

Our Ambitions for Better Sustainable Growth



Short-Term (2021–2024)

- **Vitality Index**
34% for the Specialty PET business and 22% for the Fibers business in 2021
- **Customer Satisfaction Index (CSI) ≥ 86.0% in 2021**
- **Leading rPET player in core markets**



Medium-Term (2025)

- **750,000 tons of total post-consumer PET as feedstock into our polyester production per year**
- **To recycle 50 billion bottles per year**
- **US\$1.5 billion sustainable investments for sustainability objectives**
- **7% revenue from low carbon products**



Long-Term (2050)

- **Towards A Circular Economy**
by :
 - developing partnerships with external associations and organizations
 - becoming a circular economy thought leader
 - innovating sustainable products serving customers' needs
 - diverting plastic waste from the environment and oceans

Circular Economy Thought Leadership



Globally, one in every five PET bottles are made with our PET resins, one in every two premium baby diapers are made from our fibers and one in four airbags are made

from our yarns. We are building a leading infrastructure network in PET recycling with double-digit returns and demand for PET is likely to continue to grow.

PET is the preferred beverage packaging material given its superior economics - it is more cost-effective, with a lower carbon footprint and is safe for transportation.*

Price ratio

(cents per bottle, PET = 1X):



PET bottle



Aluminum can



Glass bottle

GHG ratio

(GHG per 100 Koz liquid, PET = 1X):



PET bottle



Aluminum can



Glass bottle

Note: *Price and GHG ratio is based on the Lifecycle Inventory Analysis, which includes total solid waste produced from cradle-to-disposal/recycling of products.

Source: Euromonitor; Franklin Associates; Cleanmetrics Corp; Goldman Sachs Global Investment Research.



DRIVING SUSTAINABLE GROWTH

Capitals Linked in this Chapter



Financial
Capital



Intellectual Capital



Social and
Relationship Capital

Value Created

Our significant investments in recycling are leading to increased market share and reduced GHG emissions that help us towards achieving our carbon neutral ambitions. Meanwhile, IVL's innovative and sustainable portfolio offers best-in-class products, which improves customer satisfaction. Additionally, the flagship recycling education program is leading to increased awareness among communities and driving more responsible consumer behavior.

We understand that driving a circular economy relies on partnerships throughout the value chain. We combine our expertise in innovation and human capital to participate in policy advocacy and industry collaborations and work hard to keep the plastic that we produce in the economy, ensuring it is used as a resource and not treated as waste. We provide stakeholders with quantitative and qualitative information and disclose our recycling initiatives and collaborations with targets through to 2025.

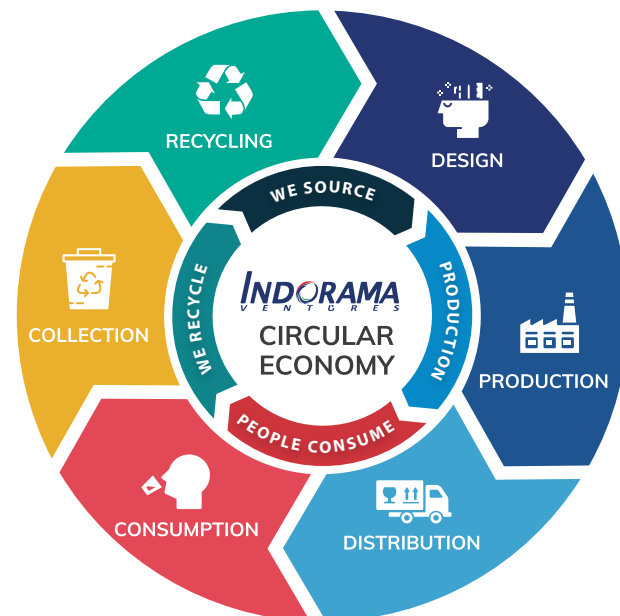


Circularity Across Our Value Chain

We see the positive impacts that a circular value chain has on society, the environment and our business performance, and being a responsible operator means creating long-term value for all our stakeholders. IVL is working hard to continue contributing positively across all areas of the value chain through innovative designs, efficient and greener production, streamlined logistics, advocacy for responsible consumption, proactive waste collection and widespread recycling.



