LIVING SUSTAINABILITY. TOGETHER.

SUSTAINABILITY REPORT 2020

INEOS STYROLUTION

Driving Success. Together.

TABLE OF CONTENTS

OVERVIEW 02

MESSAGE FROM OUR CEO 03
BOARD MEMBERS' VIEW 04

OUR COMMITMENT TO SUSTAINABILITY 05

SHAPING THE FUTURE WITH SUSTAINABLE STYRENICS 19

ENSURING SAFE AND RESOURCE-EFFICIENT OPERATIONS 33

UPHOLDING SAFETY AS OUR CORE VALUE 34
REDUCING OUR ENVIRONMENTAL FOOTPRINT 39

52 VALUING OUR PEOPLE

ENGAGING AND DEVELOPING OUR EMPLOYEES 53
DRIVING SUSTAINABILITY ALONG THE VALUE CHAIN 59
SUPPORTING THE COMMUNITIES IN WHICH WE LIVE AND WORK 62

65 MANAGING OUR BUSINESS RESPONSIBLY

ENSURING FAIR BUSINESS PRACTICES 66
MAKING SUSTAINABLE GROWTH A REALITY 70

75 ANNEXE

ABOUT THIS REPORT 75
OUR MATERIAL ASPECTS & BOUNDARIES 76
GRI INDEX 77
EXTERNAL ASSURANCE 87

MESSAGE FROM OUR CEO

2020 was an extraordinary and challenging year. The COVID-19 pandemic changed the world and impacted people's lives in ways we could never have imagined. The unprecedented level of suffering and uncertainty magnified the interlinkages between environment, society, economies, safety and wellbeing. However, it also was an opportunity for companies to prove their business resilience and adapt to more sustainable ways of working, striving towards meeting the UN Sustainable Development Goals (SDGs).

The pandemic reminded us how critical plastics are to nearly every sector of the economy, especially food packaging and healthcare. Our company was deemed to be business-essential and continued to operate during the pandemic in most regions.

> *"We were awarded a platinum rating by EcoVadis in 2020, which places us in the top 1% in the category of plastics manufacturers. We will continue to deliver long-term, positive change for our customers, our communities, our investors and our society.*

Our styrenics products have helped in the fight against COVID-19 and are being used to produce safety and medical equipment such as detection kits, respiratory devices, safety goggles, face shields and disinfectant dispensers.

Despite the challenges of the past year, we continued to deliver a strong financial performance as well as progress on our environmental, social, and governance (ESG) initiatives.

We refreshed our materiality assessment to make sure that the sustainability topics we identified are important and relevant to our stakeholders. We worked closely with our parent company INEOS, our customers, and value chain partners to drive the shift to a circular and low-carbon economy for styrenics.

To drive this shift and avoid downcycling, we believe that the quality and performance of sustainable products should be on par with conventional materials. Therefore, we scaled up our mechanical and advanced recycling activities and identified renewable sources of feedstock to reduce our carbon footprint. This helped us expand our ECO portfolio and create more products with recycled and renewable content, with the same high-quality, high performance and property profile of our conventional solutions.

> *"We believe that the quality and performance of sustainable products should be on par with conventional materials. Therefore, we scaled up our mechanical and advanced recycling activities and identified renewable sources of feedstock to reduce our carbon footprint.*

We were awarded a platinum rating by EcoVadis in 2020, which places us in the top 1% in the category of plastics manufacturers. We are pleased with this recognition, which was only possible due to the shared vision and dedication of our colleagues across the globe. We will continue to deliver long-term, positive change for our customers, our communities, our investors and our society.

In this report, you will learn about our sustainability ambitions and performance.

These include initiatives to move to circular solutions and reduce the carbon footprint of our company and our products. We also continue to ensure the safety of our workforce, foster talent, develop our staff, improve the local communities, and of course, do all this while upholding the highest ethical standards. On behalf of everyone at INEOS Styrolution, we thank you for your trust and welcome your feedback to the report.

Sincerely yours,

Steve Harrington
CEO INEOS Styrolution

BOARD MEMBERS' VIEW

With every decision we make, we prioritise the safety and well-being of our people, our communities, and the environment. We have a continued relentless agenda to improve and learn, with the ultimate goal of achieving zero injuries, zero spills, and zero incidents. We are also taking steps to reduce our carbon footprint by integrating renewable sources of energy as well as improving resource efficiency across our production sites.

PIERRE MINGUET
President Operations

Finance is an integral part of our sustainability efforts and we are seeing increasing relevance of sustainability performance in our operations and investments. We are dedicated to meeting the expectations of our stakeholders including investors, financial experts and rating agencies to address sustainability in all our business areas.

MARKUS FIESELER
Chief Financial Officer

Our customers are looking to us for sustainable offerings for their applications, ranging from using recycled materials at the outset or making them recyclable after use. In addition to creating new products containing a significant percentage of recycled material from post-consumer recycling schemes, we are improving our supply chain to ensure access to these recycling sources. We are working hard to provide our customers with innovative, best-in-class solutions that support their sustainability objectives.

ROB BUNTINX
President Asia-Pacific*

We have expanded our ECO product portfolio to include polystyrene and ABS products made with recycled content as well as specialty products made using renewable raw materials. This will allow our customers to benefit from circular, low-carbon solutions while meeting their own sustainability goals.

