can occur under a larger surface of road. We are currently testing this solution in one major city and expect it will be a perfect solution to infiltrate rainwater in areas with a high groundwater table, combining good performance and low maintenance.



Enabling Connectivity for Smarter, Safer, Low-carbon, Cost-efficient Cities.

It's estimated that more than 50 billion devices will be connected by 2025³ and that internet traffic will increase between 10 to 100 times from 2020 to 2030.

Only fiber optic cables can reliably transport the huge volume of data required to support this expansion and 5G or even 6G mobile broadband networks will be needed for fast and responsive low latency connectivity. Not only this, greater digitization is a key element in mitigating climate change: by 2030, internet communications and technology have the power to hold global carbon emissions at 2015 levels⁴. As we all know, COVID-19 has accelerated the connectivity transition at an unprecedented pace, and many of these new digital habits of living, working and consuming will remain in a post-COVID-19 world. Our brand Dura-Line has for years been a leader in enabling connectivity, providing the conduit technologies and pathways for connection that helps us all live better in a more sustainable world.

Dig Once Becomes Law

The practice of "dig once" refers to the inclusion of broadband conduit in construction of roads, railways, and communities to allow for future capacity expansion and access for connectivity. This is important not only because it allows more people to be connected, but also because it increases the efficiency of infrastructure projects:

fiber optic installation at the time of road construction saves around 90% of regular installation costs. In 2020, we were delighted to see the U.S. government enact the Nationwide Dig Once Act adopted into law, following tireless campaigns by [California Congresswoman Anna G. Eshoo](#). In responding to Congresswoman Eshoo's earlier call for solutions for universal access to broadband, our Dura-Line experts worked with the [Fiber Optic Sensing Association](#) to provide research and policy materials to help inform this legislation. With this law, connectivity infrastructure is positioned for the future in the most cost and resource-efficient way.

In 2020, in addition to our dedicated support for our communications service provider customers as they augmented their networks in response to the explosion of internet demand, we continued to enable access across rural U.S. and in other countries.

Mass Transit Expansion in Seattle

October 2020 we were proud to have received the Platinum Innovator Award from Cabling Installation & Maintenance for our work on the Seattle Sound Transit Authority Railway system. [The Northgate Extension](#) of Sound Transit in Seattle is a light-rail tunnel section comprising under-and overground routes with expected daily use by more than 40,000 passengers. To assure the safety of all, a robust communication and security infrastructure system is

needed to process data from security cameras and train tracking systems. However, routine operations in the transit tunnels are challenging due to poor ventilation that traps toxic exhaust gases. Taking this into account, our Low Smoke Zero Halogen (LSZH) conduits, that have low friction potential and greater air-jetting distances for cable installation at speed, were installed over more than 6,700 meters. The LSZH solution supports clean air for passengers and for those working in the tunnels, including, for example, firefighters, while providing Sound Transit with an optimal connectivity infrastructure.

Bridging the Urban-Rural Digital Divide

Chariton Valley, a Missouri communications provider, wished to expand broadband internet to local underserved areas, especially rural areas that had no or poor access.

39% of rural Americans lack home broadband access – in contrast to only 4% of urban Americans.⁵

To do so, Chariton Valley needed to partner with other local communications carriers. Essential to this approach was a standardized connectivity infrastructure, which Dura-Line's FuturePath 7-Way and 4-Way conduits enabled. Using our FuturePath multiple pathway conduits, with minimal installation effort as the new conduits are pulled into existing ones, Chariton Valley was able to rapidly and efficiently connect thousands of individuals in the region.

3. <https://www.itu.int/en/mediacentre/backgrounders/Pages/5G-fifth-generation-of-mobile-technologies.aspx>

4. The #Smarter2030 opportunity: ICT Solutions for 21st Century Challenges, published online by GeSI: <http://smarter2030.gesi.org/the-opportunity/>

5. <https://theconversation.com/reaching-rural-america-with-broadband-internet-service-82488>



Cooling Supply Chains Without Warming the Planet

As a global leader through our Koura brand, delivering fluorinated products that play a fundamental role in enhancing everyday lives, we are excited by the role we can play in greening supply chains and making a positive impact.

Climate-friendlier refrigerants

Refrigerants are essential materials for many supply chains and are used in multiple industries for cooling applications including air-conditioning, food production, transportation, healthcare and many more manufacturing uses. Globally, refrigerants will represent an estimated \$30 billion market by 2025⁶. However, increasingly, current refrigerant solutions have been recognized as a contributory factor to global warming. Our brand Koura has leveraged its expertise in fluorinated products and researched and developed new technologies to create a new class of refrigerant that achieves both high performance and significantly lower global warming potential (GWP) than current materials. For example, one of our new offerings from our portfolio of development products, Klea® 473A, for use in ultra-low temperature refrigeration applications such as bio-medical storage, has a GWP of 1,830 which is 85% lower than a comparable refrigerant, R-23, which has a GWP of 14,800. Additionally, Klea® 473A offers

improved cooling capacity and energy efficiency compared to R-23. These development products will progressively bring new sustainable, low GWP and high energy efficiency solutions to a broad range of refrigeration applications from food preservation and building climate control, to bio-medical storage solutions.

Greening Propellants

Our focus on low GWP solutions applies also to our medical propellants. Koura supplies over 70% of the fluorine-based medical propellants used in the metered dose inhalers (MDIs) relied upon by tens of millions of asthma patients worldwide every day. Last year, we announced our new offering Zephex® 152a (1,1-difluoroethane), a propellant gas for MDIs with a GWP more than 90% percent lower than commonly used propellants. This year, we increased that commitment with a multi-million-dollar investment into a new Zephex® 152a production facility at our site in Runcorn, UK. This investment enables scaling-up production capacity to meet the increasing demands of customers for this new low GWP, high purity, medical grade propellant. Additionally, the successful progress of Zephex® 152a, has empowered us to announce our delisting of a high GWP medical propellant, Zephex® 227ea, from 2021.

“We are building on our existing portfolio though investment to provide new sustainable, high energy efficiency and low environmental impact solutions to a broad range of societal needs, from new refrigerants and medical propellants to battery solutions and energy storage. Advancing life around the world means providing solutions that will enable us all to be more resilient.”



Gregg Smith
President, Fluorinated Solutions (Koura), Orbia

6. <https://www.marketsandmarkets.com/Market-Reports/refrigerant-market-1082.html>



Exploring Options for Fossil-Free Resin in the Future

Through Vestolit, a leading global producer of vinyl resins for decades, we have gained deep expertise in the production of PVC and derivatives, and their application across multiple industries from healthcare products to shoe soles and from pipes and conduits for data communications to films for wrapping. In the last year, we leveraged our expertise to reduce the carbon footprint of our portfolio to develop a PVC that is free from fossil fuels.

Ethylene and fuels for electricity and heat, main contributors to the Global Warming Potential (GWP) of PVC, account for more than 80% of its climate change impact. Replacement of these with sustainable alternatives enables us to offer PVC with a GWP reduction of 40% or more.

Three technologies to deliver fossil-free PVC

Our innovation team is actively working on three technologies to transform the carbon footprint of PVC:

- **Carbon capture:** PVC manufactured using a process that captures carbon dioxide that would otherwise be emitted into the atmosphere, for example, industrial gas emissions from suitable industries. Our challenge in scaling this option will be to source feedstock at scale and establish appropriate infrastructure for raw material transportation.
- **Circular:** PVC manufactured using carbon derived from post-consumer mixed plastic waste. Our challenge is to source sufficient volumes due to low technical maturity.
- **Bio:** PVC manufactured using carbon sourced from plants. Our challenge will be to source suitable bio feedstocks without disrupting food supply chains.

In all three cases, we are actively working with our customers to advance this industry transformation. This is dependent upon several factors, including our ability to source raw materials that meet our strict criteria for sustainability, quality, and consistency.

We hope to bring some of these new specialty products to market during 2021.

“We advanced this development in 2020 in the midst of the COVID-19 pandemic. Our team never actually met in person and we connected to customers virtually as well. Sustainability is like a game of chess. Reading a book about the rules won’t get you anywhere. We put the rules aside and focused on our contribution to a more sustainable world. These new fossil-free carbon PVC options move us, and the entire PVC industry, towards this goal.”

Dr. Katharina Kleine

Head of Innovation Management,
Polymer Solutions Business Group (Vestolit), Orbia



Enabling a Low-carbon Transition

At Orbia, through our diverse business lines, we are able to contribute to a low carbon world in many more ways than we are able to summarize in one report. In addition to the sustainable solutions already noted, examples of progress in 2020 include:



The Natural Park, Turkey

Indoor climate solutions for low carbon living

We leverage the expertise of our brand, Wavin, to offer innovative solutions for temperature control and ventilation that reduce the carbon footprint of residential buildings. In 2020, we transformed the 104 apartments of The Natural Park residential complex in Sanliurfa, Turkey with the installation of our new Sentio Indoor Climate Control system in combination with solar-powered heat pumps. Sentio delivers heating and cooling via underfloor pipes, avoiding the need for air conditioning or other heating installations. Residents can control apartment temperatures using an app, so, for example, with high summer temperatures reaching 40° C, indoors, you can enjoy the day at 20° C. Typically, residents save up to 21% of energy by using zone control, up to 20% by using underfloor heating instead of radiators and up to 34% in cooling versus air-conditioning.



In 2020, we extended the capabilities of the Sentio Indoor Climate Control System to include a Smart Radiator Thermostat, enabling each room in the home to

be individually scheduled to achieve a specific temperature at each moment of the day, using the Sentio app that controls the underfloor heating system. In this way, residents can tailor the temperature of their apartment to their home activity while saving on energy consumption.

Advancing the future of electric mobility

Koura is actively developing fluorinated materials that can improve the safety and performance of electrolytes use in lithium-ion batteries, the main power source for electric vehicles. In 2020, we commenced a new partnership with the U.S. Department of Energy (DOE) Argonne National Laboratory (ANL) to improve the process of integrating electrolyte additives for lithium-ion battery applications. The project uses funding from the DOE's Office of Energy Efficiency and Renewable Energy, with cost sharing by Koura. A key challenge to date has been the scaling of processes using certain fluorinated substances that can significantly improve the performance of batteries for electric vehicles. This new collaboration promises to pave the way for a green, clean, mobile future.



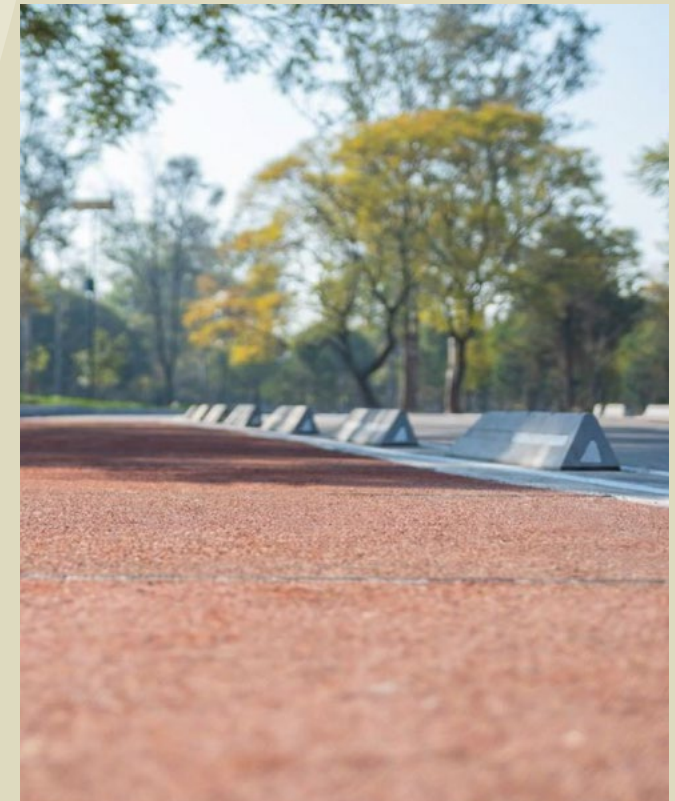
Circularity enabling stabilizers

Through our Alphagary brand, we are constantly developing our range of stabilizers that enhance the capabilities of PVC to incorporate recycled materials. For example, our VINASTAB® range includes calcium-based stabilizers that bring PVC to life for a variety of applications, including healthcare masks and tubing, irrigation systems, electric vehicle charging systems, rainwater harvesting and flood protection products, as well as purpose-designed formulations that support the use of recycled PVC in a variety of applications. We expect that VINASTAB will help grow the market for recycled plastics and advance a circular economy. Specifically, Alphagary designed VINASTAB stabilizers in collaboration with Wavin, to help bring more stability and consistency to the extrusion process of Wavin's Recycore products that use recycled PVC.

To support the growth of these essential additives, in 2020, Alphagary injected \$6 million into the expansion of our UK facility that delivers VINASTAB products. Our purpose-built facility is designed with closed loop additive and transfer systems, high automation, low energy consumption and zero waste capabilities.

PlasticRoad: The low-carbon way to get places

Wavin's award-winning PlasticRoad is the world's first bicycle path made of 90% post-consumer recycled plastic and is poised for commercialization, with production coming onstream in the Netherlands in 2021. In 2020, following two years of trials and a million users on foot and on bicycles, we concluded a further pilot of PlasticRoad in Mexico City's Chapultepec Forest, made from 1,000 kilograms of recycled plastic waste, the equivalent of half a million plastic bottle caps. Beyond initial testing as a bicycle path, PlasticRoad has proven able to handle heavier transport loads, and has potential to replace asphalt in certain conditions. Further, PlasticRoad is engineered to store water during extreme rainfall and incorporates sensor technology for climate monitoring. Its faster installation delivers up to 80% fewer greenhouse gas emissions during the construction phase compared to traditional road construction. Together with durability, faster installation and underground drainage control, it's no surprise that PlasticRoad received the Topsector Energy grant of €700,000 from the Dutch Ministry of Economic Affairs in 2020 to help scale production and adoption in the Netherlands.



For further information:



PlasticRoad.com



Responsible Business

Everything we do at Orbia is grounded in a strong foundation of ethical conduct and responsible, accountable and transparent business practices.

We recognize that trust in Orbia is dependent upon our trustworthy behavior and respect for the rights of all those we serve and engage with, and of the natural environment. We work to make values a foundational part of our culture, in the knowledge that values create value for all our stakeholders.



As a signatory to the United Nations Global Compact, and as a firm supporter of the UN Sustainable Development Goals, we strive to live up to the highest ethical standards every day. This section of the report covers our responsible business practices in the following areas:



Ethics and Compliance



Our People



Environment



Supply Chain



Communities

“Responsible business practices are critical to any business as they form the basis of trust. At Orbia, in aspiring to fulfil our purpose of advancing life around the world, we make thousands of decisions each day in every part of our business. Each of us at Orbia is responsible for ensuring that these decisions are both legally and ethically sound, so that everyone who has an association with the Company knows that we can be counted on.

Our individual reputations and our sense of ourselves as human beings are bound up with Orbia’s reputation as an ethical entity in the world committed to long-term success.”



Sheldon Hirt
Senior Vice President, General Counsel, Orbia



Ethics & Compliance

At Orbia, we believe that ethical conduct, in full compliance with applicable law, is fundamental to our long-term success as a global business.

This means more than rules and guidelines. We aim to instill a culture of personal accountability so that all members of our global workforce understand what is expected and are motivated to do what's right. Starting with our [Code of Ethics](#), we support our global teams with standards, policies and mechanisms that guide their daily actions in ways that continue to reinforce trust in our Company and our people.

Our Code of Ethics guides our behavior and is a binding requirement for all Directors, executives, employees, contractors, temporary workers and business partners that work on our behalf.

Program Developments in 2020

Despite challenging circumstances caused by the global pandemic, we achieved several key milestones, while maintaining our ongoing compliance processes.

- **Ethics Survey:** In 2020, we conducted a comprehensive Ethics & Culture Survey for all office employees designed to help us understand their views on important topics such as tone at the top, awareness of the Code of Ethics and the Ethics Helpline. More than 7,100 employees participated, providing valuable insight into variations of perception, according to geography, tenure with the company, and other factors, in time to inform 2020 decisions. Insights that we gained from the Survey included that employees have a strong awareness of our Code of Ethics and a positive perception of our senior leadership's honesty. We also identified a key opportunity: while employees were well-aware of the Code of Ethics, we needed to improve awareness of the Ethics Helpline as an anonymous mechanism to seek guidance. During Ethics Month in 2020, we addressed this finding (see below). We will conduct the Ethics & Culture Survey again in 2021 to measure our progress.
- **Ethics Month:** We launched a month-long initiative to raise awareness of the newly renamed "Ethics Helpline," with the goal of maintaining an environment where everyone is comfortable asking questions and feels a responsibility to raise concerns if they see behavior that is inconsistent with our Code of Ethics. Leaders across Orbia actively participated by holding virtual townhalls

and delivering employee communications to reinforce Orbia's core values and the importance of acting with integrity. Employee engagement was high, with almost all eligible employees taking their annual Code of Ethics training by the deadline.