For More
Information



Our Processes	Sourcing	Design	Production	Distribution	Consumption	Collection	Recycling
Stakeholders	Suppliers Our operations	Our operations Business Partners	Our operations	Suppliers	Consumers Governments	Consumers Communities	Our operations Business Partners
Steps Taken	<p>Integrating supplier ESG performance into our procurement process as a first step towards supply chain circularity.</p> <p>For more information, please refer to pg. 50-54</p> <p>Consuming sustainable raw materials from renewable sources and recycled products as well as renewable electricity in our operations.</p> <p>For more information, please refer to pg. 76-77</p>	<p>Our design criteria is tailored to develop lightweight and high-performance products with greater utilization of sustainable and recycled raw materials which enables easier end of life management and sustainable product choice.</p> <p>For more information on our products designed with circularity considerations, please refer to pg. 64-65, 67-68</p>	<p>We embrace the concept of circularity in our production by progressively increasing our mix of renewable energy, biogas, biomass and renewable electricity.</p> <p>We reduce the use of critical resources, replace potentially harmful resources with safe and renewable alternatives, and recover waste streams by viewing waste as a resource and diverting waste from landfill.</p> <p>For more information on how we harness renewable energy, please refer to pg. 50, 76 and how we manage the waste, please refer to pg. 85-86.</p>	<p>We encourage value chain partners to adopt circularity to have a lower carbon footprint and impact.</p> <p>For more information on GHG Scope 3 emissions, please refer to pg. 52, 65, 75-76</p>	<p>Strongly encourage behavioral changes among consumers and work with our customers to drive rPET demand in their packaging.</p> <p>Collaborate with the government, beverage and plastic industry groups to advocate for changes to current laws, rules and regulations preventing the use of rPET content in food packaging in order to advance the collection and recycling of plastic waste.</p> <p>For more information on how we engage with multiple stakeholders, please refer to pg. 60-61</p>	<p>We conduct our flagship "Recycling Education" program to raise environmental awareness and increase the collection rate of post-consumer PET.</p> <p>For more information on our recycling education program, please refer to pg. 61, 111-113</p>	<p>We are driven by our 2025 commitments and leverage our expertise in mechanical recycling and chemical recycling.</p> <p>For more information on our growth in mechanical and chemical recycling, please refer to pg. 62-63</p>
2020 Highlights	<ul style="list-style-type: none"> • 20,884 tons of renewable raw material (bio-MEG, cellulose, PLA) consumption. • 1,767,434 GJ of renewable energy consumption. • 230,912 tons of total recycled materials consumption 	<ul style="list-style-type: none"> • Deja™ products • Newlife™ products • PPE coverall suits. 	<ul style="list-style-type: none"> • Four of our sites are utilizing 100% renewable electricity. • In 2020, we initiated the installation of solar rooftops at five sites which are due for completion in 2021. • Solar fencing generating 55.82 MWh • 70% total reused, recycled and recovered waste 	<ul style="list-style-type: none"> • 100% coverage of GHG Scope 3 data collection in five categories. • 100% external audit of purchased goods and services. 	<ul style="list-style-type: none"> • rPET supply agreements with our customers in food and beverages and global FMCG brands. • PETValue project - a recycling JV between IVL and Coca-Cola Beverages Philippines Inc, in the Philippines. 	<ul style="list-style-type: none"> • A total of 27,906 people were educated on recycling and waste separation. • 424,530 PET bottles were collected globally for recycling. • A 16.5 tCO₂e reduction from post-consumer bottle recycling. 	<ul style="list-style-type: none"> • Acquired three recycling facilities in Brazil and Poland (2 facilities). • Expanded at site in Verdun, France. • 10.1 billion post-consumer PET bottles recycled. • Approximately 58 billion bottles recycled as of 2020 since 2011. • 222,288 tons of total post-consumer PET bottles recycled into flakes as polyester feedstock.

Driving Circularity Through Stakeholder Partnerships

Embedding the circular economy as best practice locally, nationally and internationally requires working together across diverse stakeholder groups. Driving circularity at IVL means developing and distributing products that exceed customer expectations while contributing to business growth and financial sustainability. In 2020, we actively increase our participation in industry associations and memberships and extended our contributions in existing partnerships. We also identified a number of new opportunities for collaborations; all of which support our mid-term ambitions. For more information on our industry associations and memberships, please see pg. 39.



Last year, we participated in the World Economic Forum's Global Plastic Action Partnership (GPAP), supporting our commitment to increase recycled content volumes of PET by at least 750,000 tons together with our pledge of US\$1.5 billion towards achieving this goal by 2025. With our extensive and long experience in plastic collection together with our global scale and capabilities, we intend to add significant value and insights working with regulators and peers through our membership.

Through our trade associations, we actively participate in legislative engagements to promote sustainability, including our work with the European Commission to ban the use of plastic as packaging for extra virgin olive oil in Spain and contributing to the EU's non-recycled plastic packaging waste policy.

Be part of the Circular Economy Accelerator

In 2020, Indorama Ventures was proud to support the Circular Economy Accelerator policy.



As a recycler, we want to raise awareness about the value of circular packaging solutions, like PET. Increasing recycling knowledge moves all of us towards a greener future. By working together, we can build a better recycling system in the US. This will result in a stronger, sustainable economy and environment by creating jobs, protecting natural resources, and reimagining how we design and deliver goods along the way. Bold new steps in recycling policies are required to make this happen. A new policy approach, released by the Circular Economy Accelerator, led by The Recycling Partnership, is an important opportunity to advance the US recycling system helping it evolve into one that is dramatically more efficient and effective, benefiting every part of the value chain in the circular economy.



Other Key Engagements in 2020

Financial Institute



Engaged with the IFC to receive the first-ever blue loan to a global plastic manufacturer addressing marine plastic leakage.

For more information, refer to pg. 7, 8, 16

Customers



Partnered with Coca-Cola Beverages Philippines, Inc. (CCBPI) to develop a state-of-the-art recycling facility.

For more information, refer to pg. 62

Society



Engaged with our business partners to develop and produce PPE from recycled PET.

For more information, refer to pg. 108

Green Industry Level 5 Award Recycling for Sustainable Consumption and a Green Society

Indorama Polyester Industries PCL (Nakhon Pathom) received a Green Industry Level 5 award (Green Network) in 2020 from the Ministry of Industry, underscoring IVL's commitment to sustainability. Each year, the factory is capable of recycling 1.8 billion PET bottles, helping Thailand reduce crude oil consumption by 560,000 barrels and reducing CO₂ emissions by 133 million kilograms, as well as averting PET plastic waste in landfills. Additionally, treated water within the factory is 80% reusable, focusing on stringent quality control and assurance policies to ensure maximum safety to consumers, which is IVL's top priority.






Recycling Education for Society

We firmly believe that education is the key to supporting and sustaining a circular economy, and that together, we can all play our part. Sustainable consumption, when combined with more efficient production techniques, can drive major improvements in environmental protection and long-term social

well-being. In 2020, we trained 27,906 people across diverse communities and consumer bases in global programs to promote recycling and waste separation. Further information is available in the Recycling Education section on pg. 111-113.