ALEXANDER GLÜCK
President Europe Middle East and Africa*

Styrenics are circular. We have made significant progress in scaling-up existing technologies that enable the circularity of polystyrene as well as our other polymers. But we don't stop here. We are collaborating with technology providers along the value chain, recyclers, governmental authorities, and most importantly with our customers to enable a circular economy for all our styrenics products.

GREG FORDYCE
President Americas*

*These positions were effective August 1, 2020.

OUR COMMITMENT TO SUSTAINABILITY

We are determined to deliver circular, low-carbon styrenics that are safe and sustainable for our customers and end-users. To achieve this, we collaborate closely with our entire value chain.

INEOS STYROLUTION AT A GLANCE

INEOS Styrolution is the leading global styrenics supplier with a focus on styrene monomer, polystyrene, ABS* standard and styrenic specialties. As of December 31, 2020, the company operated 20 manufacturing sites in Belgium, Canada, China, France, Germany, India, Mexico, South Korea, Thailand, and USA, with six R&D centres and 24 sales offices around the globe.

INEOS Styrolution has four headquarters around the world – the global and EMEA headquarters for specialties in Frankfurt am Main, Germany, the EMEA headquarters for commodities and standard products in Rolle, Switzerland, the American headquarters in Aurora, USA, and the Asia-Pacific headquarters in Singapore.

* Acrylonitrile Butadiene Styrene

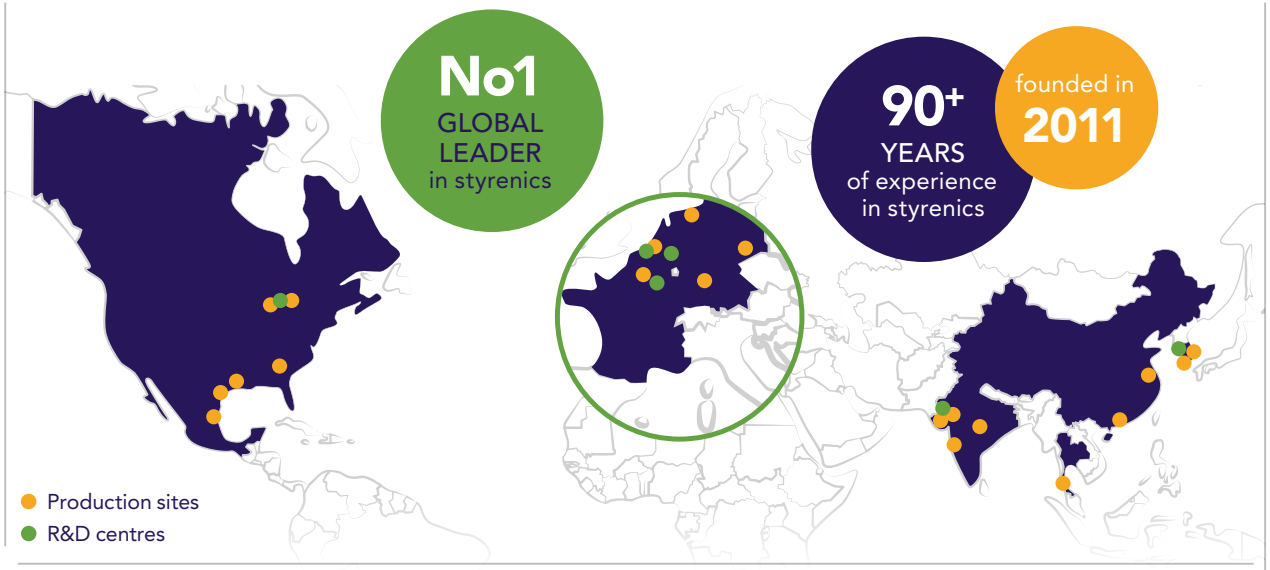
3,500+ EMPLOYEES

10 COUNTRIES

20 PRODUCTION SITES

6 R&D CENTRES

24 SALES OFFICES

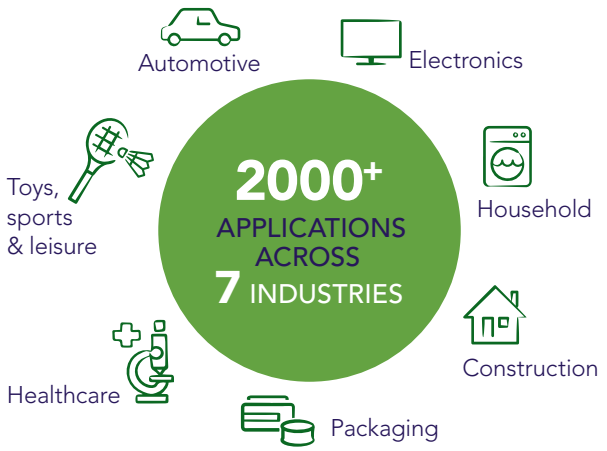


approx.
1,000 PATENTS

4,000+ CUSTOMERS

1,500+ PRODUCTS

3,474 KILOTONNES
of styrene monomer, polysterene, ABS standard & styrenics specialities sold