- **Risk assessment:** In 2020, we performed a compliance risk assessment. This assessment evaluated 20 compliance risk topics, including anti-corruption, antitrust, export controls, kickback/fraud and internal controls across all Business Groups. The results of the risk assessment informed our 2021 program initiatives and plans. For example, we plan to update our Code of Ethics and other key policies as part of our effort to continuously improve our compliance systems and processes.
- **Additional enhancements:** In 2020, we automated the process to disclose conflicts of interest through the introduction of an app that is readily accessible and simple to use. We also provided further guidance on hiring of external consultants or contractors, reemphasized the importance of compliance with antitrust and anti-corruption laws and reminded employees of the guidelines for giving and receiving gifts, as we do each year.



Ethics Helpline

During Ethics Month and periodically throughout the year, we provided information and examples of anonymized real situations that emerged through use of the [Ethics Helpline](#), to reassure employees that it is safe and worthwhile to speak up. An Ethics Helpline webcast was attended by more than 1,700 employees.

Additionally, we ran a pilot program in Mexico to inform key suppliers of our Ethics Helpline, as well as reminding them of our gift policy. We believe this extended communication to our business partners helps reinforce our employees' confidence in our process and consistent approach to ethical conduct throughout our global operations.

Antitrust compliance: Orbia has zero tolerance for activities that breach of our antitrust policies. Over the last several years we have invested in improving the robustness of our antitrust program. In 2020, we announced the settlement and agreement to pay a fine in connection with a matter brought by the European Commission against four ethylene manufacturers, including Orbia, for competition law violations occurring prior to 2017. Orbia takes seriously its obligations to compete fairly and lawfully in the global marketplace and will continue to invest in its antitrust compliance program to make every effort to prevent a reoccurrence. For example, in 2021, all commercial and leadership teams will receive live antitrust training and this area will remain in focus.

Sarbanes-Oxley Initiative

In 2020, we launched an initiative to achieve compliance with the procedures and disclosure requirements of the U.S. Sarbanes-Oxley (SOX) Act of 2002. Although this is not a requirement for a company incorporated in Mexico, we believe the rigor required by SOX will increase the trust of financial stakeholders in our business and will support our future expansion in North American markets, critical to our purpose of advancing life around the world.

Information Security and Data Privacy

In 2020, we hired a highly experienced Chief Information Officer, and Orbia has continued to invest in information security and data privacy. We also recruited a seasoned leader to the new role of Chief Information Security Officer (CISO), whose role will include enhancing our enterprise systems, improving our coordinated response to cybersecurity threats, and supporting our ongoing digital expansion. With remote working becoming a new reality in 2020, and likely to continue at a certain level into the future, enhanced information security controls are even more critical.

Regarding data privacy, we completed a data privacy risk assessment, and safeguards to mitigate identified risks are being embedded in our operating procedures going forward. We also conducted specialized live training for our People and IT teams, and these topics will be included in our mandatory Code of Ethics training for all administrative employees in 2021.

Ethics and Compliance Training

In 2020, 99.9% of managers, professional and administrative employees, representing approximately 55% of our total workforce, completed the mandatory annual online Code of Ethics training in 2020. The hour-long course covered important Code of Ethics topics, including ethical decision-making, protecting human rights, antitrust, anti-corruption, conflicts of interest, the importance of a "Speak Up" culture and Orbia's Non-Retaliation Policy. In addition, we delivered tailored live training by job group. For example, senior leaders in all Business Groups attended an hour's course on ethical leadership, and all commercial teams received antitrust training.

In 2021, employees in both administrative and operational roles will receive annual Code of Ethics training during Ethics Month 2021. Additionally, all managers of people will receive live Ethics & Compliance training.

Ethics Helpline Reports in 2020

179 total reports to the Ethics Helpline of which 45% related to human resources questions or concerns.

The rate of anonymous reports to Orbia's Ethics Helpline was lower than a leading helpline benchmark, which is generally seen as a barometer that signals employees are comfortable speaking up.



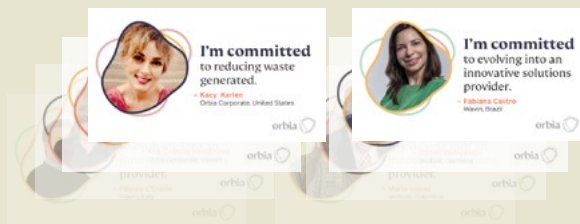
Our People

At Orbia, on our exciting journey of advancing life around the world, we have one defining advantage: our people.

By bringing together our best and brightest minds, capabilities and individual experiences, we are creating a truly global culture of innovation, agility and collaboration that's driving new solutions to human needs for a sustainable future.

Engaging our Colleagues in Making an Impact

During 2020, colleagues from around the world participated in our [ImpactMark](#) workshops and publicly pledged their commitments to advancing the impact indicators that inspire them to action. More than 9,000 colleagues participated in our ImpactMark Workshops led by one of more than 500 Transformation Ambassadors who were carefully selected and trained for this role.

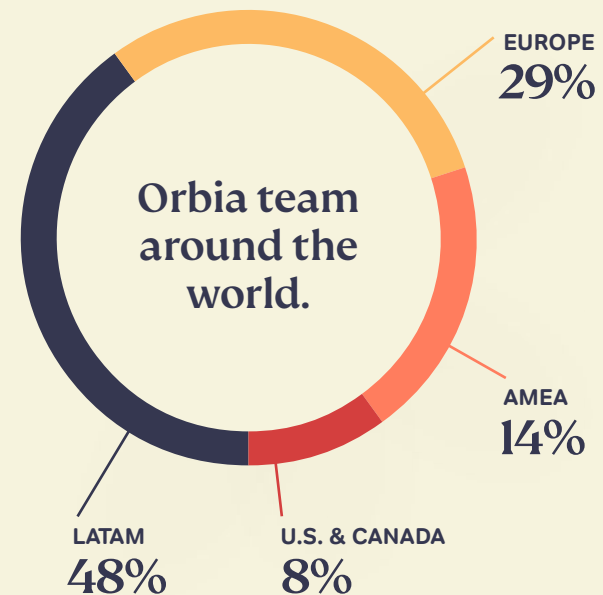


Our Global Team in 2020

21,688
colleagues in
40+ countries

>2,400
new colleagues hired

>377,000
hours invested in learning
and development ✓





People Strategy

During 2020, despite the challenges of travel and distancing restrictions, we continued to foster a diverse team and inclusive community spirit that harnesses the contributions of all employees in a unified mission. By working attentively and consistently to understand and address the needs of our employees, we are able to create a strong global platform of engagement, value creation and sustainable growth.

In 2020, we led several initiatives in each of our People Strategy pillars:

- **Fulfillment:** We [connected employees to our ImpactMark](#), reinforced a culture of diversity, equity and inclusion, and supported employees in joining initiatives to help communities thrive, through volunteering and local engagement.
- **Development:** We accelerated our culture of intrapreneurship and innovation with our LaunchPad platform, our Innovation Academy and invested in training and development through our eXP (experience, exposure and education) career development program and ongoing training initiatives.
- **Well-Being:** In this last year, in which COVID-19 dominated all considerations, we supported the health and well-being of our colleagues through the pandemic, providing medical, financial and psychological support, including through our new [Healthier Together](#) platform.

Our People Strategy



Fulfillment

What makes me happy?

A culture where I can thrive and be myself

People who guide me to do my best work

Leaders who value my work and give me opportunities to grow

Being part of something that is bigger than myself



Development

What makes me grow?

A culture that values development

People who help me identify my future pathways

Leaders who recognize my potential

Having the time and space to grow my skills



Well-being

What makes me healthy?

A culture that embraces my wellness as a priority

Leaders who role-model

Having the freedom to balance my work and life in a way that allows me to contribute the most

Creating enduring experiences for our employees, made up of moments that matter.

Supported by

Getting the Basics Right

Delivering fair and competitive compensation, offering attractive benefits, deploying the right individuals in the right roles, tailoring our recruitment processes to bring in diverse talent, fostering a values-based culture and upholding compliance with regulation and business standards.



Training, Development and Performance Management

During 2020, we continued learning programs for employees at all levels as far as possible, with our Digital Learning Platform offering more than 260 courses in leadership, project management and more, becoming a critical channel in a year when many colleagues were working remotely for several months. We also continued our partnership with Harvard Business Publishing to provide online leadership and business skills training, benefiting more than 1,650 employees in 2020. Digital, innovation and leadership training increased to 3.35 hours per employee compared to 1.68 in 2019.

Additionally, we maintained our flagship year-long career development **e^{xp} Program**. We adjusted the program to face our new reality under COVID-19 while also enhancing it to provide opportunities for a wider array of employees to join as either Participants, Mentors, Subject Matter Experts or Project Leaders. In this way, the experience of the participants became more collaborative through team-working to address important business challenges, while learning not only from the Mentors, Experts, Project Leaders, but also from each other.

In 2020, we maintained our Performance Management Process with 99.9% of managers and office-based employees participating in an annual performance evaluation and frequent feedback conversations over the year.

e^{xp} Program – 2020 cohort

51	Participants representing 15 nationalities	73	Mentors
45	Subject Matter Experts	27	Projects

We connected our managers more closely to our sustainability objectives by introducing a linkage between performance on ESG and executive compensation.

The bonuses of all Business Group Presidents and Senior Managers now increase or reduce by up to 10% based on actual achievements across five critical social and environmental impact areas represented in our ImpactMark, as well as our performance on safety (TRIR).

“e^{xp} is a valuable program to give our high potentials an opportunity to work on challenging projects for personal and professional growth while providing a benefit to the business.”

Edward Wysmierski

e^{xp} Mentor, Global Procurement Director, Dura-Line

“The e^{xp} Program allowed me to access a wealth of knowledge outside of my Business Group. Working together with colleagues from different business groups has expanded my understanding of how Orbia’s other organizations run. Being placed with a project that is well outside of my typical job responsibilities taught me to expand my patience as well as my organizational skills.”

Rachel Daley

e^{xp} Participant, Regulatory Affairs Manager, Vestolit



Diversity & Inclusion

We are committed to fostering a respectful, collaborative working environment where all employees have the opportunity to develop their skills and contribute to our shared success. In 2020, we introduced initiatives designed to strengthen employee engagement and professional growth across our organization. For example, following a successful three-day U.S. leadership workshop in 2019 focused on expanding representation in STEM, Dura-Line launched a cross-functional, global Employee Resource Group (ERG).

The ERG serves as an optional platform for all employees to connect, share experiences and collaborate on professional development opportunities. Additionally, our Women in Leadership group hosted a series of voluntary webinars featuring employees in current leadership roles, highlighting different career journeys and offering insights on pathways to growth so all employees can maximize their contributions and thrive.

An Award for Inclusion

In 2020, we were thrilled to be the recipient of the [Dov Lautman 2020 Diversity Award](#) granted by Maala and the Israeli Forum for Employment Diversity. The award was granted for Netafim's investment in employees aged 60+, following a focused effort by Netafim in Israel to prepare employees early enough (between the ages of 50 and 55) so that they can effectively plan for retirement, or, more importantly, continue their career until and often after full retirement age. The program prepares employees across financial, well-being and professional dimensions so that individuals can create options before reaching retirement age, by which time it is often too late to change course.

“Our initiative was based on two key insights: The overall shortage of qualified technical professionals in the market, and the understanding that older employees can continue to contribute significant value based on high motivation, knowledge and experience, and that legal retirement age does not need to be a career ending.”

Hilit Kinreich

Human Resources Manager, Netafim

Integrating Refugees

During this year, we also joined the [TENT Partnership for Refugees](#), making a commitment to explore options to integrate refugees in some of our operations, expanding the efforts already made by Orbia in Sweden. We have identified priority markets in different regions and in Colombia we have initiated the process of hiring refugees.



“In November, we were thrilled to welcome Orbia to the TENT family—joining over 140 major companies around the world committed to integrating refugees. Orbia has already taken steps to support this vulnerable population, by hiring refugees in its manufacturing facility in Sweden. We are excited to continue working with Orbia to expand these efforts in Sweden and beyond, making an even greater impact on refugees’ lives.”

Gideon Maltz

Executive Director, TENT Partnership for Refugees



Nurturing Employee Well-Being

Much of our focus on well-being in 2020 was, of course, prompted by the unique conditions presented by the COVID-19 pandemic. We quickly developed an array of tailored initiatives to offer medical, financial and psychological support for our employees, in addition to food and other supplies where needed.

Taking the pulse of employee well-being during the pandemic

Changes in work arrangements during the pandemic, both for those in essential roles onsite and for those working remotely have been significant and, in many cases, stressful. To better understand the effects of this disruption on our employees, we conducted a global pulse survey in our Wavin business, which employs more than 50% of the people in the Orbia Group. More than 5,600 employees responded to the survey, providing insights on how we might better support our employees, but also acknowledging our efforts so far with an overall 4.12 satisfaction score out of 5. As we move forward in 2021, additional surveys are in progress in other Business Groups.

As part of our response to employee feedback, during 2020, we held six Global Guided Meditation sessions, helping more than 3,400 employees who attended to manage stress during the pandemic.

Healthier Together in Latin America

Almost half of Orbia colleagues are based in Latin America, a region that has been more severely hit by the COVID-19 pandemic than other regions of the world, with a sharper drop in GDP in 2020 and a slower predicted recovery rate in coming years⁷. To show solidarity with our employees and their families in the LATAM region, especially those in areas with the most fragile healthcare systems, we established a medical support remote network, called “**Healthier Together**”. Since April 2020, a team including our corporate doctor, 22 physicians, 5 nurses, and 6 health and safety engineers in the countries most affected by the pandemic have conducted the following programs:

- The telemedicine network, providing a direct and immediate response to the most pressing medical needs of our employees and their families. So far, more than 2,000 employees have received medical assistance.
- A health monitoring program that includes proactive outreach to our most vulnerable employees through a regular interview with their managers to monitor their health status.
- A daily online survey to ensure immediate updates of changing health status and needs.

- A range of local Employee Assistance Programs that complement the medical network including “Orbia contigo”, that offers free medical and psychological assistance for 7,500 employees and their families across LATAM, and “SANO”, a new wellness program for employees in Mexico with more than 1,500 employees engaging in wellness challenges and education programs and support through and a 24/7 helpline for employees.

Throughout the region, Orbia joined forces with local organizations to provide support to the most vulnerable of our employees and to communities in need of basic supplies such as water, food, oxygen supplies and medicines.

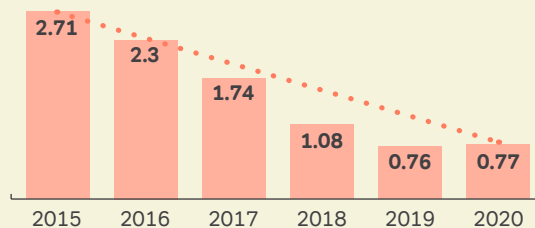
7. <https://www.csis.org/analysis/effects-covid-19-latin-americas-economy>



Health and Safety

We aspire to create safe places to work throughout Orbia, with a community of individuals who are committed to implementing all our policies, standards and frameworks, supported by processes that enable them to do so. In this way, we make safety a habit that is consistently embedded in everything we do. No rule book can account for every eventuality, so we rely on a safety mindset and culture to complement the systems we have in place. While we must continue this work to achieve our vision of zero injuries, we are encouraged by a notable reduction in incident rates across the business over the past several years.

71% Reduction in Employee TRIR 2015-2020 ✓
(Total Recordable Incident Rate)



2020 was dominated by challenges related to COVID-19 and the need to maintain business continuity for our customers while assuring the safety of our employees, both those who maintained our essential production sites and those who transitioned to remote working.

For further information:



See Section on
[COVID-19 response](#)

Life-Saving Rules (LSR)

In 2021, we will continue to roll out our internally developed 10 Life-Saving Rules that we introduced in 2020. We expect to have embedded the LSR across all our sites by the end of 2021.



Safety Certifications

Across most of our chemicals operations, we implement the International Safety Rating System (ISRS) that is verified by Det Norske Veritas. For other operations, we are implementing internationally recognized management systems to ensure a focus on continuous improvement. In 2020, around 44% of Orbia's sites were certified to international safety standards such as ISRS, ISO 45001, or OHSAS 18001. Non-certified sites apply the same standards of care and will be preparing for certification in coming years.

A New Program to Improve Hand Safety

Misuse of hand tools (knives, hammers, spanners, screwdrivers etc.) has the potential to cause serious injury, not least because our familiarity with working with hand tools can cause complacency. In 2020, a new hand safety program was introduced at Netafim, since analysis showed that 97% of physical injuries were hand-related. Employees were encouraged to identify hand-related risks using a Hazard Identification Risk Assessment (HIRA) tool and Kaizen methodology to measure the effectiveness of risk identification and mitigation process. So far, this program has significantly increased awareness and safe hand practices; we expect to see positive results reflected in 2021 safety performance.



Process Safety

We maintained our process safety programs during 2020, including risk assessments, training, ongoing improvements and optimization of process safety measures at our sites. Several core Process Safety Management (PSM) procedures were reviewed and revised with the support of our PSM engineers.

Performance

We continue to improve our systems to measure process safety events, and in 2020, our total process safety event rate (PSER) was 0.054, which we believe compares very favorably within our industry. However, any unplanned event is one too many, and in 2020, incidents such as a small fire and explosion in our Cartagena, Colombia, facility and a serious burn to an operator in our Henry, U.S., facility, which occurred during a filter change with very hot material, remind us of the need to intensify our PSM programs and training to prevent all future incidents.