Continuous Improvements in Recycling

Our Recycling Mission	To serve the recycling needs of IVL's customers by building a leading, differentiated, and economically attractive recycling business.		
Our Recycling Strategy	Strengthening global recycling capability	Ensuring a fully closed loop	Contributing to a circular economy
2020 Progress	 <p>Acquired three recycling facilities in Brazil and Poland (2 facilities) Expanded at site, in Verdun, France</p>	 <p>10.1 billion of post-consumer PET bottles recycled (Approximately 58 billion bottles recycled as of 2020 since 2011)</p>	 <p>222,288 tons of total post-consumer PET bottles recycled to flakes as feedstock in polyester feedstock</p>
	<p>US\$1.5 billion total investments in recycling</p>	<p>50 billion bottles recycling capacity per year</p>	<p>750,000 tons total post-consumer PET in polyester feedstock per year</p>

From 2011 to December 31, 2020, we recycled approximately 58 billion PET bottles; this translates to a cumulative carbon footprint reduction of 1.9 million tons in GHG emissions and 1.3 million tons of plastic that have avoided landfill. In 2020 alone, we recycled 10.1 billion bottles.

Our global reach and leadership position in PET production and recycling allows us to leverage opportunities from a closed-loop system. We have achieved further growth in mechanical recycling by investing in three facilities in 2020, one in Brazil which

handles approximately 9,000 metric tons per year, and two in Europe which will process an additional 1.7 billion bottles for recycling in 2023 (one new facility in Poland and an expanded facility in France). The proprietary technology used at these facilities has enabled us to produce a variety of recycled products with a greater range of qualities. This additional production capacity will allow us to achieve our ambition of utilizing 750,000 tons per year of total post-consumer PET in polyester feedstock.

PETValue Recycling Facility

Coca-Cola Beverages Philippines, Inc. (CCBPI), the Bottling arm of Coca-Cola in the country, and Indorama Ventures Plc., signed a joint-venture agreement to establish PETValue, the largest state-of-the-art, bottle-to-bottle recycling facility in the Philippines.

PETValue will ensure that used PET plastic bottles that are 100% recyclable, and therefore not "single-use" are given new life and used again and again within a circular economy. The plant's projected capacity is 30,000 MT/year of flakes which will recycle almost two billion plastic bottles with an output of 16,000 MT/year of recycled PET resin in the first phase. A second extruder will subsequently be installed to consume the remaining quantities of flakes.

With this collaboration, we aim to create value for both our customers and society. By investing in and expanding our recycling capabilities, we are able provide our closed-loop solutions to meet the sustainability targets of our customers while creating a positive impact for society by further reducing the amount of plastic waste directed to landfills.



Click here to watch VDO.

Supporting the UN SDGs via Sustainable Growth

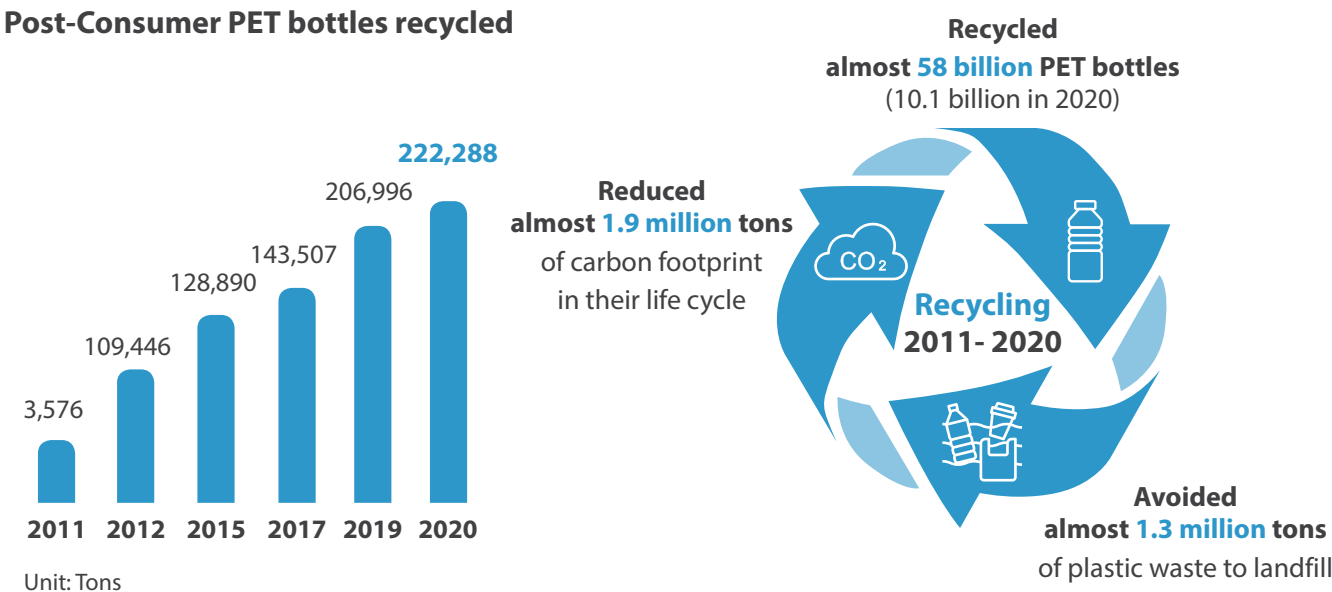
As a leading recycler in North America, Asia and Europe with over 30 years of recycling expertise and longstanding partnerships, we remain committed not only to such partnerships but also to incorporating circular processing into our business models and maintaining our competitive advantage in recycled PET (rPET). We are strong supporters of the UN SDGs, and our recycling efforts specifically target:



PET is a 100% recyclable and versatile plastic with a lower carbon footprint than alternative packaging materials and we are the largest virgin PET producer globally. In 2020, we recycled 222,288 tons of post consumer PET bottles, a significant increase from a production capacity of roughly 3,576 tons in 2011. While we intend to continue growing our PET production significantly and remain leaders in the field, we are also proud of our commitment to rPET, a material highly suited to the circular economy and which we believe offers consumers an opportunity to contribute to a closed-loop system.