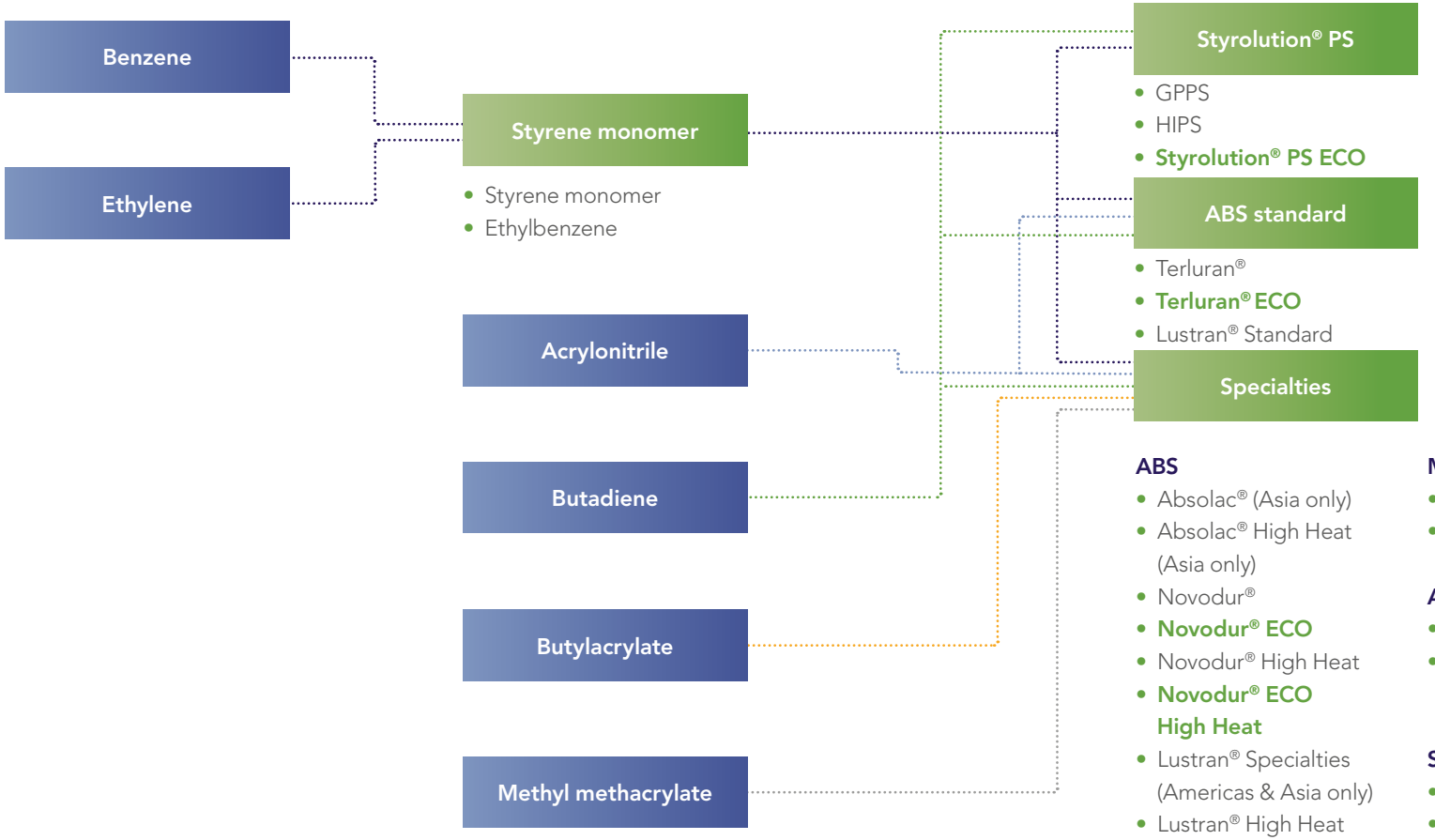
4 BILLION EUROS IN REVENUE

4.2 BILLION € total assets

1.7 BILLION € total equity

2.5 BILLION € total liabilities including financial indebtedness

OUR PRODUCT SCOPE IN THE STYRENICS VALUE CHAIN



INEOS STYROLUTION ECO

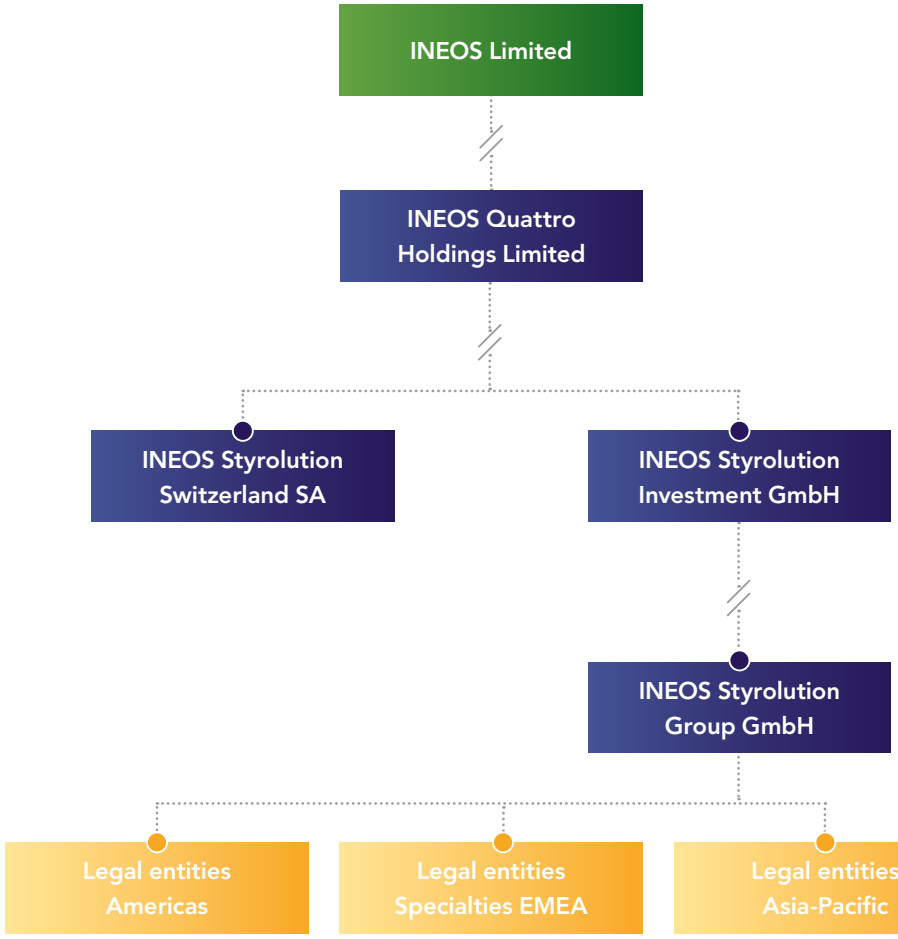
Our product portfolio now includes INEOS Styrolution ECO, our family of sustainable products. It comprises products made from post-consumer recycled material as well as renewable feedstock and complements our existing strong portfolio of styrenics standard products and specialties.

Purchased by INEOS Styrolution

Produced by INEOS Styrolution

OWNERSHIP

INEOS Styrolution is wholly owned by INEOS Limited.



SIGNIFICANT CHANGES TO THE ORGANISATION

Effective July 1, 2020, Steve Harrington was appointed as the company's Chief Executive Officer. Prior to this, he was President Asia-Pacific and Global Styrene Monomer for INEOS Styrolution. He succeeds Kevin McQuade, who was appointed Chairman of INEOS Styrolution effective July 1, 2020.

Alexander Glück, former President Americas was appointed President Europe, Middle East and Africa. Rob Buntinx, former President Europe, Middle East and Africa was appointed President Asia-Pacific. Greg Fordyce, former Vice President, Supply Chain Americas, was appointed President Americas. All these positions were effective August 1, 2020.

OUR SUSTAINABILITY FOCUS

We intend to operate and develop our business in a way that balances our current and future needs, considering economic, environmental, and social factors so that we can sustain and further grow our business in the long term.

We were awarded the Platinum rating by EcoVadis for our performance, confirming our rank in the top 1% of companies assessed in all four categories: environment, labour & human rights, sustainable procurement, and ethics.

Our focus industries are driven by sustainable megatrends such as …

DEMOGRAPHIC CHANGE
DIGITALISATION
CLIMATE CHANGE
UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS
RESOURCE SCARCITY
CIRCULAR ECONOMY
ENERGY EFFICIENCY
RISING LIVING STANDARDS IN EMERGING AND DEVELOPING COUNTRIES
MARINE LITTER
URBANISATION
RECYCLING
SAFE & SUSTAINABLE PRODUCTS
LOW-CARBON

Our vision

To be recognised as the global leader in sustainable styrenics solutions

Our mission

To utilise our entrepreneurial culture to deliver long-term value to our customers and stakeholders. We do this by operating in a safe, environmentally and socially responsible manner to provide sustainable styrenics solutions across the full lifecycle of our products.