Training

During 2020, we delivered several training programs online, including three certification courses that were attended by almost 300 participants, including Process Control and Instrumentation Technology, Incident Investigation Fundamentals and Process Hazard Analysis.

Knowledge-sharing

We held 18 meetings for our chemical sites to review PSM procedures, incidents and lessons learned, offering the opportunity to engage and learn from each other. This has helped to improve the thoroughness of root cause analysis consistently across the Group as well as enhancing our collective process safety competency.

Working with Safe Materials

We maintain compliance with key standards and good practices:

- **REACH:** We comply with the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) requirements for all substances produced or imported in Europe for all relevant operations.
- **SAICM:** We support and adhere to The Strategic Approach for International Chemicals Management (SAICM) of the United Nations Environmental Program (UNEP) which promotes the transparent exchange of data and information using a life-cycle approach.
- **Regulated substances:** We use no regulated substances of Very High Concern (SVHC) as defined by REACH legislation, or by the European Restriction of Hazardous Substances, or substances of international concern (RoHS) in our Dura-Line, Koura, and Vestolit businesses.



Environment

Orbia aspires to be a positive contributor to sustainable development by enhancing our positive environmental impacts and minimizing or eliminating negative impacts.

This aspiration is central to our purpose of advancing life around the world, not only today, but also for future generations. Our approach to climate change mitigation, alleviation of water stress, advancing circularity, including the elimination of waste to landfill, are translated into practical actions that are embedded in our innovation, manufacturing, distribution and life-cycle approach, to everything we do. Many of our products positively contribute to sustainable development, such as our precision agriculture or stormwater management solutions (See Section on [Sustainable Solutions](#)), and alongside our product portfolio, we aim to operate at all times with the natural environment in mind.

Environmental Management

Orbia operates to a global environment policy and our Environmental Management Systems, and in compliance with all applicable environmental laws and regulation. We pursue external quality and environmental certifications to support continuous improvement across our global operations.

In 2020, 59% (71 of 120) of eligible sites were certified to ISO 14001 or equivalent external standards, and we have committed to achieving 100% certified sites by 2025.



In 2020, we worked with Enhesa, an organization that supports end-to-end health, safety and environment (HSE) compliance for global companies.

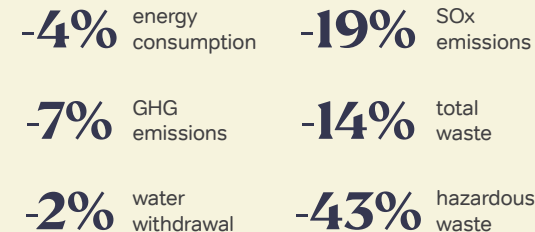
Enhesa will develop a system to provide continuously updated standardized regulatory information worldwide to all Orbia's 120 manufacturing facilities to update compliance requirements applicable to each location. Standardizing our HSE compliance processes for all Orbia manufacturing facilities will pave the way for enhanced compliance monitoring and strengthen our capabilities to fulfill HSE requirements everywhere that we manufacture.

Enhesa standardizes processes across 10 key activity areas:

- | | | |
|------------------------------------|---------------------------------|------------------------------|
| • Air Emission Management | • General Environment | • Occupational Health |
| • Water Management | • Waste Management | • Safety Management |
| • Chemical Management | • Emergency Preparedness | • HAZ-MAT Management |
| • Facility/Technical Safety | | |

Overall, in 2020, we achieved significant improvement in absolute environmental impacts while maintaining overall production volumes across our sites, most of which remained fully operational through the COVID-19 pandemic.

Environmental Impacts in 2020 ✓ (compared to 2019)





Climate

We continue in line with our commitment to mitigating climate change through our operations and hope to achieve approval for our Science Based Targets in the coming months, aligned with a 1.5° C scenario. With an ambition to achieve net zero carbon emissions by 2050, and Scope 1+2 GHG emissions reduction of 47% by 2030⁸, together with a Scope 3 GHG emissions reduction target to be developed, we are planning to drive decarbonization through our business at a steady pace. Our key strategies to achieve this include:

- Optimizing operational processes to drive incremental energy efficiencies in manufacturing and logistics;
- Leveraging innovation to support low-carbon manufacturing;
- Increasing the use of renewable energy at our sites;
- Exploring carbon capture opportunities;
- Reviewing the energy mix in manufacturing operations and converting to fuels and gases with more favorable environmental profiles e.g., biofuels;
- Engaging in material recovery operations, for example, refrigerant recovery through our Koura brand and recycling end-of-life drip lines by Netafim;
- Increasing our use of recycled raw materials;
- Partnering with suppliers and industry organizations to drive best practice at Orbia, and
- Continuing employee education and engagement in sustainability initiatives.

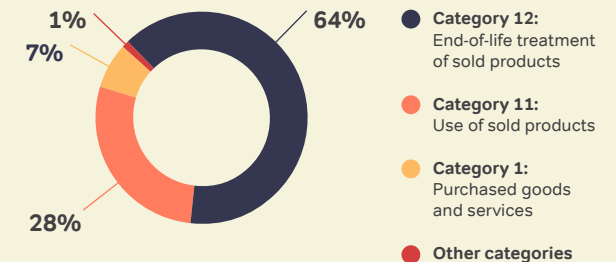
Orbia's first Scope 3 Screening Inventory

In 2020, we completed our first Scope 3 GHG emissions screening, based on 2019 data. Overall, we calculate that our Scope 3 emissions are around 80 million tons CO₂ equivalent, covering all relevant categories of the Corporate Value Chain Accounting (Scope 3) and Reporting Standard⁹. We omit Category 10 (processing of sold products, which we are unable to calculate), Category 13 (downstream leased assets, as Orbia does not have such assets) and Category 14 (franchises, which is not applicable to Orbia).

In all other categories, we have made a highly comprehensive analysis. In line with our continued progress on this front, we expect to refine and improve our data capture processes and calculations as we move forward. In the meantime, our first assessment shows that the most significant Scope 3 category for Orbia is the way we manage end-of-life treatment of our products, followed by the use of sold products, purchased goods and services and raw materials. This provides a strong rationale for intensifying our work in these areas to reduce Scope 3 emissions through our value chain. We expect to report progress in coming years.

GHG Emissions Scope 3

Orbia global assessment, using 2019 data



For further information:

Following our first comprehensive Climate Risk Assessment that was prepared in line with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, we have also published a 2020 report covering the 11 disclosures. TCFD has become a prominent standard for climate disclosure, with more than 1,000 official supporters worldwide, including Orbia.



Please view our [TCFD-aligned disclosures on Orbia.com](https://www.orbia.com/tcf)

8. Pending submission to the Science Based Target initiative, and subsequent approval.

9. Corporate Value Chain (Scope 3) Accounting and Reporting Standard is published by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).



Climate change initiatives in 2020

During 2020, as can be seen from our energy and emissions performance, we continued to deliver on our commitment to improve our climate impacts.

Initiatives include:

- **Transition to renewable electricity:** We achieved a 61% increase in renewable electricity, primarily in our European plants, bringing our total purchased and generated renewable electricity to 5% of total electricity consumption. In 2020, we completed solar installations at our Dura-Line plants in Hyderabad (rooftop) and Neemrana (remote) in India. Further, we expanded our renewable electricity generation from solar arrays installed at three sites (Cartagena, Colombia; Fresno, U.S., and Hardenberg, Netherlands). Several new renewables projects are planned for 2021.

21

Orbia plants have incorporated renewable electricity since 2018.

- **Improving process energy efficiency:** Vestolit Mexico's Altamira resin plant reduced energy use and resulting GHG emissions by replacing cold water with a cooling tower water in reflux condensers. This change enabled a reduction of 24% in energy consumption and avoidance of approximately 19,000 tons CO₂e per year.
- **Other efficiency initiatives:** Several sites have implemented energy saving initiatives such as replacing chillers with energy efficient models, motion sensors and waste heat recovery programs.

Other Air Emissions

We continue to address sulfur oxides emissions in line with our target of 60% reduction by 2025. In 2020, we reached a 30% reduction against our 2018 baseline, following efforts at Matamoros, Mexico (Koura) to use a more efficient process catalyst, and at Henry, U.S. (Vestolit) with a move to a natural gas boiler from a coal-fired boiler during some months.

“Our collaboration with Wavin started in 2018 at their production plant in Hardenberg, the Netherlands. We were privileged to work with a very professional and motivated team, both from the Wavin production facility and the Group. So far we have been able to contribute to 1,500 MW of yearly solar power use by Wavin in the Netherlands.”

Frans van Schoor
CEO, SolarAccess



Circularity

Our 2025 commitment of sending Zero Waste to Landfill¹⁰ is an ambitious goal, but it is only one element of a more holistic approach to reducing the lifecycle impacts of our products.

Our plans address reducing waste at source through design for sustainability principles, inclusion of recycled content in our products, recyclability of components, recycling programs and end-of-life take-back. By addressing all these dimensions of our product lifecycle, we advance a circular economy and improve the environmental impacts of our products overall. In 2020, we progressed several initiatives:

Lifecycle analysis

Netafim progressed an inaugural lifecycle analysis of our irrigation systems in corn cultivation. We compared our drip irrigation system to the more traditional flood and sprinkler type irrigation systems in a corn farm in Turkey.

The corn lifecycle analysis showed that drip releases at least 52% less carbon equivalent than flood and 38% less than sprinkler systems.

Within our drip system, the use of fertilizers contributes 60-70% of the overall carbon impact in the use phase, far more than our drip irrigation equipment or other processes. An advantage of drip irrigation has always been its role in reducing fertilizer use, as drip lines offer controlled use of fertilizer only when needed. However, our lifecycle analysis now proves the need to focus even more efforts on systems that minimize fertilizer use while retaining all the benefits of drip irrigation – higher yields, water savings and lower carbon.

Use of recycled content

We consider environmental criteria when selecting raw materials and for example, Wavin, Dura-Line and Netafim continue to target increased use of recycled raw materials in manufacturing of drip lines, pipes and conduits.

Wavin targets to increase recycled content in construction pipes and materials

from 8% in 2020 to 25% in 2025

Netafim targets to increase recycled content in drip lines for irrigation

from 7.5% in 2020 to 45% in 2030

10. Orbia adopts a definition of Zero Waste to Landfill which is 90% diversion of waste (including hazardous and non-hazardous waste).



Recycling programs

We maintain a major recycling facility in California for customers of our Netafim irrigation systems in the region. We incentivize customers to return used drip lines, which we recycle to make new products. Following receipt of a \$2.01 million grant in 2019 from the California Department of Resources Recycling and Recovery, in 2020, we completed a major expansion of our recycling capacity, reaching an annual 12,000 tons per year. Netafim operates similar recycling operations in Israel and Australia and participates in a national takeback scheme in France. In 2021, Netafim plans to commission a new recycling plant in Mexico. Other Orbia operations maintain takeback programs for recycling, for example, Dura-Line's Reel Return program enables the return and recycling of conduit-carrying metal reels from customers in the U.S. In 2020, Dura-Line collected more than 97,000 used reels from customers (42%), enabling 19 million lbs. of metal reels to be recycled or repurposed.

Refrigerant recovery

Our unique recovery facility in Japan continues to expand volumes of refrigerant recovery, to help reduce the global warming impact of older generation refrigerants.

Since 2018, we have increased recovered volumes by 70%, reaching 815 tons in 2020 which we estimate avoids around 1.5 million tons of CO₂ equivalent emissions per year.

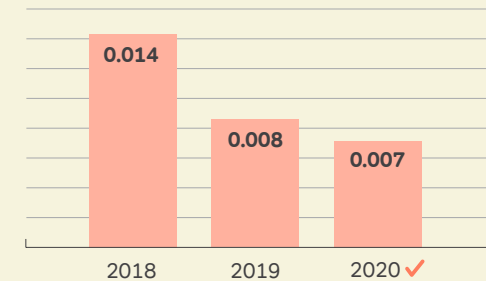
Eliminating waste

All our sites are on a mission to reduce waste at source and divert unavoidable waste from landfill. Overall, waste generated on per ton basis has been consistently reducing, and our absolute volume of waste to landfill was 18% lower in 2020 than in 2018. Nonetheless, we must continue to drive solutions for waste diversion at all our sites.

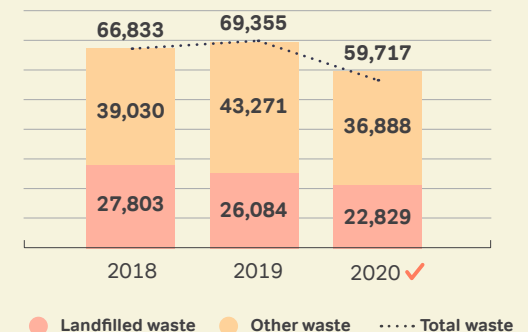
In 2020, we formed a cross-functional global Zero Waste to Landfill Working Group to help drive consistent progress towards this goal through standardization of methodologies across our Business Groups and share knowledge. Several sites improved their waste performance by switching waste management providers to those who offer reuse, recycling and composting alternatives or by optimizing other waste handling processes.

In 2020, Orbia plants reduced waste sent to landfill by **12%**

Waste intensity
Tons/ton



Total waste
Tons





Water

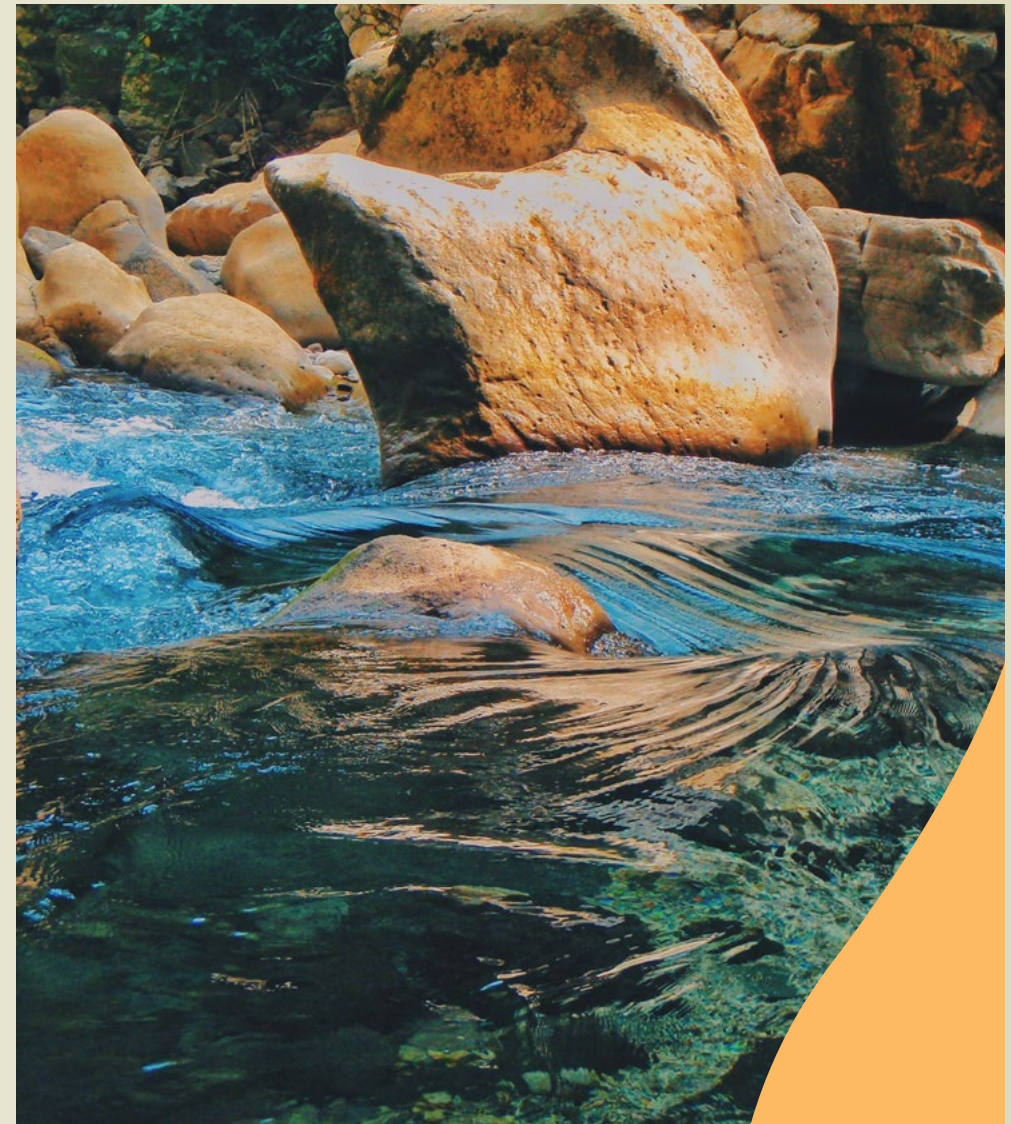
We recognize the critical need to conserve water, particularly in areas of water stress.

Our manufacturing plants maintain water efficiency plans, and our extrusion plants (Wavin, Dura-Line and Netafim) maintain closed loop systems that minimize water withdrawal. In 2020, we improved our water performance both on an absolute basis and on a per ton basis.

Specifically, we monitor water use in areas of water stress. Based on our updated 2020 assessment using the World Resources Institute (WRI) Aqueduct Version 3.0 tool, 42 of our plants are in areas of high or extremely high water stress, representing 35% of our sites and 49% of our total water withdrawal.