"Amid the global COVID-19 pandemic, our commitment to recycling remains strong and our recycling production volume reached 222,288 tons, an increase of over 15,000 tons from 2019."

Post-Consumer PET bottles recycled



Chemical recycling technology is another focus area for IVL. In a partnership with start-up Ioniqa and Unilever, we are pioneering a new technology that converts PET waste back into virgin grade material for use in food packaging. Through Ioniqa's innovative chemical recycling process, non-recycled PET waste, such as colored bottles, are broken into the base molecule level, contaminants are removed, and the molecules are converted back into PET at virgin grade quality.

For More Information 

DEJA™ – Sustainable for life

Through **Deja™** a global, sustainable ingredient brand, we are differentiating IVL in the marketplace by offering a performance-led suite of sustainable solutions that help our customers to achieve their sustainability targets, while also responding to end consumers demand for transparency and environmental responsibility. IVL's unique access to recycling sources through our own global supply chain ecosystem means we can power sustainability and support customers that are aiming to close the loop.

The **Deja™** brand platform is inspired by IVL's vision to be a world-class sustainable chemical company making great products for society. The **Deja™** portfolio, which includes sustainable PET, rPET, polymer and fiber range of products available across flake, pellet, fiber and filament ingredients, offers high performance and versatility, with a lower carbon footprint. **Deja™** solutions can be applied to a wide range of applications across the Hygiene, Lifestyle, Automotive and Packaging sectors, while meeting the exacting standards demanded by the specialist sectors.

Working throughout the supply chain, **Deja™** offers sustainability by giving converters credibility, retailers accreditation, and end consumers the assurance of transparency and high performance as standard.



DEJA™ Products Value-Added Benefits

Traceability - Full supply chain traceability across raw materials and processes.

Closed-loop - The use of post-consumer raw materials enables closed-loop applications.

Locally sourced - 100% rPET materials allow for regional supply and a low carbon footprint.

Multi-purpose - High performance and versatile material characteristics.

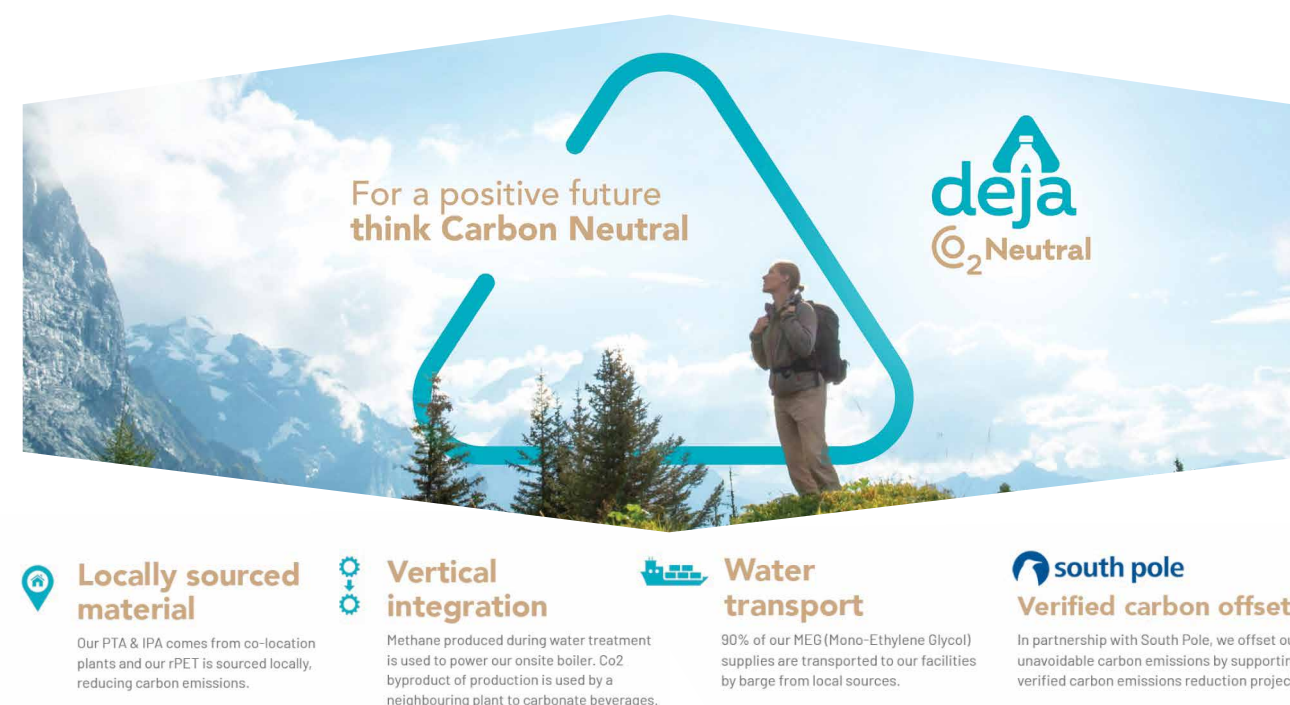


Visit **DEJA™**

Deja™ Carbon Neutral

The **Deja™ Carbon Neutral** PET pellet is our latest innovation. It has been sustainably produced throughout its supply chain and helps environmentally conscious companies to achieve their sustainability targets by lowering their Scope 3 GHG emissions.

Deja™ Carbon Neutral is a PET proposition with neutralized raw material emissions, from cradle to IVL's plant gates. The **Deja™ Carbon Neutral** pellet is produced with locally sourced materials, recycled water and a low impact transport network and where we have unavoidable emissions, we offset them to ensure our carbon footprint is reduced to neutral. It comes with an independently verified carbon neutral certification of compliance from globally established providers. Through a partnership with South Pole, a leading project developer and provider of global climate solutions, IVL offsets unavoidable carbon emissions through water and forestry stewardship projects that helps transform lives and protect the environment.