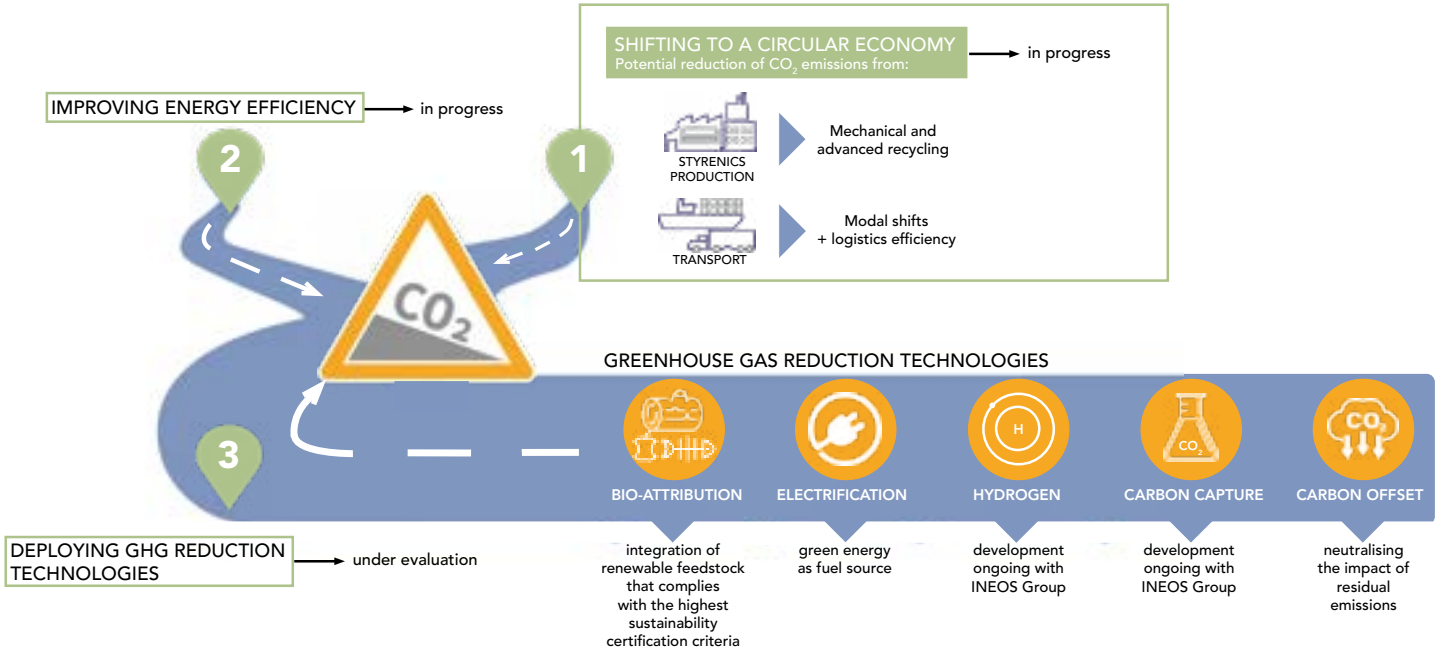
OUR APPROACH

Styrenics are essential to creating a safer, healthier, and more sustainable way of life. Styrenics provide solutions to global societal challenges such as resource scarcity, urbanisation, rising living standards and population growth. More versatile than glass, paper, wood, or metal, styrenics meet our needs with less material input and less energy consumption during production – ensuring a lower carbon footprint. Its light weight and durability help reduce the weight of cars, which results in reduced fuel use. It insulates buildings, contributing to lower energy consumption. Packaging made from styrenics is safe and hygienic and helps to reduce food waste by preserving food and significantly extending its shelf life. Some of our plastic products have become even more indispensable in the fight against COVID-19. Our styrenics materials are being used to produce safety equipment such as safety goggles, face shields and disinfectant dispensers as well as medical and surgical devices such as COVID-19 detection kits, intubation devices, infusion sets and blood pressure monitors. Polystyrene is not only a versatile, aesthetic, and durable material, it is also one of the most recyclable polymers and can be recycled using different technologies.

OUR ROADMAP TO A CIRCULAR, LOW-CARBON ECONOMY

We are taking a stepwise approach to accelerate the transition to a circular, low-carbon economy.

Our road map to a low-carbon economy



Adapted from: "Mission Possible" by Energy Transitions Commission

Shifting to a circular economy:
As a first step, we are working to close the loop at the end-of-life phase of our products. We recognise that recycling is the core of a circular economy. Therefore, we have invested and will further invest in mechanical and advanced recycling of our polystyrene and ABS products, which will significantly reduce our carbon emissions, reduce waste, and keep valuable materials in use for longer. On the one hand, we have recycling processes with a lower greenhouse gas footprint compared to virgin feedstock; on the other hand, we avoid end-of-life treatment and allow for multiple recycling rounds. Moreover, we collaborate with the entire value chain including sorters and recyclers to ensure a consistent, high-quality supply of post-consumer styrenics that we can recycle.

Low-carbon logistics:
To keep the environmental footprint of our products low, we reduce the impact caused by transportation. Therefore, we rely on an intermodal distribution model of trains, ships, and trucks to find the most efficient route to distribute our products. As we have production sites worldwide, we are able to serve our customers from closer locations, which helps minimise intercontinental transport. We favour the use of rail and sea transport, rather than road-based transport and encourage our customers to order in bulk when possible, to further lower our transport footprint.

Improving energy efficiency:
Styrenics products are lightweight, durable and weather-resistant, making them a longer-lasting and energy-efficient alternative to other materials. We are incrementally improving our operations by efficiently using raw materials and optimising of our production processes. In addition, we invest in technology upgrades at our manufacturing sites and implement energy reduction projects as part of our operational excellence programmes. We are also in discussions with a technology provider to reduce the footprint of our suppliers' steam crackers and further optimise our distillation plants by 2025.

Deploying GHG reduction technologies:
We now offer the integration of renewable feedstock as a replacement for fossil fuel that complies with the highest sustainability criteria. This bio-attributed approach uses fewer fossil resources and has 50% to 90% lower greenhouse gas footprint (depending on the feedstock and polymers) when compared to styrene produced by fossil fuel. This allows us to reduce fossil fuel consumption as well as save GHG emissions. In comparison with certain types of biopolymers (which although bio-based, are not always recyclable), this approach supports the use of bio-feedstock as a drop-in solution in highly optimised, large-scale petrochemical installations to produce circular solutions such as recycled polystyrene and ABS.