Business Group	Number of sites in water-stressed areas	% of total sites* in water-stressed areas
Dura-Line	6	5%
Koura	5	4%
Netafim	13	11%
Vestolit/Alphagary	9	7.5%
Wavin	9	7.5%
Total	42	35%

*Table includes only active sites.





In 2020, a program of water risk assessments covering the full spectrum of watershed risks (physical, regulatory and community-related) was initiated.

We completed assessments for all five Vestolit resin plants in Mexico and Colombia (representing around 41% of Orbia's consumption and located in medium-high to high water stressed areas) and during 2021, we aim to use these results to establish context-based water targets for each of these sites. In the meantime, we have progressed water efficiency initiatives:

Wastewater reuse

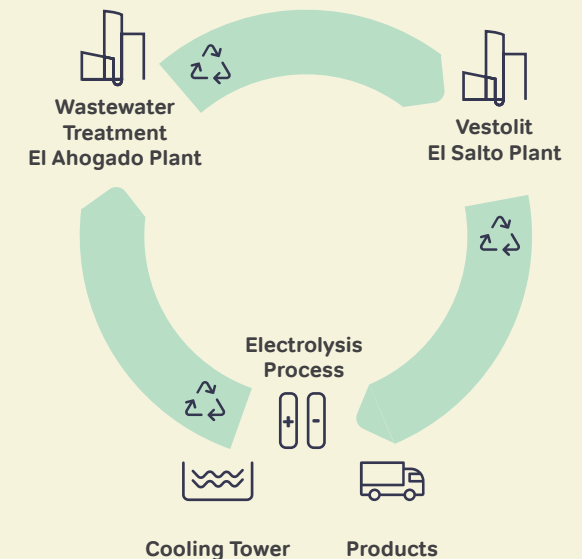
Our resin site in Cartagena, Colombia, an area of medium to high water stress, aimed to reduce its water impact by reusing wastewater that was typically discharged to the sea. To date, reuse of this water was not possible due to high conductivity, and with approximately 50% of processed water being discharged, this presented a significant opportunity. In 2020, we established a program for reuse of our wastewater by two neighboring companies. With a significant investment in a new pipeline to both plants (2.7 km in total), and securing of all the necessary government permits, we expect to be pumping water to these neighboring factories by the end of 2021. The benefits are numerous: local water stress is alleviated; local factories gain a sustainable water source for their production and an estimated population of 7,000 inhabitants benefit from water availability for household rather than industrial use.

Wastewater Circularity

Our El Salto Plant near Guadalajara, in Mexico, an area of extremely high water stress, consumes more than 1,200 m³ of water daily, mainly to produce chlorine. Our objective was to minimize withdrawal of valuable groundwater. To do this, we formed a partnership with the municipal water treatment plant to source treated water and return it for treatment after use in our production process.

Our investment involved construction of 6 km of water pipes between the two plants, additional pumps and engineering work. We expect that our closed-loop water cycle will be fully operational by end 2021, significantly relieving water stress in the region.

Wastewater Circularity Initiative at El Salto





Biodiversity

At our fluorspar mining operation in San Luis Potosi, Mexico, we continue efforts to protect biodiversity, including restoration of the natural habitats, relocation of species, reforestation and compensation for adverse effects based on the findings of environmental impact studies.

We work closely with the National Forestry Commission of Mexico (CONAFOR) and provide shared funding for a program on payments for environmental services, for the conservation of around 2,000 hectares of Sierra de Alvarez, where common land rural owners (Ejido) from Santa Catarina will benefit from this private-public association. This includes support for a broad range of initiatives, including firewall protection, provision of cameras for monitoring of animal species and equipment for radio communication and forest firefighting and road maintenance.





Supply Chain

Our responsible business practices do not start or stop at the gates of our factories; they apply across our entire value chain, and specifically, through engagement of our supply network and more than 29,000 suppliers who support our business around the world through the provision of raw materials, products, equipment and services. We expect our suppliers to operate to the highest of ethical standards and acknowledge their review and acceptance of [Orbia's Code of Ethics](#).

Across the Group in 2020, we began a program for supplier environmental assessment, monitoring and improvement. Our program adopts the EcoVadis framework, which evaluates suppliers across environment, labor, human rights, ethics and sustainable sourcing practices.

“We have a purpose and we’re passionate about it. It is great to work with suppliers who share that passion!”

Peter Verkaaik

Senior Director Procurement, Corporate Purchasing, Wavin

Supplier engagement and assessment

We expect that our engagement with suppliers on environmental and social performance will:

- Minimize and help mitigate risks across Orbia's supply chain;
- Enable action to improve our supply chain impacts e.g. through targeted supplier selection and performance management;
- Increase transparency within our supply chain, which is of interest to key stakeholders, and;
- Add value to our suppliers (and the economies they operate in) as they can use the EcoVadis platform to support their own business development and sustainable growth.

Our implementation of this program adopts a risk-aligned, phased basis over three years, starting with Wavin in Europe and Dura-Line in 2020, covering suppliers that represent 80% of our total spend across these brand operations. We commenced our program with training for our procurement staff; in 2020, 36 buyers took the EcoVadis training and others will continue through 2021 and beyond.

“We are bringing awareness and expectations to our supply base about Dura-Line’s sustainability initiatives by utilizing EcoVadis.”

Edward Wysmierski

Global Procurement Director, Dura-Line

In 2020, of the 300 suppliers invited to engage, about 55% agreed to complete the EcoVadis assessment with the remaining 45% still in process.

During 2021, as we continue to expand the uptake of our supplier assessment program to our entire Group and will review risk mitigation measures needed to address gaps in supplier performance based on their initial assessment results.

Our objective is to work with suppliers in a collaborative and supportive way to deliver best outcomes for Orbia's business and for our suppliers.



Helping Communities Thrive

At Orbia, we fulfill our purpose through our solutions for resilience that address the world's most pressing social and environmental challenges.

At the same time, we share a responsibility to contribute to improving the lives of the people in the communities where we do business. Our approach is based on helping alleviate urgent critical needs while contributing to strengthening communities through collaboration, partnership and the pursuit of longer term positive social impact.

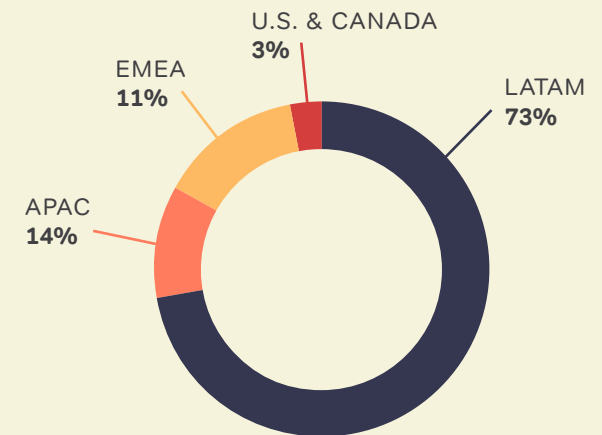
Community engagement and investment during COVID-19

In 2020, we offered support by partnering with healthcare or humanitarian aid organizations to provide support where our resources and expertise could generate the optimum impact. Our response to the COVID-19 pandemic included engaging with partners such as UNICEF, CARE and Doctors without Borders as well as national and local health authorities. We provided financial support and in-kind donations to provide immediate solutions such as food, medicines, hygiene kits and face shields, as well as more permanent solutions such as handwashing stations, renovated infrastructure for access to water and construction of small hospitals. 2020 also witnessed an example of solidarity among Orbia colleagues. Employees around the world contributed to create the largest employee donation campaign in Orbia's history, supporting their most vulnerable colleagues and communities hardest hit by the pandemic in Latin America.

This donation was matched dollar-for-dollar by Orbia to achieve a total \$298,368 contribution. See the section [COVID-19 Response](#) for highlights.

In addition, the spirit of service of Orbia employees around the world was reflected in numerous initiatives to stay close to communities while maintaining physical distance in over 3,000 hours of volunteer time in 2020. This included online training sessions for plumbers, weekly phone calls to seniors, help with schoolwork for schoolchildren, delivering food and medical supplies and more.

Community Investment by Region
(2020)



Community investment in 2020

Monetary donations

\$873,162 (34%) ✓

In-kind giving

\$1,522,070 (60%) ✓

Employee volunteering hours:

>3,100 hours ✓

Employee voluntary payroll deductions

\$149,184 (6%)

26 countries
with active community programs

Estimated impact:
>408,000 people
in our communities



Details of our support for communities in 2020 included:

Making handwashing accessible



We supported UNICEF's global response to the COVID-19 pandemic to expand efforts to keep children and their families safe from infection. Our donation of \$450,000 and \$55,000 in essential supplies, including water tanks and pipes manufactured by Orbia, helped address the urgent needs of nearly 300,000 people in schools, health centers, childcare facilities and other public venues. This was achieved through the installation of handwashing stations across Brazil, Colombia, Ecuador, Guatemala, India, Mexico, Peru and South Africa.

Eco-healthcare units in Colombia



During the COVID-19 pandemic, Vestolit and partner companies transitioned the Tambo concept (a low-cost, low maintenance, modular, recycled PVC construction, with a rainwater harvesting system) to design outpatient and hospital centers to meet intermediate and intensive medical care needs for COVID-19 patients. The Tambo healthcare units are factory-made in less than four days and assembled where they are needed in just two days.



Our support for UNICEF's campaign enabled almost 300,000 people to benefit from hygiene facilities through:

2,753
public handwashing
station installations

4,300
household handwashing
station installations

2
community water
networks repaired

3
health care facilities'
water systems repaired



During 2020, the medical center of the District Health Department of Cartagena was fitted with a PVC module structure, allowing more than 30 patients to be treated simultaneously.



Caring with CARE



In Europe and Latin America, we worked closely with the CARE organization and Doctors without Borders to distribute more than 130,000 Face Shields that we manufactured and donated to support communities in these regions.

“CARE is grateful to Orbia for the ingenuity and timely action during the pandemic to address an urgent and critical need by pivoting to making face shields. Thanks to Orbia’s generosity and partnership, CARE was able to distribute 32,000 face shields (12,000 in Peru and 20,000 in Ecuador) to vulnerable groups exposed to a high risk of contagion due to the type of work they do or where they live. Receiving face shields allowed individuals, such as, farm workers, domestic workers, and market vendors, to continue working, more safely, so they do not have to give up critical household income to protect their health. Access to face shields also helped high-risk populations, such as the elderly and people living with catastrophic illnesses, to carry out essential activities in safer conditions; for instance, going to medical centers or buying food.”

Alexandra Moncada

Country Director, CARE Ecuador



Innovation for early COVID-19 detection



In the early days of the pandemic, Netafim partnered with Israeli startup NanoScent Labs, to develop and manufacture a coronavirus detection kit that uses scent sensors combined with a machine learning

system. Netafim complements NanoScent’s technology with production components for the detection kit that offers a low-cost solution to detect COVID-19 in under 30 seconds. Following successful testing of the innovative COVID-19 detection kit in patient trials at a major Israeli hospital, and with more than a million tests conducted in early 2020, the kit is proving to be an effective solution for rapid mass screening that can help keep people safe from the coronavirus. See a video about the COVID-19 detection kit [here](#).



Community Investment in a Range of Ways

Beyond our specific response to COVID-19, we continued to support several community programs, many of which have been part of our local contribution efforts for years.

Advancing water security in Latin America



In 2020, Orbia continued its support to Agua Capital, Mexico City's Water Fund, through its board membership chaired by Juan Pablo del Valle, with the aim of promoting water security in the region. During the year, and with the support of key partners, the Water Fund:

- Installed handwashing stations and provided water supply in strategic areas of Mexico City to help face the COVID-19 pandemic, benefiting 775 people per day;
- Installed rainwater harvesting stations and handwashing facilities in schools, benefiting 850 students;
- Completed the first phases of the Water District project in Mexico City, which was selected to participate in World Water Week, and;
- Developed the first phase of a hydrogeological analysis of priority areas for infiltration and recharge of aquifers in the Metropolitan Area of Mexico City, with the support of the Inter-American Development Bank and the Latin American Alliance of Water Funds.

Since 2012, Orbia has partnered with the Latin American Water Funds Partnership, contributing funding, resources and expertise, amounting to an investment of more than \$469,000 to date.

Water, sanitation and hygiene (WASH) programs



Given our expertise and focus on improving water conservation and sanitation infrastructure through our different brands, we leverage our expertise through a contribution to WASH initiatives:



- We maintain our Pavco Wavin Professional Plumber Program in Colombia which, since 2009, has been certifying plumbing professionals, following a 60-hour education program across all technical skills. To date, more than 7,000 plumbers have obtained certification in 13 different cities throughout the country. In 2020, the program received the [Xposable-Colsubsidio Award](#), recognizing the contribution of the Pavco Wavin program in raising the level of professional plumbing in the country. See our award video (in Spanish) [here](#).
- In Peru, Pavco Wavin embraced another initiative, to support access to clean drinking water for 90 families in a rural area of the Cajamarca province in Peru. Due to poor infrastructure, residents had limited supply of clean water. Pavco Wavin joined with the Government of Cajamarca Municipality, the NGO Agualimpia and the International Development Bank to support the creation of a new water system and train the local workforce in water management and sanitation skills.
- Water is a critical resource for agriculture and our expertise in drip irrigation through Netafim has for years been helping farmers around the world improve their yields and livelihoods. In 2020, despite the challenges of COVID-19, Netafim maintained its Nutrition Gardens initiative, through donation of irrigation systems and training for vegetable gardens in local communities. 30 new vegetable gardens and green walls were established in Turkey, Israel, Brazil and Mexico, providing fresh produce to nourish 200 families. Training in productive gardening was provided for 5,000 children.



Resilient Cities and Housing



At Orbia, we believe that everyone should be able to live with dignity in a place they can call home. In 2020, we continued our efforts to make this reality for many.

- We maintained our partnership with Moradigna, a family-owned social enterprise whose mission is to transform lives in the São Paulo (Brazil) favelas by offering an all-inclusive renovation package that meets decent living standards and building and sanitation regulations. In 2020, two training sessions (including one specifically for women) were held for Moradigna's plumbers and fitters, with the help of Wavin employees. Overall, in 2020, Moradigna renovated 143 homes in low socio-economic communities in São Paulo, benefiting 576 people, bringing the total number of beneficiaries to date to more than 2,500 people.
- In November 2020, Hurricane Iota strongly impacted Cartagena, Colombia, leaving countless low-income families affected and homeless. In response, Vestolit, with its production plant in Cartagena, engaged partners Pavco Wavin, Azembla, the TRASO Foundation and Spradling Group to form the TAMBO Alliance, and provide emergency relief. Three PVC homes were provided to local families by the TAMBO Alliance.

Attracting Youth to STEM



Orbia has been a long-time promoter of scientific, technological, engineering, mathematical (STEM) education, believing that fostering STEM skills, particularly in the youth, is essential to achieve our purpose and promote more equitable societies.

We aspire to broaden awareness of technical professions and encourage interest among students and early-career professionals, ensuring that opportunities for development and advancement are open to all qualified candidates.

In 2020, we were proud to award the annual Koura Alasdair Sinclair Scholarship, named in honor of a long-serving senior engineer at Koura in the UK, to student Melissa Pace, studying Mechanical Engineering at the University of Manchester. Melissa was granted a scholarship worth £2,250 per academic year and the chance to undertake a work placement at Koura's Cheshire plant to gain hands-on experience. Meet Melissa in [this video](#). In Germany, Vestolit's team in Marl partnered to host the regional round of the annual German Youth Research ([Jugend Forscht](#)) Competition that helps empower next-generation STEM innovators to explore ideas and projects that will change the world. Our Vestolit team worked with over 100 young innovators who presented more than 50 STEM projects, creating both a cadre of technical leaders and a host of ideas that are likely to improve the quality of life for many.

Trees for Decarbonization



With its core deeply rooted in agriculture, Netafim promotes tree planting in several ways and advanced a tree planting program in marginal areas in cities, to improve the quality of urban life and help mitigate climate change.