NewLife™ - Upcycling plastic into premium yarns

Newlife™ is the product of an ambitious project developed by Sinterama in creating a circular economy that significantly reduces ecological impacts. This technologically innovative platform is certified through a comprehensive production approach and offers a wide range of excellent quality, high performance recycled polyester yarns made from post-consumption plastic bottles collected in northern Italy in order to avoid deterioration of PET plastic. The production process is 100% Made in Italy and 100% traceable.

Newlife™ uses a mechanical process to transform bottles into a polymer, without the use of chemicals which could be harmful to the environment. Recycled polyester, which requires fewer processing stages, consumes less energy during the production process, resulting in a considerable reduction in carbon emissions compared with virgin polyester.

Newlife™ received the following certifications:

- **Oekotex** Cert. n° 005339.0 - Centrocot
- **Global Recycle Standard** - Textile Exchange



Visit **New Life Yarns**

Innovation Driven Growth

We believe that investments in innovation are essential to retain our competitive advantage. As of December 31, 2020, we had 17 R&D centers around the world, 173 R&D employees and 94 patents (applied and granted) in 2020 out of an overall 884 patents. Direct R&D spending in 2020 was US\$19.2 million. We continuously work to improve our systems and processes to deliver solutions that meet environmental needs and exceed customer expectations.

Vitality Index*

Fibers Business



2020
Actual **23%**
Target **22%**

Specialty PET Business



2020
Actual **35%**
Target **34%**

* Vitality Index: Revenue generated from the sales of products developed during the last five years.

Promoting and supporting innovation through our workforce, products and processes provides the foundation for which we make quality products for society. We continue to enhance customer value by foreseeing market needs, working through

Our Approach to Innovation

Our approach to innovation incorporates six categories – product innovation (linked to our vitality index above), process innovation (increasing yields through process improvements), environmental innovation (promoting sustainability through our value chain), open innovation (creating new revenue

Product Innovation



Encompasses the portfolio of products we are developing including those with pending patents. We strive to make great products for society that exceed customer requirements incur minimal environmental impacts, and prioritize cleaner and more sustainable raw materials as measured via the Vitality Index.

Process Innovation



2020 saw significant investments in the upgrading of our processes and the establishment of enabling functions. We work continuously to reduce our energy consumption, drive production efficiencies, increase our product consistency and minimize our environmental footprint.

External Collaboration



Working in partnership with diverse stakeholders is integral to developing products that exceed customer expectations.



Innovation is at the heart of a sustainable business; it can be measured in part through a vitality index which demonstrates the revenue generated from the sale of products developed during the last five years. In 2020, our Specialty PET business recorded a vitality index of 35%, exceeding our previously set target of 34%. Our Fibers business achieved a vitality index of 23%, exceeding our previously set target of 22%.

2020 Highlights

- US\$19.2 million** in direct R&D Spending
- 173** R&D Employees
- 17** R&D Centers
- 94** Patents in 2020 (applied and granted) out of overall 884 patents
- Over **300** Collaborative Projects

partnerships and maintaining a culture focused on continuous improvements. We remain leaders in integrating and promoting sustainability throughout our value chain.

streams and increasing differentiation), internal collaboration (promoting internal creativity) and external collaboration.

Below are three examples of strategic innovation approaches adopted by IVL to ensure market differentiation and responsible, thriving operations.

Benefits

Value for Our Organization

Provides clarity to the sales and marketing teams on the value of the projects and their viability.

Value for Customers

Ability to scale up projects and products while mitigating the risk of not meeting our customer's needs.

Value for Society

Integration with product stewardship, through a formal assessment of a variety of environmental and social impacts.

Innovative Product Portfolio

Our product portfolio reflects our strategic support for the circular economy, our focus on innovation and our vision of making great products for society. Our activities and targets are reflected in our climate change strategy and supported by our participation in Project Mainstream - a cross-industry, global World Economic Forum initiative that seeks to leverage the circular economy to function at scale.



Innovative Products from the FIT strategy – creating value, flexibility and sustainability

Avgol's innovative FIT strategy turns the product development cycle on its head by creating value, flexibility and sustainability for brands and manufacturers from the outset.

With the COVID-19 pandemic still dominating headlines around the world, the global environmental effort has been relegated from the top of the agenda. However, Avgol's **benefIT Control and benefIT Defence** were designed to respond to antimicrobial needs, bringing attention to both improved health and reduced environmental impacts.

The next organic step in our strategy's development lies in the latest additions to the line-up, natureFIT

(reduced environmental impacts) and formFIT (structures and resins).

One new product from the natureFIT range, natureFIT Gentle, enables more effective value-driven product development across the hygiene sector. It reduces environmental impacts in terms of resource consumption and waste generation by **lowering resin use in production by as much as 40% and incorporating the application of resin alternatives and natural additive technologies**, while simultaneously enhancing softness and conformability and maintaining all of the performance characteristics of our traditional fabrics.

Reimagine PET to enhance recyclability characteristics

Our PET resin innovation in 2020 focused on enhancing the sustainable performance across the entire value chain of our existing platforms whilst also working to reimagine PET to replace plastics that have unfavorable recyclability characteristics for a number of target applications.

A couple of current platforms where we have made substantial progress include our Oxyclear® Barrier PET and Polyclear® EBM PET resins where new designs and enhanced value propositions have been validated at scale and are progressing towards commercialization.

Credible progress has also been made with the development of new polyesters to replace recycle-challenged plastics. Effective customer and technology partnerships while leveraging global IVL resources has been a key enabler to accelerated learning and solution definition.