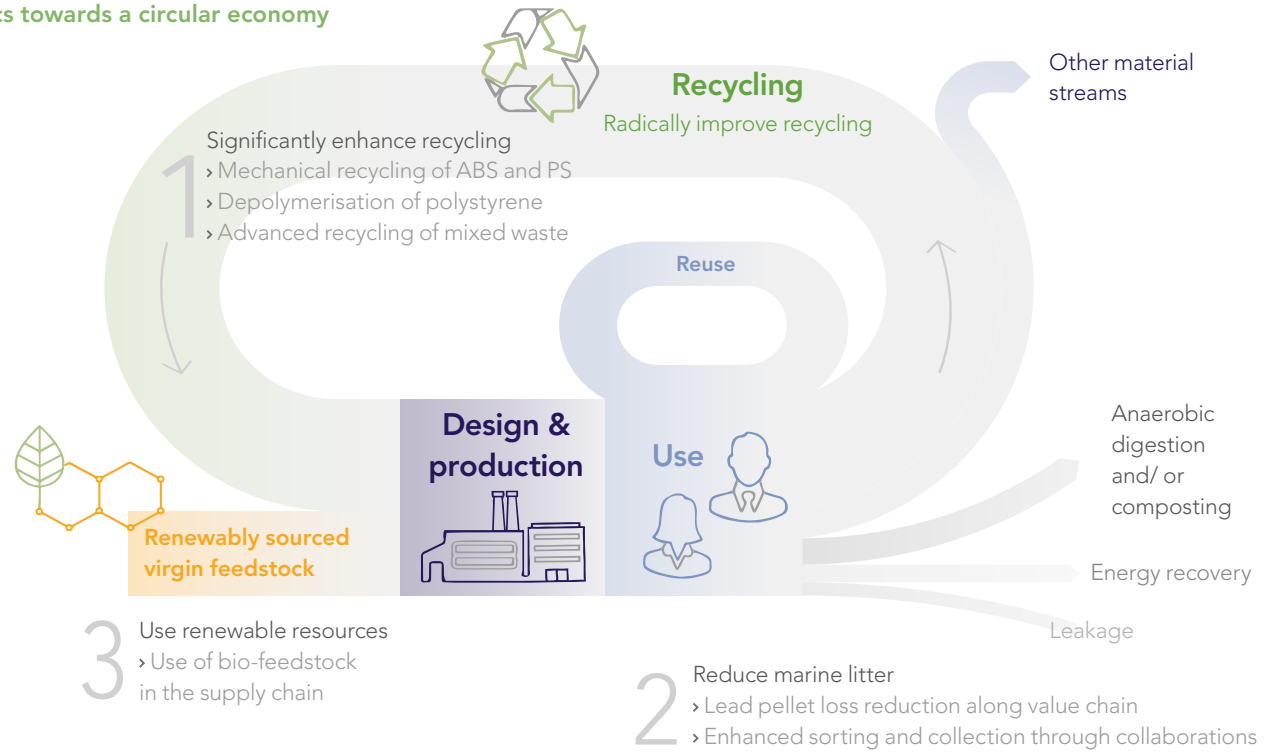
Today, part of our electricity consumption is already based on renewable energy. Antwerp, our largest manufacturing site, has switched its full power usage to renewable energy produced by an offshore wind park in the North Sea. This transition to renewable energy will reduce more than 60,000 tonnes of indirect carbon emissions a year, a reduction equivalent to the power used by about 17,000 average households.

Our parent company, INEOS, has launched a new clean hydrogen business to accelerate the drive to zero carbon emissions. Together with the INEOS Group, we are looking at new technologies such as carbon capture and utilisation as well as using increasing amounts of hydrogen in our furnaces to reduce carbon emissions. The use of carbon offsets for residual emissions is our last option.

As this is the beginning of our journey to a low-carbon economy, some technologies are still in the initial stages, while some technologies are more mature, yet requiring further development. However, we believe this is the only way forward.

While major steps are now being taken to close the loop and provide circular plastics, reducing our carbon footprint in the medium term is part of our sustainability agenda. We are therefore preparing a roadmap to significantly reduce our carbon footprint by 2030.

Contribution of styrenics towards a circular economy



CONTRIBUTION OF STYRENICS TO A CIRCULAR ECONOMY

We are accelerating our circularity agenda by upscaling our recycling approaches for ABS and polystyrene, investing in polystyrene deploymerisation plants, collaborating on other advanced recycling approaches, and integrating renewable feedstock in our products. We are determined to pursue this agenda until we have recyclable and recycled content in all our products.

OUR AMBITIOUS COMMITMENT

We have committed to achieving the following five ambitious targets that were set by our parent company, INEOS, for 2025. This includes, amongst others, our pledge to use on average 30% of recycled content in products destined for polystyrene packaging in Europe, incorporate recycled material into our products and ensure 100% of our polymer products can be recycled.

Instead of only using virgin raw materials to manufacture products that could end up as waste, we see an opportunity in converting this plastic waste into raw materials for the plastics industry, making the value chain circular. Together with several technology providers, we have proven the technological and economic feasibility of polystyrene depolymerisation and upscaling is underway.

In addition, we show that the greenhouse gas (GHG) emissions are significantly lower when compared to fossil-based production and have additional significant end-of-life savings.

LIFE CYCLE ASSESSMENT: UNDERSTANDING THE FULL IMPACTS AND COSTS

To be able to understand how sustainable a material is, we need to not only look at a product's use and "after-life". We need to look at the entire product cycle and account for all energy, raw materials and emissions used to make the product. Only then can we understand a product's true footprint and explore ways to minimise it.