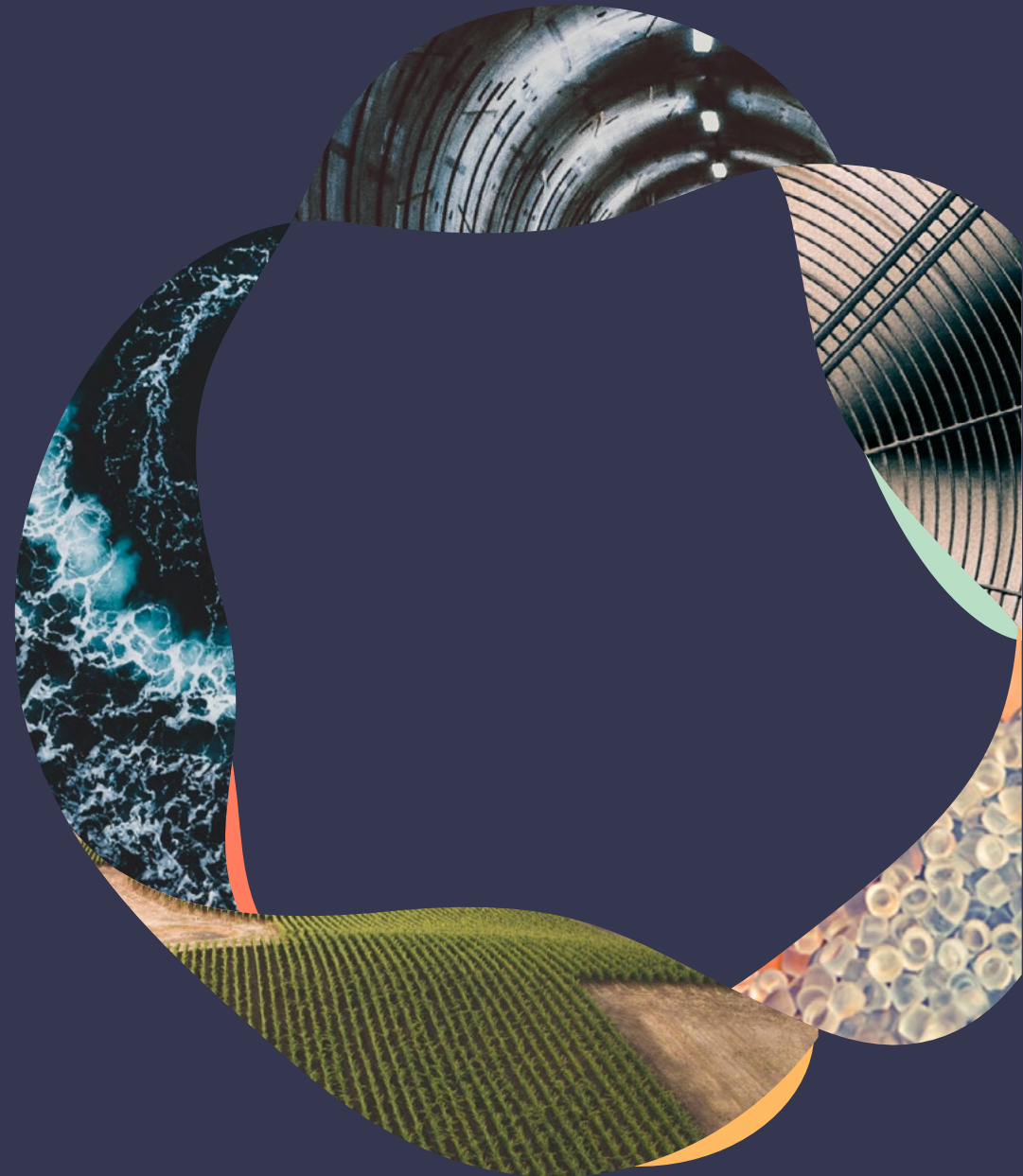
Netafim engaged with more than 80 municipalities in Israel and planted almost 2,000 trees by the end of 2020.



Business Group Spotlights

Orbia is a community of companies bound by a shared purpose. Each of our five Business Groups performs individually and in synergy with each other to deliver our overall contribution and support sustainable development.

With deep expertise in critical industries needed to advance life around the world, each make an important and distinctive impact. Our Spotlights pages in this section offer an overview of the footprint of each Business Group.





Sustainability Spotlight 2020

Business Concentration

Building & Infrastructure

Key Activities

Wavin is redefining today's pipes and fittings industry by creating innovative solutions that last longer, are easy to install and require less maintenance. Serving customers in five continents, Wavin is also developing sustainable technologies around water management and indoor climate systems.

Key Markets

Wavin is a leading producer of above and below-ground solutions in LATAM and Europe.

Total Sales

\$2,071 million

(34% of Orbia revenues)

Total Employees

~10,400

(48% of Orbia headcount)

Top five material topics



Health and Safety



Circular Economy



Sustainable Sourcing



Innovation



Solutions for Water Management

Environmental progress in 2020 versus 2019:

-5%

energy consumption per ton

-7%

total water withdrawal

-30%

absolute Scope 1 & 2 GHG emissions

-16%

total waste

+105%

renewable electricity

Selected Metrics	Units	2019	2020
Energy intensity	MWh/ton	0.87	0.83
Renewable energy	% of total electricity consumption	6.7%	15.3%
GHG intensity	Tons CO ₂ e/ton	0.23	0.17
Water intensity	m ³ /ton	2.38	2.41
Waste recycled/reused/recovered	% of total waste	74%	80%
Incident rate	(TRIR) total employees and contractors	0.55	0.64



Sustainability Spotlight 2020

2020 product highlights

TreeTanks for greener cities

Trees provide shade, absorb carbon dioxide, release oxygen and fresh air, and provide a cooling effect. To support trees to grow in urban environments while greening up and cooling cityscapes, Wavin developed the TreeTank.

As shown here, in the city of Hasselt in Belgium, it provides trees in urban areas a greater chance to survive and secures trees to grow faster by providing unhindered root growth in urban spaces. Other benefits include preventing the tree roots from damaging road surfaces. And since the ground is not compacted this also allows the ground to capture more rainwater.



Transforming indoor climate in Turkey

In 2020, we transformed 104 apartments at The Natural Park residential complex in Sanliurfa, Turkey with the installation of our new Sentio Indoor Climate Control system in combination with solar-powered heat pumps. Residents control apartment temperatures using an app, saving up to 21% of energy by using zone control, up to 20% by using underfloor heating instead of radiators and up to 34% in cooling vs. air-conditioning.

PlasticRoad—the low-carbon way to get places

Wavin's award-winning PlasticRoad, the world's first bicycle path made of 90% post-consumer recycled plastic, is poised for commercialization with production coming on stream in the Netherlands in 2021. In 2020, following two years of trials and a million users on foot and on bicycles, Wavin concluded a further pilot of PlasticRoad in Mexico City's Bosque de Chapultepec Forest, made from 1,000 kilos of recycled plastic waste, the equivalent of half a million plastic bottle caps.

“We are here to make living easier for many, by helping create infrastructure that is simpler to install, manage and maintain and at the same time, offers innumerable benefits for urban living. From preventing flooding with advanced stormwater solutions, to smart building features, to indoor climate control, we support sustainable living and sustainable urban communities.”



Maarten Roef
President, Building & Infrastructure
(Wavin)

For more details about Wavin, visit [Wavin.com](https://www.wavin.com)



Sustainability Spotlight 2020

Business Concentration

Precision Agriculture

Key Activities

Netafim's leading-edge irrigation systems, services and digital farming technologies enable stakeholders to achieve significantly higher and better quality yields while using less water, fertilizer and other inputs. By helping farmers grow more with less, Netafim is enabling feeding the planet more efficiently and sustainably. Netafim is the world leader in the production and sale of advanced precision agriculture solutions.

Key Markets

global with strong presence in U.S, India, Latam, Turkey, Europe.

Total Sales

\$972 million

(15% of Orbia revenues)

Total Employees

~4,000

(19% of Orbia headcount)

Top five material topics



Precision irrigation solutions



Farmer capacity building



Greenhouse gas emissions



Innovation



Employee development, engagement & retention

Environmental progress in 2020 versus 2019:

-11%

absolute Scope 1 & 2
GHG emissions

-33%

total water withdrawal

-46%

hazardous waste

Selected Metrics	Units	2019	2020
Energy intensity	MWh/ton	0.84	0.85
Renewable energy	% of total electricity consumption	0.7%	5.9%
GHG intensity	Tons CO ₂ e/ton	0.43	0.39
Water intensity	m ³ /ton	1.25	0.84
Waste recycled/reused/recovered	% of total waste	75%	71%
Incident rate	(TRIR) total employees and contractors	0.91	1.05



Sustainability Spotlight 2020

2020 product highlights

Community irrigation for more farmers in India

In 2020, Netafim's proven Community Irrigation model in India expanded to an additional 35,000 farmers in Karnataka, India, bringing our total reach since 2017 to more than 97,000 farmers across 202 villages. We expect initiatives to deliver up to 100% higher yields across a broad range of planned crops while reducing water requirements for irrigation by 40% compared to current farming practice.



Local food cultivation with greenhouses

In early 2021, Netafim acquired Gakon Horticultural Projects, a leading Dutch turnkey greenhouse solutions provider. With Gakon's specialist expertise in all aspects of greenhouse project execution and Netafim's established leadership in advanced irrigation technologies, local food cultivation can now become a reality around the world.

Sustainable rice at scale

Success of the commercial-scale drip irrigation in Turkey, India, Brazil and Italy demonstrates that we can transform rice production worldwide to deliver improved yields, 70% water savings, fertilizer reduction, >90% reduction of methane emissions and arsenic uptake into rice grains. With rice being the predominant source of nourishment each day for more than 1.6 billion people around the world, transforming rice production can substantially help deliver Sustainable Development Goal #2: Zero Hunger.

“Growing more with less has been our mantra for more than 50 years, and in this time, we have proven how drip irrigation can improve agricultural yields and farmer livelihoods with far fewer resources, addressing multiple sustainable development needs. We continue to innovate both in technology and in the kinds of solutions we offer, to expand our scale and reach, and help more farmers around the world realize the benefits of drip.”



Gaby Miodownik
President, Precision Agriculture
(Netafim)

For more details about Netafim, visit [Netafim.com](https://www.netafim.com)

[About Orbia](#)[Message from our Chairman](#)[Message from our CEO](#)[2020 Highlights](#)[COVID-19 Response](#)[Sustainability Approach](#)[Sustainable Solutions](#)[Responsible Business](#)[Business Group Spotlights](#)[Appendices](#)

Sustainability Spotlight 2020

Business Concentration

Data Communication

Key Activities

Dura-Line annually produces more than 400 million meters of essential and innovative infrastructure—conduit, cable-in-conduit and accessories that create physical pathways for fiber and other network technologies that connect cities, homes, and people. Dura-Line is the leading global producer of conduits and a global leader in HDPE products for cable and fiber optics, as well as natural gas pressurized piping and solutions.

Key Markets

Dura-Line's main market is the U.S. with a presence in Asia and Europe.

Total Sales

\$732 million

(11% of Orbia revenues)

Total Employees

~1,900

(9% of Orbia headcount)

Top five material topics



Health and Safety



Solutions for connectivity



Quality & safety of products



Innovation



Diversity & Inclusion

Environmental progress in 2020 versus 2019:

-0.4%

total energy consumption

-9%

total water withdrawal

-11%

total Scope 1 & 2 GHG emissions

Selected Metrics	Units	2019	2020
Energy intensity	MWh/ton	0.75	0.72
Renewable energy	% of total electricity consumption	0%	3.7%
GHG intensity	Tons CO ₂ e/ton	0.33	0.29
Water intensity	m ³ /ton	0.56	0.49
Waste recycled/reused/recovered	% of total waste	47%	56%
Incident rate	(TRIR) total employees and contractors	1.59	1.90



Sustainability Spotlight 2020

2020 product highlights

Supporting connectivity during COVID-19

During 2020, Dura-Line delivered 12% increase in data communications products in North America versus prior year volumes to meet heightened demand from customers during the pandemic.

Bridging the urban-rural digital divide

Chariton Valley, a Missouri communications provider, wished to expand broadband internet to local underserved areas, especially rural areas that had no or poor access. Dura-Line's FuturePath 7-Way and 4-Way conduits enabled a standardized connectivity infrastructure. Using our FuturePath conduits, Chariton Valley was able to rapidly and efficiently connect thousands of individuals in the region.



Mass transit expansion in Seattle

In October 2020 we were proud to have received the Platinum Innovator Award from Cabling Installation & Maintenance for our work on the Seattle Sound Transit Authority Railway system. The Northgate Extension of Sound Transit in Seattle is a light-rail tunnel section comprising under-and overground routes with expected daily use by more than 40,000 passengers.

“While we live in uncertain times, one thing has remained the same and that's our need for human connection. At Dura-Line, we aspire to advance a more connected world, enabled through high-speed Internet for all. This became even more critical during the COVID-19 pandemic, and all of us at Dura-Line made extraordinary efforts to support and expand connectivity during this challenging time.”



Peter Hajdu
President, Data Communication
(Dura-Line)

For more details about Dura-Line, visit [Duraline.com](https://www.duraline.com)



Koura

Sustainability Spotlight 2020

Business Concentration

Fluorinated Solutions

Key Activities

Koura provides fluorine and downstream products that support modern living in a vast number of ways. Koura operates the world's largest fluorspar mine and produces intermediates, refrigerants and propellants that serve automotive, infrastructure, semiconductor, health, medicine, climate control, food cold chain, energy storage, computing and telecommunications applications. Koura is the leading global producer of fluorspar and the world's largest producer of integrated hydrofluoric acid.

Key Markets

Global presence

Total Sales

\$698 million

(11% of Orbia revenues)

Total Employees

~1,580

(7% of Orbia headcount)

Top five material topics



Health, Safety & Well-being



Investments in local communities



Governance



Innovation



Sustainable lifecycle of products

Environmental progress in 2020 versus 2019:

-11%

energy consumption per ton

-1%

water withdrawal per ton

-3%

absolute Scope 1 & 2 GHG emissions

-57%

total waste

-17%

SOx emissions

-43%

NOx emissions

Selected Metrics	Units	2019	2020
Energy intensity	MWh/ton	0.27	0.24
Renewable energy	% of total electricity consumption	0%	0%
GHG intensity	Tons CO ₂ e/ton	0.08	0.08
Water intensity	m ³ /ton	1.41	1.39
Waste recycled/reused/recovered	% of total waste	35%	37%
Incident rate	(TRIR) total employees and contractors	0.43	0.42



Koura

Sustainability Spotlight 2020

2020 product highlights

Climate-friendlier refrigerants

Koura has created a new portfolio of refrigerants that achieve both high-performance and significantly lower global warming potential (GWP) than current products. For example, this portfolio range includes a new CO₂-based refrigerant with a GWP more than 90% lower than R410A, and we have recently launched Klea® 473A for use in ultra-low temperature refrigeration applications such as bio-medical storage. With a GWP which is 85% lower than the incumbent refrigerant, R-23.



Greening propellants

Our new offering Zephex® 152a, is a highly purified cGMP medical propellant used for asthma and other respiratory inhalers that has a 90% lower carbon footprint than current propellants. We commenced a multi-million-dollar investment into a new Zephex® 152a production facility at our site in Runcorn, UK, to scale production capacity to meet the increasing demands of our customers for this new and much greener medical propellant. Additionally, the successful progress of Zephex® 152a, has empowered us to announce our delisting of a high GWP medical propellant, Zephex® 227ea, from 2021.

“Koura has a major role to play in addressing a broad range of societal needs where the element fluorine connects strongly to the solution. We are investing in low-carbon footprint solutions for our current customers, expanded business models in healthcare, and solutions and services that enable the world’s rapid transition to sustainable energy. We are meeting our customers needs with new refrigerants, medical propellants and materials for lithium ion batteries to drive this change. Advancing life around the world means we are providing the solutions that will enable us all to be more resilient and sustainable.”



Gregg Smith
President, Fluorinated Solutions
(Koura)

For more details about Koura, visit [KouraGlobal.com](https://www.kouraglobal.com)



Vestolit alphagary

Sustainability Spotlight 2020

Business Concentration

Polymer Solutions

Key Activities

Vestolit and Alphagary focus on PVC general and specialty resins, and PVC and zero-halogen specialty compounds with applications in solutions for everyday life, including pipes, cables, flooring, auto parts, household appliances, clothing, packaging and medical devices.

Key Markets

Vestolit and Alphagary are leading global vinyl players, with strong positions in the Americas and Europe.

Total Sales

\$2,171 million

(34% of Orbia revenues)

Total Employees

~3,500

(16% of Orbia headcount)

Top five material topics



Health and Safety



Energy & emissions



Quality & safety of products



Innovation



Employee development, engagement & retention

Environmental progress in 2020 versus 2019:

-2%

total energy consumption

-1%

water withdrawal

-4%

absolute Scope 1 & 2 GHG emissions

-8%

total waste

-31%

SOx emissions

Selected Metrics	Units	2019	2020
Energy intensity	MWh/ton	1.30	1.26
Renewable energy	% of total electricity consumption	2.9%	2.9%
GHG intensity	Tons CO ₂ e/ton	0.33	0.31
Water intensity	m ³ /ton	2.26	2.22
Waste recycled/reused/recovered	% of total waste	39%	34%
Incident rate	(TRIR) total employees and contractors	0.66	0.41



Vestolit alphagary

Sustainability Spotlight 2020

2020 product highlights

Advancing circularity through new stabilizer technology

Alphagary is developing stabilizers that enhance the capabilities of PVC to incorporate recycled materials. Specifically, we designed VINASTAB® stabilizers in collaboration with Wavin, to help bring more stability and consistency to the extrusion process of Wavin's Recycore products that use recycled PVC. To support the growth of these essential additives, Alphagary injected \$6 million into the expansion of a purpose-built UK facility to deliver VINASTAB products.

The Vinyl Sustainability Council

As members of the [Vinyl Sustainability Council](#), Vestolit is an early promoter of the newly created +Vantage Vinyl™ program, a voluntary initiative launched in 2020 to advance the U.S. vinyl industry's contribution to sustainable development. It aims to drive continuous improvement by vinyl manufacturers across the vinyl value chain.

Exploring options for fossil-free resin

In the last year, Vestolit is leveraging its expertise to reduce the carbon footprint of our portfolio to develop a PVC that is free from fossil fuels with a potential of more than 40% reduction in Global Warming Potential (GWP) versus current products.