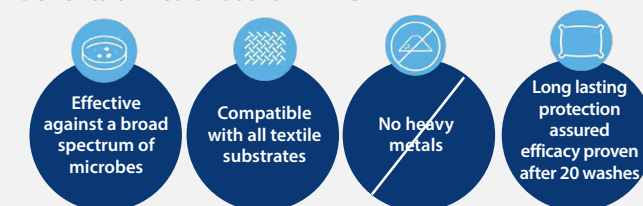
Innovation-Driven Collaborations

Collaborating for success internally and externally is an integral part of IVL's strategy and commitment to sustainability. We nurture creativity and encourage our employees to take measured risks, while teams are empowered to develop and implement new ideas in the form of prototypes for further evaluation. Innovation councils meet to assess customer needs and review new proposals and technologies.

HealthGuard® AMIC

One stand-out project in 2020 was a collaboration between **Wellman International and HealthGuard Corporation in the development of an antiviral range of polyester staple fibers. These fibers, when treated with HealthGuard® AMIC, mitigate the transmission of the SARS-CoV-2 (COVID-19) virus and offer consumers viral protection across**

Benefits of HealthGuard® AMIC

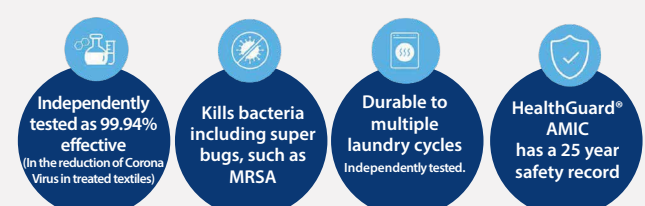


[Visit HealthGuard® AMIC](#)

Innovation, research and development also constitute key agenda items in our annual strategy meetings which draw on global input from all those involved in innovation. Our initiatives with external partners in areas such as advanced resins and fibers also enable us to remain at the forefront of wide-scale product innovation and production.

applications such as home furnishings, apparel and PPE. When applied to polyester fibers, HealthGuard® AMIC dissolves the COVID-19 virus particles on contact, rendering them non-infectious. **Testing at the Doherty Institute High Level Biocontainment Facility demonstrated that the treatment totally eliminated the COVID-19 strain virus.**

Features of Wellman HealthGuard® AMIC Fibres



Growth potential in automobile airbags – mobility business

In 2020, **Indorama Polyester Industries PCL (IPI) and Toyobo Co., Ltd. agreed to establish a joint venture firm to produce PA 6.6 yarns for automobile airbags in Thailand.** The joint venture is building a new plant at the Indorama Polyester Industries (IPI) factory site in Rayong province and is **set to commence operations in 2022.** Consistent with IVL's intention to expand in the mobility-related business, the partnership offers significant business growth



potential. The airbag market is expected to grow at 3-4% annually.

In addition to traditional fossil-based PA 6.6 yarns used for automotive applications, we have developed a more environmentally friendly alternative. Enka® Nylon BIO – bio-based high-tenacity polyamide yarns for existing technical fiber applications are particularly advantageous if yarns manufactured from bio-based polymers can be considered as so-called “drop-in” alternatives for current fossil-based products.

Product value-added benefits

- Melting temperature and glass transition temperature are at the level of PA 6.6.
- Lower density than PA 6.6.
- Picks-up less moisture providing 40% higher tensile modulus under humid storage conditions.
- 70% bio-based.
- CO₂ emission balance is almost zero.

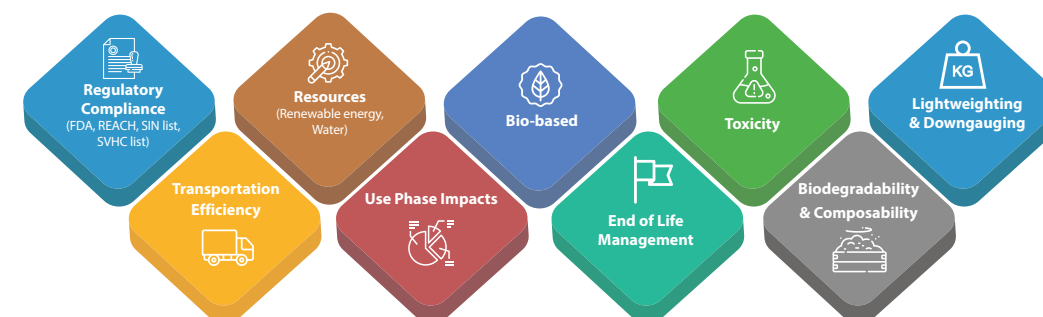
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Safe and Sustainable Products

We have an obligation to provide products that are designed, produced and sold with sustainability in mind. Our commitment to strong product stewardship starts with our raw materials and can be seen through all of the stages of our supply chain. Investing in product stewardship means improving the efficiency of our systems, developing increasingly innovative solutions and minimizing the full life cycle environmental impacts of our products where possible.

Our Approach to Product Stewardship

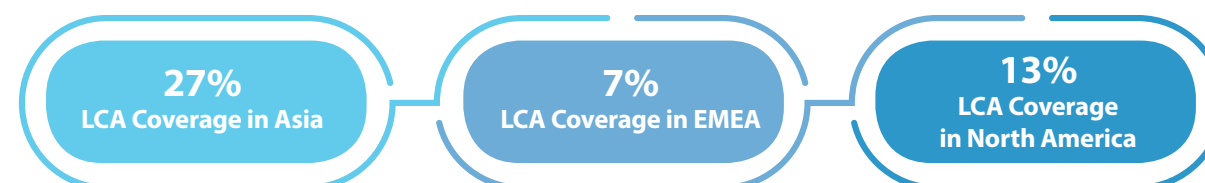
Product Design Criteria



We conduct ongoing Life Cycle Assessments (LCA) in compliance with ISO 14040/44:2006 to evaluate the environmental impacts of our products. Our operations achieved 47% global LCA coverage by volume production in 2020. We were unable to achieve our target of LCA certification due to COVID-19 pandemic restrictions.