We undertook two life cycle assessments (LCAs) of our polystyrene recycling process to compare the GHG footprint of recycled polystyrene versus virgin polystyrene. Initial results of the German government-funded ResolVe project and an internal GHG calculation study predict CO_2 equivalent emission savings between 37% and 50%, respectively. Both these studies rely on assumptions and the best available data and are thus open to some inaccuracy.

Styrenics Circular Solutions (SCS), of which we are a founding member, has also conducted a comparative life cycle assessment (LCAs) study into three different recycling technologies: mechanical recycling, depolymerisation (monomer recycling) and dissolution. All three technologies confirmed significant CO_2 savings for recycled food-quality polystyrene.

We also have a whole portfolio of carbon footprint data on multiple grades and a whole range of feedstock sources. By including input from recyclers and renewable feedstock producers, we have been able to explore a wide range of possible feedstock combinations and how they affect the carbon footprint of the final products.

By 2025, our parent company INEOS will:

… use, on average **30%** **recycled content in products** destined for polystyrene packaging in Europe

… incorporate at least **325 kt/a** **of recycled material into products**

… deliver **900 kt/a** vinyl recycling by our leadership of **VinylPlus programme**

… ensure **100%** of polymer products can be recycled

… offer a **range of polyolefin products** for packaging applications in Europe containing **50%** or more recycled content

OUR SUSTAINABILITY TEAM AND WORKING STRUCTURE

We have a dynamic team that manages our sustainability efforts across all our business areas. For each business area listed below, we have established a work stream staffed with global and regional experts, driving the implementation of our sustainability programme. The responsibility for steering and aligning our company-wide sustainability strategy lies with our steering committee, chaired by management board members. The steering committee sets targets, gives strategic guidance, creates, and implements initiatives and ensures top management backing.

In addition to the company's sustainability steering committee and central decision structure, we use existing regional and global structures to share information and make decisions related to sustainability topics. We are also working closely with the wider INEOS Group, and share relevant information and exchange best practices such as through INEOS' Climate and Energy Network (CEN).

DETERMINING WHAT IS MATERIAL

We undertook a materiality assessment in 2021 in order to implement an effective approach to sustainability management and to ensure that our sustainability strategy addresses the expectations of our stakeholders.

We examined external benchmarks, current trends, and developments, and then preselected the topics that we deemed most important for our stakeholders as well as most relevant to our business. External and internal stakeholders were identified based on their impact on our business operations and their knowledge of our business activities. All our key stakeholders represented a wide variety of functions, regions, and business segments. The selected internal and external stakeholders then reviewed and prioritised ten relevant sustainability topics.

We then developed key performance indicators (KPIs), targets and actions for the material topics that have been ranked as having a high impact by us and of high importance to our stakeholders in order to measure our progress qualitatively and quantitatively.

We use the materiality assessment findings to prioritise the sustainability topics in our report so that it responds to our stakeholders' needs and expectations. We will review this with our stakeholders every three years to confirm relevance and appropriateness.

Our material topics

- Health & safety
- Human rights & ethics
- Low-carbon economy
- Emissions
- Advanced recycling
- Mechanical recycling
- Design for sustainability
- Safe & sustainable products
- Sustainable procurement
- Marine litter & pellet loss

THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

The United Nations Sustainable Development Goals (UN SDGs) are essentially a materiality assessment of our planet and lay out a path to end extreme poverty, address inequality and injustice, and protect the earth. These goals provide guidance and direction on sustainable development for both industry and society. We strongly believe that we can contribute positively to these goals through our concerted sustainability actions. We prioritised focusing our efforts on the SDGs where we could make the most impact.

OUR PRIORITY IS TO ADDRESS SDGs 9, 12, 13, 14 AND 17.

AS PART OF OUR EFFORTS TO ENSURE A SUSTAINABLE BUSINESS, WE ALSO ADDRESS SDGs 3, 4 AND 8.

MAPPING OUR MATERIALITY TOPICS TO THE UN SDGs

	3 GOOD HEALTH AND WELL-BEING	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	17 PARTNERSHIPS FOR THE GOALS
Health & safety	✔						
Human rights & ethics		✔					
Low-carbon economy					✔		
Emissions				✔			
Advanced recycling			✔				✔
Mechanical recycling			✔	✔			✔
Design for sustainability			✔				
Safe & sustainable products				✔			
Sustainable procurement				✔			
Marine litter & pellet loss				✔		✔	✔

In addition to the United Nations SDGs, as part of the INEOS Group, we also support the 10 principles of the United Nations Global Compact (UNGC).

SUSTAINABILITY HIGHLIGHTS

Here is a selection of our key achievements that demonstrate our sustainability performance in our key focus areas.

RESPONSIBLE PRODUCTS

World's first **specialty styrenics** material made using **renewable feedstock** introduced

Life cycle assessments to calculate **carbon footprint** of depolymerisation conducted

EU-funded project to demonstrate production of ABS from **recycled styrene** commenced

SAFETY

Total case injury rate (TCIR) of **0.19**

RESPONSIBLE OPERATIONS

8.1% **reduction in** specific greenhouse gas emissions compared to 2014

Audits for **bio-attributed** offerings conducted in Antwerp

OVERALL

EcoVadis platinum rating

SUSTAINABLE PROCUREMENT

100% of buyers **trained** on sustainability in 2020

80% of total **supplier spend** third-party assessed by 2020 (81.9% achieved)

Sustainability included as a key component programme by 2020 in **supplier excellence**

FAIR BUSINESS PRACTICES

Biennial training of entire active employee base on **Code of Conduct**

SUSTAINABILITY TARGETS AND ACTIONS

We committed ourselves to short-term and medium-term global sustainability targets and actions covering key focus areas of our business. Here is an update of our progress in the past year.