“Vestolit has proven to be an essential and resilient brand, focusing on a wide variety of applications that improve everyday life. We also continue our drive for innovation. In the past year, we have explored fossil-free PVC in our efforts to reduce our environmental footprint.”



Nicholas Ballas
President, Polymer Solutions
(Vestolit)

“Alphagary is pushing full steam ahead with innovations that contribute to sustainable development, such as our new stabilizer range that improves the incorporation of recycled PVC into a range of materials and products. We are particularly proud of supporting the health sector during the COVID-19 pandemic with medical grade PVC compounds.”



Gautam Nivarthi
President, Polymer Solutions
(Alphagary)

For more details about Vestolit/Alphagary, visit [Vestolit.com](#) and [Alphagary.com](#)



GRI Content Index

Figures with this check mark (✓) are third-party assured.

GRI 102

GRI Standard 102: General Disclosures 2016		Page/Response
102-1	Name of the organization	Orbia Advance Corporation, S.A.B. de C.V.
102-2	Activities, products, and services	page 6
102-3	Location of headquarters	page 5
102-4	Location of operations	page 5
102-5	Ownership and legal form	page 5
102-6	Markets served	page 6
102-7	Scale of the organization	page 5
102-8	Information on employees	page 84
102-9	Supply chain	page 64
102-10	Significant changes	None
102-11	Precautionary Principle	page 55
102-12	External initiatives	page 105, 106
102-13	Membership of associations	page 85
102-14	Statement from senior manager	page 12
102-16	Values, principles, standards	page 5
102-18	Governance structure	page 7
102-40	List of stakeholder groups	page 86

GRI Standard 102: General Disclosures 2016		Page/Response
102-41	Collective bargaining agreements	page 85
102-42	Identifying and selecting stakeholders	page 86
102-43	Stakeholder engagement	page 86
102-44	Key topics and concerns raised	page 86
102-45	Entities included	page 2
102-46	Report content and topic Boundaries	page 2
102-47	List of material topics	page 24
102-48	Restatements of information	None
102-49	Changes in reporting	None
102-50	Reporting period	page 2
102-51	Date of most recent report	page 2
102-52	Reporting cycle	page 2
102-53	Contact point	page 2
102-54	Reporting in accordance with GRI Standards	page 2
102-55	GRI content index	page 81
102-56	External assurance	page 107



GRI Content Index: GRI 200, 300, 400 Standards

Material Topic	Standard	Item	Description	DMA	Disclosure	Omissions
Solutions for resilience	Non-GRI topic				Sustainable Solutions	pages 30-43
Innovation	Non-GRI topic				Innovation	pages 32-33
Circular economy	Non-GRI topic				Circularity	page 59
Quality and safety of products	GRI 416: Customer Health and Safety 2016	416-1	Assessment of the health and safety impacts of products	page 54	100% of our products are assessed	
		416-2	Incidents of non-compliance concerning the health and safety impacts of products		None	
Greenhouse gas emissions	GRI 302: Energy 2016	302-1	Energy consumption within the organization	page 55	page 87	
		302-3	Energy intensity		page 88	
	GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions		page 88	
		305-2	Energy indirect (Scope 2) GHG emissions		page 88	
		305-4	GHG emissions intensity		page 89	
		305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other air emissions		page 89	
Water use and discharge	GRI 303: Water 2018	303-1	Interactions with water as a shared resource	page 61	page 61	
		303-2	Management of water discharge-related impacts		page 61, 101	
		303-3	Water withdrawal		page 90	
		303-4	Water discharge		page 91	
		303-5	Water consumption		page 92	page 92
Waste management*	GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	page 55	-	
		306-2	Management of significant waste-related impacts		-	
		306-3	Waste generated		page 92	page 92
		306-4	Waste diverted from disposal		page 93	
		306-5	Waste directed to disposal		page 93	
Employee development, engagement and retention	GRI 401: Employment	401-1	New employee hires and turnover		page 94	
	GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	pages 48-49	page 95	
		404-2	Programs for upgrading employee skills and transition assistance programs		page 50	
		404-3	Percentage of employees receiving regular performance and career development reviews		page 50	
Diversity and Equal Opportunities*	GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	page 51	page 96	
		405-2	Ratio of basic salary and remuneration of women to men		page 97	

* Other material topics, not in the top ten most material topics.



Material Topic	Standard	Item	Description	DMA	Disclosure	Omissions
Health and Safety	GRI 403: Occupational Health and Safety 2018	403-1	Occupational health and safety management system	page 99		
		403-2	Hazard identification, risk assessment, and incident investigation	page 99		
		403-3	Occupational health services	page 99		
		403-4	Worker participation, consultation, and communication on occupational health and safety	page 99		
		403-5	Worker training on occupational health and safety	page 53		
		403-6	Promotion of worker health	page 19		
		403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	page 64		
		403-9	Work-related injuries	page 53	page 97	
		403-10	Work-related ill health	page 53	page 99	
Investments in local communities	GRI 413: Local Communities 2016	413-1	Operations with local community engagement	page 65	77%	
	GRI 203: Indirect economic impacts 2016	203-1	Infrastructure investments	page 65	page 65-68	
Ethical Behavior and Compliance*	GRI 205: Anti-corruption 2016	205-2	Communication and training about anti-corruption policies and procedures	page 46	page 47, 64	
	GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations		None	
	GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area		page 47	

* Other material topics, not in the top ten most material topics.



GRI 102-8 Information on employees

Employees by region and gender	2018				2019				2020			
	Women	Men	Undeclared	Total	Women	Men	Undeclared	Total	Women	Men	Undeclared	Total
U.S. & CANADA	242	1,459	48	1,749	266	1,488	55	1,809	305	1,636	14	1,955
LATAM	1,860	8,910	5	10,775	1,871	8,896	7	10,774	1,780	8,651	6	10,437
EUROPE	1,202	4,918	117	6,237	1,246	5,044	25	6,315	1,242	4,940	7	6,189
AMEA	385	2,749	5	3,139	446	2,748	31	3,225	459	2,636	12	3,107
TOTAL	3,689	18,036	175	21,900	3,829	18,176	118	22,123	3,786	17,863	39	21,688

Employees by contract	2018				2019				2020			
	Women	Men	Undeclared	Total	Women	Men	Undeclared	Total	Women	Men	Undeclared	Total
Full time	3,468	17,834	173	21,475	3,599	17,985	118	21,702	3,582	17,707	39	21,328
Part time	221	202	2	425	230	191	0	421	204	156	0	360
% Full time	98%				98%				98%			
Permanent	3,591	17,653	174	21,418	3,634	17,654	118	21,406	3,621	17,336	37	20,994
Temporary	98	383	1	482	195	522	0	717	165	527	2	694
% Permanent	98%				97%				97%			

Non-payroll workers	U.S. & CANADA	LATAM	EUROPE	AMEA	TOTAL
2018	82	636	607	799	2,124
2019	97	1,141	273	1,138	2,649
2020	112	2,174	434	1,007	3,727
% in 2020	6%	21%	7%	32%	17%



GRI 102-13 Membership of associations

The following are key global or regional associations we are members of or significantly support. There are several additional memberships we maintain on a country-by-country basis.

Brand	Name of the Organization	Country
Koura	Global Forum for Advanced Climate Technologies (FACT)	United States
Koura	Asociacion Nacional de la Industria Química AC (ANIQ)	Mexico
Wavin	The European Plastic Pipes and Fittings Association (TEPPFA)	European Union
Wavin	British Plastics Federation (BPF)	United Kingdom
Wavin	Asociación Mexicana de Industrias Plásticas A.C. (Mexican Association of Plastic Industries A.C.) (AMITUP)	Mexico
Netafim	Irrigation Association	United States
Netafim	Israel Export Institute	Israel
Netafim	Sustainable Agriculture Initiative (SAI) Platform	Global
Dura-Line	Fiber to the Home - COUNCIL EUROPE (FTTH)	European Union
Dura-Line	Plastic Pipe Institute (PPI)	United States
Vestolit	The Vinyl Institute (VI)	United States
Vestolit	European Council of Vinyl Manufacturers (ECVM) VinylPlus	European Union

GRI 102-41 Collective bargaining agreements

Employees with collective bargaining agreements	U.S. & CANADA	LATAM	EUROPE	AMEA	TOTAL
2018	21	4,083	1,896	186	6,186
2019	21	7,689	4,588	128	12,426
2020	0	6,308	3,371	152	9,831
% in 2020	0%	60%	54%	5%	45%



GRI 102-42 Identifying and selecting stakeholders

GRI 102-43 Stakeholder engagement

GRI 102-44 Key topics and concerns raised

Stakeholders are individuals or groups who are affected by and influence our business operations. We engage with representatives of a wide group of stakeholders in order to gain insight that will help us minimize risk to our business, understand and benefit from opportunities and address stakeholder concerns and expectations.

Our ongoing consultations with stakeholders have influenced the development of our sustainability strategy and priority sustainability issues. We conducted specific engagement to define our material topics in 2019 as described in the [Materiality Assessment Results](#).

Who		What	How
Customers	Thousands of customers around the world in different business sectors.	Customer service, quality and compliance, competitive pricing, overall value chain efficiency.	• Client meetings • Industry meetings and conferences • Joint projects including workshops, training and education programs, and field trials.
Employees	More than 21,600 direct employees in our businesses around the world.	Professional development, fair compensation and benefits, a safe and healthy workplace, and meaningful work.	• Satisfaction surveys • Performance reviews • Internal communications
Investors	Current shareholders and institutional investors, investment analysts and stock exchange.	Return on investment through constant and sustainable growth, robust governance, transparency.	• Annual financial and sustainability reporting • Investor meetings and roadshows • Notifications through the Mexican Stock Exchange and the National Securities Commission
Communities, NGOs and academia	Local communities close to our factories and broader national, regional and global NGOs with interests relating to economic development, social or environmental needs.	Contribution and partnership to deliver long-term value that benefits communities and societies in general, engagement to understand community needs and responsiveness, and upholding human rights.	• Partnerships in programs for local impact • Meetings with NGOs, community leaders and local governments to understand needs and identify common interests • Academic forums on innovation and sustainable development • Engagement with Research Centers
Suppliers and Distributors	A wide range of thousands of suppliers across all our business sectors in tens of countries.	Long-term commercial partnerships, fair dealing, opportunities for diverse suppliers, fair negotiations.	• Supplier evaluation systems • Supplier meetings • Conferences and tradeshow • Joint projects
Regulators	National governments, regional councils and local municipalities in all the countries in which we operate.	Trusting relationships based on compliant and ethical conduct and respect for Human Rights, transparency and timely reporting, collaboration to advance public policy.	• Public-private partnerships for social benefit • Industrial guilds and associations • Discussion forums on sector and social policies • Government reviews and audits • Reporting on corporate performance



GRI 302-1 Energy consumption within the organization

Energy	Units	2015	2016	2017	2018	2019	2020 ✓	Change in 2020
Natural gas	MWh	2,709,492	2,526,510	2,450,339	2,471,052	2,519,303	2,512,007	0%
Gasoline	MWh	9,911	7,821	12,394	12,874	10,324	9,174	-11%
Diesel	MWh	55,243	60,467	78,805	78,895	98,929	75,539	-24%
LPG derived gases	MWh	119,105	113,434	112,891	136,741	130,179	106,963	-18%
Mineral coal		-	192,298	198,269	183,184	169,816	127,836	-25%
Renewable electricity generated	MWh	-	-	-	-	1,773	3,587	102%
Bio fuels	MWh	-	-	-	-	696	765	10%
Scope 1 (energy)	MWh	2,893,751	2,900,530	2,852,698	2,882,746	2,931,020	2,835,871	-3%
Purchased electricity		2,680,079	2,445,311	2,457,173	2,723,899	2,580,558	2,486,917	-4%
Renewable electricity purchased	MWh	-	-	-	55,737	81,890	130,983	60%
Scope 2 (electricity)	MWh	2,680,079	2,445,311	2,457,173	2,723,899	2,662,448	2,617,900	-2%
Scope 2 (cooling, heating, steam)	MWh	-	-	-	-	1,863,068	1,739,921	-7%
Total energy consumption	MWh	5,573,830	5,345,841	5,309,871	5,606,645	7,456,536	7,193,692	-4%

Notes

- For the first time, we have established systems to capture all purchased cooling, heating and steam, and this is recorded for 2019 and 2020. Complete data is not available for prior years.
- Precision agriculture business group data (Netafim) was included for the first time in 2018.
- 2019 Scope 1 and 2 data has been updated to include process emissions not related to energy in Scope 1 and purchased heating, steam and cooling in Scope 2. This change impacts intensities.
- A dash means data was not available. It does not indicate zero consumption.
- Renewable electricity purchased was not reported separately in 2018. This value was included in purchased electricity.
- Total energy consumption is reported as gross energy.
- LPG derived gases contain butane, propane and LPG.

Energy consumption summary	Units	2015	2016	2017	2018	2019	2020	Change in 2020
Scope 1 (energy)	MWh	2,893,751	2,900,530	2,852,698	2,882,746	2,931,020	2,835,871	-3%
Scope 2 (electricity)	MWh	2,680,079	2,445,311	2,457,173	2,723,899	2,662,448	2,617,900	-2%
Scope 2 (cooling, heating, steam)	MWh	-	-	-	-	1,863,068	1,739,921	-7%
Total energy consumption	MWh	5,573,830	5,345,841	5,309,871	5,606,645	7,456,536	7,193,692	-4%

Net energy consumption	Units	2020
Gross energy consumption	MWh	7,193,692
Sold energy	MWh	277,836
Net energy consumption	MWh	6,915,854

Notes

For the first time we have established systems to capture sold energy in 2020.



GRI 302-3 Energy intensity

Energy intensity	Units	2015	2016	2017	2018	2019	2020 ✓	Change in 2020
Scope 1 (energy)	MWh/ton	0.66	0.68	0.64	0.61	0.36	0.34	-6%
Scope 2 (electricity)	MWh/ton	0.61	0.58	0.55	0.58	0.32	0.32	0%
Scope 2 (cooling, heating, steam)	MWh/ton	-	-	-	-	0.23	0.21	-9%
Total energy	MWh/ton	1.28	1.26	1.19	1.19	0.90	0.87	-3%

Notes

- For the first time, we have established systems to capture all purchased cooling, heating and steam, and this is recorded for 2019 and 2020. Complete data is not available for prior years. This change impacts energy intensities.
- In 2019, we moved to a new methodology for calculating intensities, as requested by key stakeholders. Figures from 2019 show intensities on the basis of tons of product manufactured (including production of intermediate materials). In prior years, intensities were calculated mainly on the basis of tons sold, always lower than tons manufactured. Therefore, from 2019 onward, intensity figures for energy, GHG emissions, water and waste are not directly comparable to prior years, although they are a closer reflection of our actual impact. Data considers gross energy consumption.

GRI 305-1 Direct (Scope 1) GHG emissions

GRI 305-2 Energy indirect (Scope 2) GHG emissions

Greenhouse gas emissions	Units	2015	2016	2017	2018	2019	2020 ✓	Change in 2020
Scope 1 (energy)	Tons CO ₂ e	605,166	613,004	587,487	589,078	588,002	547,669	-7%
Scope 1 (process)	Tons CO ₂ e					57,298	56,300	-2%
Scope 2 (purchased electricity)	Tons CO ₂ e	1,157,574	1,061,637	1,173,202	1,215,035	1,046,742	965,325	-8%
Scope 2 (cooling, heating, steam)	Tons CO ₂ e	-	-	-	-	307,493	297,100	-3%
Total Scope 1 and Scope 2	Tons CO₂e	1,762,740	1,674,641	1,760,689	1,804,113	1,999,535	1,866,394	-7%

GHG emissions: Market vs. Location-based	Units	2019		2020 ✓	
		Market-based	Location-based	Market-based	Location-based
Scope 2 (purchased electricity)	Tons CO ₂ e	1,046,742	1,119,078	965,325	1,088,758
Scope 2 (cooling, heating, steam)	Tons CO ₂ e	307,493	307,493	297,100	297,100
Total Scope 2	Tons CO₂e	1,354,235	1,426,571	1,262,425	1,385,858

Notes

- Scope 1 emission factors for fuels and gases use DEFRA 2019 and EPA 2019.
- Scope 2 emission factors for cooling, heating and steam use the emission factor provided directly by our supplier and EPA factors where not available.
- Scope 2 market-based electricity emission factors are sourced from the International Energy Agency (IEA) data 2020 version where supplier emission factors are not available.
- Scope 2 location-based emissions use IEA data 2020 version for all sites except Mexico which used CFE for Mexico facilities, 2019 version.
- Our Scope 2 market-based emissions reduced by 7% in 2020 mainly due to 1) National grids moving to cleaner energy, 2) Increase in use of renewable electricity, and 3) Shifting to suppliers with a greener energy mix.
- 2019 Scope 1 and 2 data has been updated to include process emissions not related to energy in Scope 1 and purchased heating, steam and cooling in Scope 2.