We work with partners through the supply chain to develop products that meet stakeholder expectations, and are proud of our proactive communications. We continue to seek feedback for improvements through the lifecycle of our products.

2020 Achievement: 47% Global LCA Coverage



Ensuring Product Safety

100% of European entities were compliant with REACH regulations in 2020.

100% compliance with the **ECHA SVHC list** and proactively removing products on the SIN list.

IVL was not listed as a manufacturer of chemicals **on the SIN list** in 2020.

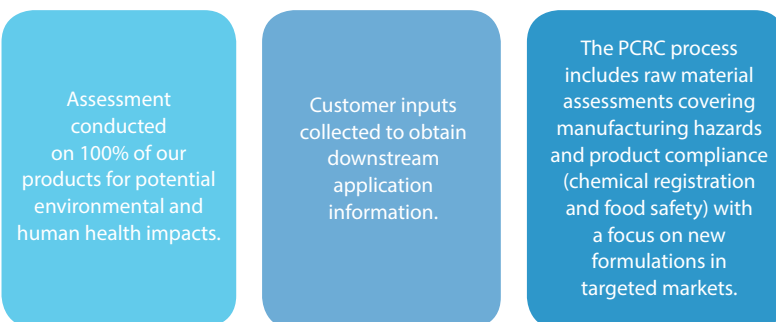
We have stringent processes and procedures in place to monitor chemicals and other substances used in our operations. Our target remains zero violation of domestic and international regulations and zero use of any substance of very high concern (SVHC). Any volatile substance that may be present from the SVHC list or the Substitute it Now (SIN) list and that may present a risk to health or the environment is monitored and managed via strict controls.

We comply with the European Chemicals Agency (ECHA)'s SVHC list and work hard to continue removing products on the SIN list. We closely assess our raw material streams to ensure compliance with SVHC updates and provide educational materials to our consumers on the nature of SVHCs. For example, a substance that may appear on the SVHC list in raw form poses no threat to product safety once converted to its final form.

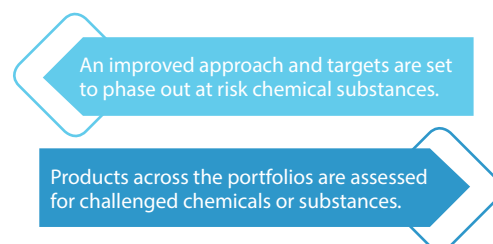
IVL's Product Safety Mechanisms

Product Safety Mechanisms

Product Compliance Risk Characterization (PCRC) Process



Management of Hazardous Chemicals/Substances



For the first time in 2020, IVL was ranked second with a grade of B-.

ChemScore ranks the world's top 35 chemical companies on their work to reduce their chemical footprint and boost investments in safer and greener alternatives. The ranking was developed to provide investors with better information to assess which companies have strong chemical management strategies.

The ranking is based on four categories:

1. Hazardous product portfolios
2. Development of safer chemicals
3. Management and transparency
4. Impacts and controversies



ChemScore
Report 2020

iCare™ Heavy Metal-Free PET Fibers

Global awareness of the potential dangers in consumer products is increasing. Consumers are calling for more stringent safety standards, and governments, consumer safety organizations and testing agencies are tightening requirements. Though no safety risk has been proven, some substances have been termed as 'Substances of Interest' (SOIs). As fiber-based products associated with intimate hygiene products may have SOIs, IVL responded to customer anxieties by developing a heavy metal-free PET fiber.

iCare™ heavy metal free polyester is an IVL product produced at Indorama Polyester Industries (Thailand). Trevira (Germany), also produces Antimony Free Polyester Fibers. These products are available as filament yarns, polyester chips and staple fibers. iCare™ PET is compliant with the Toxic-Free Future Initiatives and has diverse applications across food packaging, personal care, home textiles and in the medical field.



A Safe and Sustainable Product Portfolio

Newlife™ - a premium yarn with a sustainable identity

For More
Information



Newlife™ is an ambitious project developed by Sinterama. This technologically innovative platform is certified through a comprehensive production approach and offers a wide range of excellent quality, high performance recycled polyester yarns, made from post-consumption plastic bottles collected in northern Italy.

Newlife's life cycle assessment was recently conducted by ICEA – Istituto per la Certificazione Etica e Ambientale (Institute for Ethical and Environmental Certification) which inspects and certifies firms that respect the environment, workers' dignity and collective rights.

ICEA provides organic producers with certification that is valid for the global market, recognized by foreign certification bodies and accredited by national and international institutions such as GOTS and the Textile Exchange.

According to a study carried out by ICEA using the LCA methodology in compliance with ISO 14040 and ISO 14044, producing one kilogram of Newlife™ allows for savings in consumption of energy resources and CO₂ emissions, compared to virgin polyester fibers production, that amount to:

	Consumption of energy resources	Global warming potential	Water consumption (*)
Newlife™	50.6 MJ	3.88 kg CO ₂ eq	3.26 Litres
Virgin PET Fiber	127.2 MJ	5.7 kg CO ₂ eq	60 Litres
Saving	- 60%	- 32%	- 94%

* Water consumption is referred to the production of 1 kg. of recycled polymer, and is compared with the data of 1 kg. of virgin PET taken from "Eco-profiles and EPD of the European Plastics Manufacturers - Polyethylene Terephthalate (PET) Bottle grade, Plastics Europe 2011."