GRI 305-4 GHG emissions intensity

GHG emissions intensity	Units	2015	2016	2017	2018	2019	2020 ✓	Change in 2020
Scope 1	Tons CO ₂ e/ton	0.14	0.14	0.13	0.13	0.08	0.07	-13%
Scope 2	Tons CO ₂ e/ton	0.27	0.25	0.26	0.26	0.16	0.15	-6%
Total Scope 1 and Scope 2	Tons CO₂e/ton	0.40	0.39	0.39	0.38	0.24	0.22	-8%

Notes

See note to calculation of intensities in GRI 302-3.

2019 Scope 1 and 2 data has been updated to include process emissions not related to energy in Scope 1 and purchased heating, steam and cooling in Scope 2. This change impacts intensities.

GRI 305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other air emissions

NOx, SOx, and other significant air emissions	Units	2015	2016	2017	2018	2019	2020 ✓	Change in 2020
NOx	Tons	793	760	779	689	753	647	-14%
SOx	Tons	1,250	1,309	1,257	1,355	1,181	952	-19%
VOCs	Tons	0	0	83	108	92	114	24%
Total other air emissions	Tons	2,043	2,069	2,119	2,152	2,077	1,713	-18%

Notes

VOCs from 2020 onwards will include data from our Marl site (Vestolit), extrapolated based on historical and production data.



GRI (2018) 303-3 Water withdrawal by source

Water withdrawal	Units	2015	2016	2017	2018	2019	2020 ✓	Change in 2020
Surface water (including rainwater)	1,000 m ³	12,753	8,171	8,670	8,262	9,843	9,315	-5%
Groundwater	1,000 m ³	3,800	4,937	5,178	5,341	4,861	5,163	6%
Third party water (municipal)	1,000 m ³	-	2,895	2,480	2,150	1,242	1,168	-6%
Total water withdrawal	1,000 m³	16,553	16,003	16,328	15,753	15,946	15,646	-2%
Water withdrawal intensity	m³/ton	3.75	3.76	3.66	3.35	1.93	1.88	-3%

GRI (2018) 303-3 Water withdrawal in water stress areas (1,000 m³)

		2019	2020	Change in 2020
High to extremely high water stress (40%->80%)	Surface water	5,029	4,825	-4%
	Groundwater	2,106	2,497	18%
	Municipal	281	199	-29%
	Wastewater from a third party	0	156	
	Total	7,416	7,677	3%
Medium water stress or lower (<40%)	Surface water	4,814	4,490	-7%
	Groundwater	2,753	2,666	-3%
	Municipal	960	813	-15%
	Total	8,527	7,969	-7%
Total		15,946	15,646	-2%



GRI (2018) 303-4 Water discharge by quality and destination

Water discharge	Units	2018	2019	2020 ✓	Change in 2020
Surface water	1,000 m ³	8,257	9,408	8,036	-15%
Seawater	1,000 m ³	-	-	1,339	-
Groundwater	1,000 m ³	6	14	7	-50%
Third party (municipal)	1,000 m ³	2,277	2,481	2,343	-6%
Total water discharge	1,000 m³	10,540	11,902	11,725	-1%

Water discharge quality	Units	2018	2019	2020 ✓	Change in 2020
Total Suspended Solids (TSS)	Tons	117	131	151	15%
Chemical Oxygen Demand (COD)	Tons	384	378	403	7%
Biochemical Oxygen Demand (BOD)	Tons	116	87	129	48%
Total organic carbon (TOC)	Tons	136	120	142	18%
Total solids	Tons	753	716	826	19%

Notes

Wastewater quality is strictly governed by local regulations, and parameters are set specifically for each watershed. Orbia's operations comply with these local regulations. Therefore, wastewater discharge quality is reported as applicable only to chemical plants.

GRI (2018) 303-4 Water discharge in water stress areas (1,000 m³)

		2019	2020	Change in 2020
High to extremely high water stress (40%->80%)	Surface water	3,314	3,375	2%
	Groundwater	6	0	-100%
	Sewage	573	509	-11%
	Total	3,893	3,884	0%
Medium water stress or lower (<40%)	Surface water	6,094	4,661	-24%
	Seawater	-	1,339	
	Groundwater	8	7	-13%
	Sewage	1,907	1,834	-4%
	Total	8,009	7,841	-2%
Total		11,902	11,725	-1%



GRI (2018) 303-5 Water consumption

Water balance	Units	2018	2019	2020 ✓	Change in 2020
Water withdrawn	1,000 m ³	15,753	15,946	15,646	-2%
Water discharged	1,000 m ³	10,540	11,902	11,725	-1%
Water consumed	1,000 m³	5,213	4,044	3,920	-3%
Water % discharged	1,000 m ³	67%	75%	75%	0%

Notes

- Water data includes Netafim from 2018.
- Details of water quality (freshwater and other water) split not currently available.

GRI (2020) 306-3 Waste generated

Waste generated	Units	2018	2019	2020 ✓	Change in 2020
Hazardous waste	Tons	12,426	13,251	7,593	-43%
Non-hazardous waste	Tons	54,407	56,104	52,124	-7%
Total waste	Ton	66,833	69,355	59,717	-14%
Waste intensity	Tons/ton	0.014	0.008	0.007	-13%

Notes

- Values presented in this table relate to waste disposed.
- See note to calculation of intensities in GRI 302-3.
- Split of waste generated by type not available.



GRI (2020) 306-4 Waste diverted from disposal

Waste diverted from disposal	Units	2018	2019	2020 ✓	Change in 2020
Hazardous waste					
Preparation for reuse	Tons	319	303	227	-25%
Recycling	Tons	314	2,122	184	-91%
Recovery	Tons	5,936	3,634	3,303	-9%
Total	Tons	6,569	6,059	3,714	-39%
Non-hazardous waste					
Preparation for reuse	Tons	7,825	6,064	4,881	-20%
Recycling	Tons	17,766	20,973	19,979	-5%
Recovery	Tons	1,833	2,001	2,476	24%
Total	Tons	27,424	29,038	27,336	-6%
Total waste diverted	Tons	33,993	35,097	31,050	-12%

Notes

- Overall waste diversion was 12% lower in 2020 than in 2019. During 2020, there were no major construction and dismantling projects, therefore less hazardous and non-hazardous waste was diverted from disposal.
- Values reported under recovery include a portion of waste incinerated with energy recovery. Data will be broken down starting 2021.

GRI (2020) 306-5 Waste directed to disposal

Waste directed to disposal	Units	2018	2019	2020 ✓	Change in 2020
Hazardous waste					
Incineration without energy recovery	Tons	2,334	1,284	2,660	107%
Landfill	Tons	2,544	1,599	798	-50%
Other	Tons	979	4,309	420	-90%
Total	Tons	5,857	7,192	3,878	-46%
Non-hazardous waste					
Incineration without energy recovery	Tons	1,724	1,654	1,716	4%
Landfill	Tons	25,259	24,485	22,031	-10%
Other	Tons		926	1,041	12%
Total	Tons	26,983	27,065	24,788	-8%
Total waste directed to disposal	Tons	32,840	34,257	28,666	-16%

Notes

- Waste data includes Netafim from 2018
- Overall waste directed to disposal was 16% lower in 2020 than in 2019. During 2020, there were no major construction and dismantling projects, therefore less hazardous and non-hazardous waste was directed to disposal.



GRI 401-1 New employee hires and turnover

Employee new hires summary	2020			
	Women	Men	Undeclared	Total
< age 30	175	706	31	912
age 30 - 50	277	977	45	1,299
> age 50	42	207	11	260
All new hires	494	1,890	87	2,471
New hire percentage (of year end headcount)	2.3%	8.7%	0.4%	11.4%

Employee turnover summary	2020			
	Women	Men	Undeclared	Total
< age 30	141	651	19	811
age 30 - 50	33	1,195	32	1,561
> age 50	91	503	8	602
All leavers	566	2,349	59	2,974
Turnover percentage (of year end headcount)	2.6%	10.8%	0.3%	13.7%

Employee turnover summary	2020			
	Women	Men	Undeclared	Total
Voluntary turnover rate	1%	5%	0%	6%
Involuntary turnover rate	2%	6%	0%	8%
Total	3%	11%	0%	13.7%

Notes

Voluntary/involuntary rates calculated on basis of total company headcount.

Employee new hires by gender and region	2020			
	Women	Men	Undeclared	Total
U.S. & CANADA	107	518	47	672
LATAM	190	829	4	1,023
EUROPE	127	313	8	448
AMEA	73	242	13	328
All new hires	497	1,902	72	2,471
Percentage by gender	20%	77%	3%	100%

Employee new hires by age and region	2020			
	< age 30	age 30 - 50	> age 50	Total
U.S. & CANADA	234	324	101	659
LATAM	414	543	82	1,039
EUROPE	134	255	54	443
AMEA	130	177	23	330
All new hires	912	1,299	260	2,471
Percentage by age	37%	53%	11%	100%



Employee leavers by age and region	2020			
	< age 30	age 30 - 50	> age 50	Total
U.S. & CANADA	197	239	96	532
LATAM	325	809	268	1,402
EUROPE	109	277	205	591
AMEA	180	236	33	449
All leavers	811	1,561	602	2,974
Percentage by gender	27%	52%	20%	100%

Employee leavers by gender and region	2020			
	Women	Men	Undeclared	Total
U.S. & CANADA	85	414	40	539
LATAM	274	1,119	4	1,397
EUROPE	147	437	4	588
AMEA	63	376	11	450
All leavers	569	2,346	59	2,974
Percentage by gender	19%	79%	2%	100%

GRI 404-1 Average hours of training per year per employee

Employee training by category (hours)	2018	2019	2020 ✓
Managers and professional employees	196,063	211,826	167,546
Other employees	277,696	310,416	210,450
All training hours	473,759	522,243	377,996
Average hours per employee per year	21.63	23.61	17.43



GRI 405-1 Diversity of governance bodies and employees

Diversity of governance bodies and employees	Age	2018	2019	2020
Managers	<age 30	112	94	72
	age 30-50	1,442	1,548	1,553
	>age 50	675	732	766
Professional employees	<age 30	1,860	1,636	1,301
	age 30-50	4,925	4,702	5,004
	>age 50	1,632	1,449	1,600
Other employees	<age 30	2,520	2,649	2,155
	age 30-50	6,126	6,271	6,476
	>age 50	2,608	2,617	2,761
All employees	<age 30	4,492	4,379	3,528
	age 30-50	12,493	12,521	13,033
	>age 50	4,915	4,798	5,127
All employees by age as a percentage of total employees	<age 30	21%	20%	16%
	age 30-50	57%	57%	60%
	>age 50	22%	22%	24%

Employees by level and gender	Levels	2018	2019	2020 ✓
Women	Managers	388	452	455
	Professional employees	2,294	2,301	2,306
	Other employees	1,007	1,076	1,026
Men	Managers	1,841	1,922	1,920
	Professional employees	6,123	5,486	5,596
	Other employees	10,247	10,461	10,337
% of women by level as a percentage of total employees by level	Managers	17%	19%	19%
	Professional employees	27%	30%	29%
	Other employees	9%	9%	9%
	All employees	17%	17%	17%



GRI 405-2 Ratio of basic salary and remuneration of women to men

Executives base salary	2020 Ratio
U.S. & CANADA	88%
LATAM	90%
EUROPE	85%
AMEA	111%

Managers base salary	2020 Ratio
U.S. & CANADA	95%
LATAM	106%
EUROPE	75%
AMEA	112%

Managers total remuneration	2020 Ratio
U.S. & CANADA	97%
LATAM	107%
EUROPE	89%
AMEA	94%

Non-managers total remuneration	2020 Ratio
U.S. & CANADA	108%
LATAM	131%
EUROPE	82%
AMEA	129%

Notes

Percentages show average salary and/or benefits of women in each group by region divided by the average salary and/or benefits of men by employee category.

GRI (2018) 403-9: Injury rates ✓

Hours worked	2020		
	Employees	Contractors	Total: Employees and Contractors
U.S. & CANADA	3,744,491	539,690	4,284,181
LATAM	23,172,896	6,898,727	30,071,623
EUROPE	11,048,939	1,225,685	12,274,624
AMEA	6,425,103	2,718,262	9,143,365
Total	44,391,429	11,382,364	55,773,793

Number of lost time incidents (LTI)	2020		
	Employees	Contractors	Total: Employees and Contractors
U.S. & CANADA	7	1	8
LATAM	25	12	37
EUROPE	27	7	34
AMEA	21	1	22
Total	80	21	101

Number of incidents by region (TRI)	2020		
	Employees	Contractors	Total: Employees and Contractors
U.S. & CANADA	49	3	52
LATAM	41	16	57
EUROPE	55	16	71
AMEA	27	1	28
Total	172	36	208

All Orbia Incident rates 2020	2020		
	Employees	Contractors	Total: Employees and Contractors
Total Recordable Incident Rate (TRIR)	0.77	0.63	0.75
Lost Time Injury Rate (LTIR)	0.36	0.37	0.36
Fatality rate	0.005	0	0.004



Incident rates by region (TRIR)	Employees			Contractors			Total: Employees and Contractors		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
U.S. & CANADA	2.05	2.03	2.62	1.81	0.00	1.11		1.85	2.43
LATAM	0.89	0.52	0.35	0.25	0.35	0.46		0.48	0.38
EUROPE	1.17	0.76	1.00	1.61	2.10	2.61		0.88	1.16
AMEA	0.90	0.85	0.84	1.01	0.00	0.07		0.68	0.61
Total	1.08	0.76	0.77	0.69	0.48	0.63		0.71	0.75
Lost time injury rates by region (LTIR)	Employees			Contractors			Total: Employees and Contractors		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
U.S. & CANADA		0.37	0.37		0.00	0.37		0.34	0.37
LATAM		0.26	0.22		0.19	0.35		0.25	0.25
EUROPE		0.28	0.49		0.65	1.14		0.31	0.55
AMEA		0.77	0.65		0.00	0.07		0.62	0.48
Total		0.36	0.36		0.20	0.37		0.33	0.36
Fatalities	Employees			Contractors			Total: Employees and Contractors		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
U.S. & CANADA	0	0	0	0	0	0	0	0	0
LATAM	0	0	1	0	1	0	0	1	1
EUROPE	1	0	0	0	0	0	1	0	0
AMEA	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	1	0	1	1	1
Fatality rates	Employees			Contractors			Total: Employees and Contractors		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
U.S. & CANADA		0	0		0	0		0	0
LATAM		0	0.009		0.027	0		0.006	0.007
EUROPE		0	0		0	0		0	0
AMEA		0	0		0	0		0	0
Total		0	0.005		0.019	0		0.004	0.004



GRI (2018) 403-10 Work-related ill-health ✓

Fatalities as a result of work related ill health	Employees	Contractors
Fatalities as a result of work related ill health	0	0
Cases of recordable work related ill health	1	Not measured

Notes

- Rates are calculated on the basis of 200,000 hours. Data includes all facilities including manufacturing sites, offices, warehouses, distributions centers and R&D labs.
- Data in 2020 is aligned with the new GRI Standard 403:2018, details by region were not reported in prior years.
- Current Orbia systems do not allow for a split of recordable injuries to reflect high-consequence injuries, although these are estimated to be less than five. We are reviewing our systems to establish a reporting mechanism for high consequence injuries in the future.
- We do not record work-related ill-health cases for contractors. We are evaluating how we can obtain reliable data for future disclosure.
- Main types of work-related injuries are cuts and lacerations, strain and sprains, crush injuries (fingers) and slips and falls. Main types of work-related ill health recorded are due to general pain - not associated with specific roles.
- We regret to record one employee fatality in 2020 caused through electrocution of an electrical worker at the Las Cuevas mine in Mexico. Full investigation protocols were followed and corrective actions taken, including permit to work program, risk assessment process, communications and management oversight.
- Work-related hazards are assessed through our regular safety risk assessments, and we have not identified any significant hazards that pose a risk of ill-health. Instances of work-related ill-health reported for 2020 were not identified with specific hazards.
- Work-related hazards that pose a risk of high-consequence injuries are not specifically identified as distinct from other hazards. All work-related hazards are addressed through our safety assessments and risks are minimized through targeted improvements in procedures, protocols, training and communications. Typically, we calculate Serious Injuries and Fatalities (SIF) injuries which include fatalities, life-threatening and life-altering injuries, and in 2020, we recorded three SIFs from four Business Groups representing approximately 90% of our revenues. We are working to improve our detailed data collection with regard to SIF from across our global business.
- We provide medical assistance and consultation for employees through our Health and Safety Officers at each site. All employees have access to these services.
- 100% of employees are represented by Health and Safety Committees or equivalent.



SASB Index

Figures with this check mark (✓) are third-party assured.

Chemicals Sustainability Accounting Standard Version 2018-10

Topic	Accounting Metric	Code
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations.	RT-CH-110a.1
	603,969 metric tons in 2020. ✓ At least 64,109 metric tons or 11% of Scope 1 emissions are covered under emissions-limiting regulations. See Direct Scope 1 GHG emissions (GRI 305-1) data for further details.	
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets and an analysis of performance against those targets.	RT-CH-110a.2
	We continue in line with our commitment to mitigating climate change through our operations and hope to achieve approval for our Science Based Targets Initiative in the coming months, aligned with a 1.5° C scenario. With an ambition to achieve net zero carbon emissions by 2050, and Scope 1+2 GHG emissions reduction of 47% by 2030 (target pending submission to the Science Based Target initiative, and subsequent approval) together with a Scope 3 GHG emissions reduction target to be developed, we are planning to drive decarbonization through our business at a steady pace. Our key strategies to achieve this include: • Reviewing the energy mix in manufacturing operations and converting to fuels and gases with more favorable environmental profiles e.g., biofuels; • Increasing our proportion of renewable electricity at our sites; • Exploring carbon capture opportunities; • Optimizing operational processes to drive incremental energy efficiencies in manufacturing and logistics; • Leveraging innovation to support low-carbon manufacturing; • Increasing our use of recycled raw materials; • Engaging in material recovery operations, for example, refrigerant recovery through our Koura brand and recycling end-of-life drip lines by Netafim; • Partnering with suppliers and industry organizations to drive best practice at Orbia, and • Continuing employee education and engagement in sustainability initiatives	
Air Quality	Air emissions of the following pollutants: (1) NOx (excluding N₂O), (2) SOx, (3) volatile organic compounds (VOCs) and (4) hazardous air pollutants (HAPs)	RT-CH-120a.1
	NOx (tons)	647 ✓
	SOx (tons)	952 ✓
	VOCs (tons)	114 ✓
	Total	1,713 ✓
	See Air emissions (GRI 305-7) data for further details.	



Topic	Accounting Metric		Code
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy		RT-CH-130a.1
	Total energy consumed (GJ)	25,897,288 ✓	See Energy consumption (GRI 302-1) data for further details.
	Percentage grid electricity	35% ✓	
	Percentage renewable	2% ✓	
	Total self-generated energy (GJ)	10,209,134 ✓	
Water Management	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with high or extremely high baseline water stress.		RT-CH-140a.1
	Total water withdrawn: 15,645,929 m³ in 2020 ✓	Brand	% Sites in water stressed areas
	Total water consumed: 3,920,451 m³ in 2020 ✓	Dura-Line	5%
	Based on our updated 2020 assessment using the World Resources Institute (WRI) Aqueduct Version 3.0 tool, 42 of our plants are in areas of high or extremely high water-stress, representing 35% of our sites and 49% of our total water withdrawal.	Koura	4%
		Netafim	11%
		Vestolit/Alphagary	7.5%
		Wavin	7.5%
	See Water consumption (GRI 303-3 to 303-5) data for further details.	Total	35%
	Number of incidents of non-compliance associated with water quality permits, standards and regulations.		RT-CH-140a.2
	None in 2020.		
Description of water management risks and discussion of strategies and practices to mitigate those risks.		RT-CH-140a.3	
In 2020, we embarked upon a program of water risk assessments covering the full spectrum of watershed risks (physical, regulatory and community-related). We completed assessments for all five Vestolit resin plants in Mexico and Colombia (representing 41% of Orbia's consumption and located in water stress areas) and during 2021, we aim to use these results to establish context-based water targets for each of these sites.			
Hazardous Waste Management	Amount of hazardous waste generated, percentage recycled.		RT-CH-150a.1
	We generated 7,593 tons of hazardous waste in 2020, of which 5% was recycled or prepared for reuse. ✓		
	See Waste generated (GRI 306-3 to 306-5) data for further details.		



Topic	Accounting Metric	Code
Community Relations	Discussion of engagement processes to manage risks and opportunities associated with community interests.	RT-CH-210a.1
	At Orbia, we fulfil our purpose through our solutions for resilience that address the world's most pressing social and environmental challenges. At the same time, we share a responsibility to contribute to improving the lives of the people in the communities where we do business. Our approach is based on helping alleviate urgent critical needs while contributing to strengthen communities through collaboration, partnership and the pursuit of longer term positive social impact. We engage with representatives of stakeholders in our communities to gain insight that will help us address their concerns and expectations. Specifically, we engage with local communities close to our factories and also with NGOs that represent broader national, regional and global interests relating to economic development, and social or environmental needs. We aim to develop contributions and partnerships to deliver long-term value that benefits communities and societies in general. Our engagements include: partnerships in programs for local impact; meetings with NGOs, community leaders and local governments to understand needs and identify common interests; academic forums on innovation, and sustainable development and engagement with Research Centers. Additionally, we are currently developing a set of tools that will help our operations assess risks, map their communities and interest groups to define strategic approaches for stakeholder engagement Examples of these engagement activities can be found in different sections of our 2020 Sustainability Report.	
Workforce Health & Safety	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees.	RT-CH-320a.1
	All Orbia Injury rates 2020	EmployeesContractorsTotal
	Total Recordable Incident Rates (TRIR)	0.77 ✓0.63 ✓0.75 ✓
	Lost Time Injury Rate (LTIR)	0.36 ✓0.37 ✓0.36 ✓
	Fatality rate	0.005 ✓0 ✓0.004 ✓
	See Injury rates (GRI 403-9) data for further details.	
	Description of efforts to assess, monitor and reduce exposure of employees and contract workers to long-term (chronic) health risks.	RT-CH-320a.2
We aspire to create safe places to work throughout Orbia, with a community of individuals who are committed to working safely and to implementing all our policies, standards, frameworks, supported by processes that enable them to do so. In this way, we make safety a habit that is consistently embedded in everything we do. No rule book can account for every eventuality, so we rely on a safety mindset and culture to complement the systems we have in place. While we must continue this work to achieve our vision of zero injuries, we are encouraged by a notable reduction in injury rates across the business over the past several years. Work-related hazards are assessed through our regular safety risk assessments, and we have not identified any significant hazards that pose a risk of ill-health. Instances of work-related ill-health reported for 2020 were not identified with specific hazards. Work-related hazards that pose a risk of high-consequence injuries are not specifically identified as distinct from other hazards. All work-related hazards are addressed through our safety assessments and risks are minimized through targeted improvements in procedures, protocols, training and communications. Typically, we calculate SIF (Serious Injuries and Fatalities) injuries which include fatalities, life-threatening and life-altering injuries, and in 2020, we recorded 3 SIFs from four business groups representing approximately 90% of our revenues. We are working to improve our detailed data collection with regard to SIF from across our global business.		



Topic	Accounting Metric	Code
Product Design for Use-phase Efficiency	Revenue from products designed for use-phase resource efficiency. 23% This figure represents the percentage of revenues from precision irrigation (water reduction, reduced soil contamination), stormwater management (climate resilience addressing flooding and groundwater depletion); indoor climate solutions (energy reduction); low GWP medical propellants (low-carbon); trenchless pipe rehabilitation solutions (fewer emissions and pollution, longevity, reduce water loss); resins that result in energy consumption reduction by our customers; and those that extend product use such as Dura-Line's FuturePath. This figure excludes revenue from Orbia products made using recycled content, per SASB definition, although a portion of the products in some of the mentioned ranges are made with recycled raw materials.	RT-CH-410a.1
Safety & Environmental Stewardship of Chemicals	(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment.	RT-CH-410b.1
	Not currently reported at Corporate level.	
	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact.	RT-CH-410b.2
Genetically Modified Organisms	Percentage of products by revenue that contain genetically modified organisms (GMOs).	RT-CH-410c.1
	Not applicable. None of our products contain GMOs.	
Management of the Legal & Regulatory Environment	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry.	RT-CH-530a.1
	Some examples from our Business Groups include: Koura is an active member of the Global FACT (Forum for Advanced Climate Technologies), promoting the development of low GWP propellants and refrigerants alongside other key players in the fluorinated gas market such as Arkema, Chemours and Honeywell. They are also members of the Alliance for Responsible Atmospheric Policy. Our Wavin Sustainability leaders are very active with the TEPPFA regarding circular economy initiatives and influencing policy around this topic in Europe. Wavin was also active in the 2021 Climate Adaptation Summit.	



Topic	Accounting Metric	Code
Operational Safety, Emergency Preparedness & Response	Process safety incidents count (PSIC), process safety total incident rate (PSTIR) and process safety incident severity rate (PSISR)	RT-CH-540a.1
	Process safety incidents count (PSIC)	15 ✓
	Process safety incident severity rate (PSISR)	0.029 ✓
	Process safety total incident rate (PSTIR)	0.054 ✓
Notes: - All figures refer to employees and contractors in total, in 2020. - PSISR rate refers to major incidents. Rates are calculated on the basis of 200,000 hours. - Internally, we use the term PSER (Process Safety Event Rate). This is equivalent to PSTIR.		
Number of transport incidents		RT-CH-540a.2
22 incidents in 2020. Transportation incidents include data for Wavin, Vestolit, and Alphagary. Incidents include spills, injuries and regulatory transportation violations incurred through third-party logistics providers.		

Activity Metric	Code
Production by reportable segment	RT-CH-000.A
Business Group	Tons produced in 2020
Polymer Solutions	4,466,881
Fluorinated Solutions	2,714,327
Building & Infrastructure	707,783
Precision Agriculture	159,518
Data Communication	252,266
Orbia Total	8,300,774

**COMMUNICATION ON PROGRESS**

This is our **Communication on Progress** in implementing the Ten Principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

Orbia endorses the Universal Declaration of Human Rights adopted by the United Nations and condemns all forms of human rights abuse, as stated in our [Human Rights Policy](#). Orbia became a signatory to the UNGC at the participant tier level in 2018, committing to uphold and promote UNGC principles within our spheres of influence. This is our third Communication on Progress and we will report annually.

UN Global Compact Principles**Our Position**

1	Businesses should support and respect the protection of internationally proclaimed human rights.	At Orbia, we acknowledge, respect and uphold human rights. Our Code of Ethics binds all employees around the world to the highest ethical standards and we reinforce ethical practices with communication, training and immediate attention to ethical issues as they arise. We maintain a Human Rights policy confirming our support for the Universal Declaration of Human Rights and other universally accepted standards. We drive similar standards throughout our supply chain.
2	Businesses should make sure that they are not complicit in human rights abuses.	
3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	We respect the rights of employees to freedom of association and collective bargaining. We aim to maintain a collaborative, open and positive relationship with employees and address issues relating to their rights in a positive manner. We drive similar standards throughout our supply chain.
4	Businesses should support the elimination of all forms of forced and compulsory labor.	We do not engage in any practice which could be construed as forced labor. All Orbia employees are legally employed and join our business of their own free will. We drive similar standards throughout our supply chain.
5	Businesses should support the effective abolition of child labor.	We respect and support the rights of all children, and we are committed to preventing harm and actively safeguarding their interests. We do not employ children in any part of our business. We drive similar standards throughout our supply chain.
6	Businesses should support the elimination of discrimination in respect of employment and occupation.	We maintain a policy of equal opportunity and enjoy a high level of diversity among our workforce around the world. A key Orbia value is embracing diversity. Recruitment and human resources policies are designed to nurture inclusive practices for new and current employees in all matters relating to their employment with Orbia.
7	Businesses should support a precautionary approach to environmental challenges.	Many of Orbia's products are designed to minimize environmental impacts, and provide benefits to our consumers, and to support sustainable construction, smart cities, sustainable agriculture, water conservation and waste reduction. Such products form part of our customers' own greenhouse gas emission reduction programs as they enable carbon-efficient operations. In our own operations, we work to reduce our toxic emissions, drive down our carbon and water footprints and act as environmental stewards in all that we do.
8	Businesses should undertake initiatives to promote greater environmental responsibility.	
9	Businesses should encourage the development and diffusion of environmentally friendly technologies.	
10	Businesses should work against corruption in all its forms, including extortion and bribery.	We are committed to behaving with integrity and acting against all forms of corruption. Our Code of Ethics and our Integrity and Anticorruption Handbook guide our actions binding all employees to uphold these policies.



WE SUPPORT CEO WATER MANDATE

The CEO Water Mandate is a special initiative of the UN Secretary-General and the UN Global Compact, providing a multi-stakeholder platform to advance corporate water sustainability policies and practices. Orbia became a signatory to the CEO Water Mandate in 2018, confirming our commitment to sustainable water management and practices. This is our second progress report to the CEO Water Mandate, as part of our GRI-based sustainability disclosure.

Water Mandate Principles		Our progress
Element 1	Direct operations	See section: Water
Element 2	Supply chain and watershed management	We are beginning the process of analyzing our supply chain impacts and assess our suppliers. From 2020, started to include water performance as part of our EcoVadis-based screening of suppliers and take a risk-based approach to managing performance.
Element 3	Collective action	See section on our support for Water Funds in Latin America and other initiatives: Advancing water security in Latin America
Element 4	Public policy	We do not make political contributions. We support public policy on water through our engagement with industry associations and support for Water Funds. See section Helping Communities Thrive
Element 5	Community engagement	See section Helping Communities Thrive for examples of community support and engagement in water initiatives.
Element 6	Transparency	We report on our water consumption and other water impacts in line with GRI Standards and SASB standards.



Assurance Statement



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Independent assurance report on the 2020 Sustainability Report to Orbia Advance Corporation, S.A.B. de C.V., to the Management of Orbia.

Responsibilities of Orbia and independent reviewer

The Management of Orbia is responsible for the elaboration of the 2020 Sustainability Report (SR) for the period from January 1st to December 31st, 2020, as well as ensuring its content, definition, adaptation and maintenance of the management systems and internal control from which the information is obtained, and which is also free of material misstatement due to fraud or error. Our responsibility is to issue an independent report based on the procedures applied during our review.

This report has been prepared exclusively in the interest of Orbia in accordance with the terms of our agreement letter dated September 24th, 2020, therefore we do not assume any responsibility to third parties and is not intended to be nor should it be used by someone other than the Management of Orbia.

Scope of our work

The scope of our assurance was limited which is substantially lower than a reasonable assurance scope, therefore the assurance provided is also lower. This report in no case can be understood as an audit report.

We conducted the 2020 SR review under the following conditions and/or criteria:

- The review of the GRI Standards disclosures in accordance with the reporting requirements as specified in the GRI Content Index of the 2020 SR.
- The review of the Sustainability Accounting Standards Board (SASB) Chemicals Sustainability Accounting Standard Version 2018-10 in accordance with the reporting requirements as specified in the SASB Index of the 2020 SR.
- The data consistency between the information included in the 2020 SR with supporting evidence provided by the Management.

We have complied with the independence and ethics requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants (IESBA Code) based on integrity, objectivity, professional competence and due care, confidentiality and professional behavior principles.

Assurance standards and procedures

We have performed our work in accordance with the International Auditing Standard ISAE 3000 Revised Assurance Engagements other than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Boards (IAASB) of International Federation of Accountants (IFAC).

Our review work included the formulation of questions to the Management as well as various departments of Orbia that have participated in the elaboration of the 2020 SR and the application of certain analytical and sample screening tests procedures described below:

- Meetings with staff of Orbia to learn the principles, systems and applied management approaches.
- Seven site visits covering all Business Groups (WAVIN: Leon, Mexico and Varennes, France; KOURA: Rocksavage, UK; ALPHAGARY: Chinley, UK; VESTOLIT: Marl, Germany; DURALINE: Neemrana, India; and NETAFIM: Vadodara, India) to review, analyze and discuss information on site.
- Analysis of the process to collect, validate and consolidate the data presented in the 2020 SR.
- Analysis of scope, relevance and integrity of the information included in the 2020 SR in terms of the understanding of Orbia and of the requirements that stakeholders have identified as material issues.
- Selected sample review from the evidence that supports the information included in the 2020 SR.
- Quality assurance by an independent partner of the project to verify consistency between this report and the proposal, as well as work process quality and deliverables.

The following table details the revised contents according to the GRI Sustainability Reporting Standards Guideline:

302-1	302-3	303-1	305-1	305-2
305-7 ¹	305-7 ¹	305-7 ¹	306-1	306-2
403-2	403-9 ²	403-9 ²	403-10	404-1
405-1	413-1 ³	413-1 ³	Total production	Environmental CAPEX and OPEX ⁴

¹ Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions were reviewed individually.

² Work related injuries and the number and rate of fatalities as a result of work related injuries were reviewed individually.

³ Total community investment and volunteering hours were reviewed individually.

⁴ Environmental capital expenditures and operating expenses.

The Following table details the revised Accounting Metrics within the SASB Chemicals Sustainability Accounting Standard Version 2018-10 standards:

RT-CH-000.A	RT-CH-110a.1	RT-CH-120a.1	RT-CH-130a.1	RT-CH-140a.1
RT-CH-150a.1	RT-CH-210a.1	RT-CH-320a.1	RT-CH-320a.2	RT-CH-540a.1

These indicators were selected for the independent review in accordance with the following criteria:

- Materiality of Orbia referred in the 2020 SR.
- Information provided during the meetings and site visits with the interviewed staff.
- Review of the evidence provided by Orbia staff of this project.

Conclusion

Based on our work described in this report, the performed procedures and the evidence obtained, nothing comes to our attention that could make us believe that the indicators and disclosures reviewed in the 2020 SR contain significant errors or have not been prepared in accordance with the reporting requirements established in the GRI and SASB Standards. For those GRI Standards contents and SASB Accounting Metrics where Orbia did not report in quantitative terms (numeric) the independent reviewer reviewed the qualitative information, which includes procedures, policies, evidence of the activities performed, among others.

Action alternatives

Deloitte has provided Orbia a report with the most significant action alternatives for future reporting, which do not modify the conclusions expressed in this independent review report.

Deloitte Asesoría en Riesgos, S.C.

Deloitte Touche Tohmatsu Limited affiliated Firm

Rocio Canal Garrido
 Rocio Canal Garrido
 Partner of Deloitte Asesoría en Riesgos, S.C.

May 4th, 2021

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