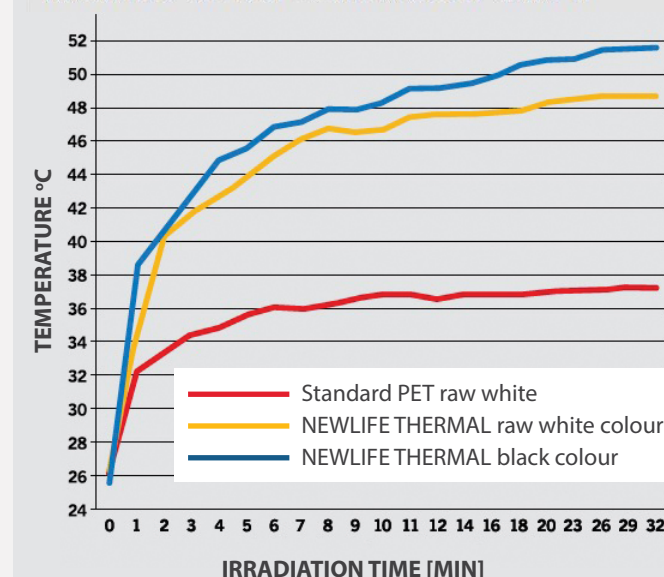


NEWLIFE THERMAL is an eco-friendly – comfortable and high-tech yarn from the "Smart Polyester" range recently launched by Sinterama Group, subsidiary of IVL, to produce special thermal fabrics with comfort performance. The concentration of heating emissions allows this special product to reach exclusive technical features and performance for use in outdoor, sports and workwear clothing.

NEWLIFE THERMAL

- 100% mechanically recycled polyester yarn, certified and fully traceable.
- Thermo insulating in its performance.
- Available in customized colors yet maintaining mechanical properties despite the yarn dyeing process.

WARMING EFFECT COMPARISON GRAPH



Trevira Sinfineco

Trevira manufactures high quality branded polyester fiber and filament yarns for the hygiene, technical, home textiles, apparel and automotive sectors. As the parent company, IVL works closely with Trevira in developing innovative solutions and responses to customer demands for cleaner, more sustainable products. Regranulate chips from IVL's recycled PET bottles comply with the Global Recycled Standard (GRS) and Recycled Claim Standard (RCS-NL); Trevira processes these chips and transforms them into 100% recycled filament yarns. This collaboration demonstrates a highly efficient and sustainable partnership.



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Creating Strong Customer Relationships



IVL is one of the world's leading chemical manufacturing companies. Our polyester value chain demonstrates significant scale, integration and differentiation, allowing us to manage complexity and deliver a sustained return on investment.

What we offer

IVL Products

PET, PTA, EG
PET, PEO, Surf., Hygiene Fibers
Oxyfuels, Surfactants
Mobility Fibers, Lifestyle Fibers
Lifestyle Fibers
Lifestyle Fibers, PO, PEO
PET, NDC

End uses and IVL CoMa share²

IVL CoMa share ³		
	F&B Packaging	48%
	HPC & Hygiene ¹	20%
	Oil & Gas	1%
	Automotive parts	10%
	Apparel	6%
	Housing & Construction	5%
	Electrical & Electronics	3%

Notes: (1) Home, Personal Care and Hygiene products; hygiene products include baby diapers, adult incontinent, feminine care products, disposable wipes, as well as medical applications (e.g., masks and gowns).

(2) CoMa (Contribution Margin) based on IVL 2020A; above end-market represents 94% of IVL's portfolio; 6% are others.

(3) 2020A

Our Approach to Customer Relationships Management

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Through our regular two-way communications, we are able to better understand market dynamics and develop sustainable products based on our customers' needs making us a key competitor and leader in the industry.

Strong customer satisfaction is essential for a profitable and sustainable business. Every year, we conduct a customer satisfaction survey as part of our group sustainability strategy, designed to assess customer needs, expectations and satisfaction with our products. We systematically seek feedback across all business interactions and at all levels from our customers. It comprises 22 focus areas incorporated within six overarching factors. Responses are analyzed and reported through our Feedstock, PET, Fibers, Packaging, Wool, Recycling and IOD segments, and recommendations are incorporated into an ongoing improvement cycle.

In 2020, our Customer Satisfaction Index (CSI) reached 86.16%. Our overall Customer Retention Rate (CRR) score - which measures the number of customers. We continued to do business with throughout 2020 was at 92%. We are analyzing the results of these indices for root causes and are identifying areas for improvement in support of our core value to be a preferred supplier. We will also continue to integrate the future requirements and expectations of our customers into our business plan.

In addition, we also track our Net Promoter Score (NPS), a globally recognized metric which measures customer loyalty and the likelihood of recommending our products and services to others. Participants in the study have the opportunity to provide detailed qualitative feedback.



Results of the annual NPS are closely analyzed including in relation to our competitors, and trends over time are monitored. We consolidate or improve on any issues raised accordingly by adapting our CRM approach and monitoring our business performance. In 2020, our NPS was 57, demonstrating a 5.6% improvement from 2019.

In 2020, there are no incidents of non-compliance concerning:

- Marketing communication
- Health and safety impacts of products
- Breaches of customer privacy and losses of customer data

2020 Customer Satisfaction Index (CSI), Customer Retention Rate (CRR) and the Net Promoter Score (NPS)

2020 Target : CSI ≥ 86%
IVL Overall

2021/2022 Target : CSI ≥ 86%

2020 Actual :
IVL overall



Business Segments



CSI **85.67%**
CRR **93%**

Wool



CSI **86.51%**
CRR **95%**

PET



CSI **84.81%**
CRR **94%**

Packaging



CSI **85.86%**
CRR **93%**

Fibers



CSI **88.35%**
CRR **93%**

Feedstock



CSI **87.13%**
CRR **91%**

Recycling



CSI **84.76%**
CRR **85%**

IOD

Customer satisfaction measurement covered **100%** of global operations