RESPONSIBLE OPERATIONS

Develop a global strategy to **reduce GHG emissions by 2030**

Conduct **Operation Clean Sweep® audits for all sites** by 2021

SAFETY

Continually improve our company's **safety performance**

Annual total case injury rate **(TCIR) of 0.25**

RESPONSIBLE PRODUCTS

Offer **30%** recycled polystyrene content in plastic packaging in Europe by 2025

Scale up commercialisation of **recycled ABS** products

Introduce **mechanically recycled polystyrene** to the market (by 2021 in Europe, and 2022 in Americas and Asia)

Improvement of the **sustainability portfolio management tool** by 2022

Offer **recycled-attributed and bio-attributed products** by 2022

FAIR BUSINESS PRACTICES

Conduct **biennial training** of entire active employee base on **Code of Conduct** by 2021

Conduct online training on **anti-bribery, anti-corruption, and anti-money-laundering** in 2021

Conduct **online training** on **antitrust** in 2021

SUSTAINABLE PROCUREMENT

Ensure that all strategic suppliers commit to our **Supplier Code of Conduct** by 2022

Train **100%** of buyers on sustainability in 2021

Secure sufficient feedstock to ensure upscaling of more than **5000 tonnes of ECO products** by 2021

RELIABLE EMPLOYER

Conduct **employee survey** for the entire workforce in 2021

Launch 1st **succession planning** cycle via SuccessFactors in 2021

Implement **global payroll system** via SuccessFactors by 2024

STAKEHOLDER DIALOGUE

Engaging stakeholders and developing meaningful partnerships with them over time is essential for our long-term business success. We realise that regular, open, and proactive dialogue with all relevant stakeholders helps us to understand their perspectives, expectations, key issues, and needs. In this way, we are able to integrate them into our business decision-making processes wherever possible, ensuring that our strategy addresses the issues that are important to them. Dialogue with stakeholders gives us the opportunity to explain our clear and committed approach to sustainability as well as the value of our work, and our products and services for society.

We have identified our key stakeholders as those who contribute to our economic, social, and environmental performance. These stakeholder groups comprise our customers, suppliers, employees, investors, financial experts and rating agencies, local communities, technology partners, industry associations, NGOs, universities, scientific institutions, and value chain partners such as waste sorters and recyclers.

We hold membership in national and international industry associations, such as the European Chemical Industry Council (cefic), PlasticsEurope, Styrenics Circular Solutions (SCS), Circular Plastics Alliance (CPA), the Styrene Information & Research Center (SIRC), Foodservice Packaging Institute (FPI), the Chemistry Industry Association of Canada (CIAC), the World Plastics Council, the Roundtable for Sustainable Biomaterials (RSB), as well as local community advisory panel organisations in Canada, Mexico and USA.

Our employees are passionate and committed to making the company a sustainability leader. They are keen to learn, understand and support our sustainability approach and initiatives, and become ambassadors in their peer groups inside and outside of the company.

Therefore, we set up an integrated concept that puts sustainability on the agenda of group and regional conferences, management, and sales meetings, as well as town hall events. In addition, we have rolled out internal communication activities via multiple channels, to openly inform colleagues on our programme, initiatives and progress and to establish a feedback channel for all employees to make sure they have the opportunity to contribute and make their voice heard.

STAKEHOLDERS	METHODS OF ENGAGEMENT	KEY TOPICS
Investors, financial experts & rating agencies	Quarterly disclosures, sustainability report, annual investor days, investor relations releases	Strategy, performance, market and corporate developments, sustainability
Customers	Innovation workshops, sustainability report, customer meetings, direct engagement, industry trade group meetings	Strategy, performance, sustainability, product quality, safety and reliability (safety data sheets)
Suppliers	Direct engagement, assessments and audits	Product quality, safety and reliability, sustainability
Employees	Group & regional conferences, town hall meetings, work council meetings, workshops, management board briefings, sustainability report, intranet, eMagazines, newsletters, training sessions, webinars, anonymous 24/7 hotline	Strategic initiatives, business performance, policies, IT security, new developments, personnel changes, R&D, innovation, sustainability, health and safety
Industry associations	Memberships, direct engagement, task force & working group engagements, dialogue, conferences, workshops	Sustainable business practices
Universities, scientific institutions & technology partners	Direct engagement, collaborative partnerships, quarterly face-to-face meetings	R&D, innovation, sustainability
Local communities	Direct engagement, collaborative partnerships, sports and educational programmes, employee volunteering, sponsorships and donations	Community sponsorships and donations, volunteering, local engagement
Non-governmental organisations	Direct engagement, dialogue, conferences, workshops	Sustainable business practices
Value chain	Direct engagement, collaborative partnerships, face-to-face meetings, joint development projects	Sustainable business practices

SHAPING THE FUTURE
WITH SUSTAINABLE STYRENICS

We strive to provide circular, low-carbon styrenics that are safe and sustainable for our customers and end-users. We do this by taking a responsible approach to our product portfolio across the entire value chain.

OUR APPROACH

Our styrenics products contribute to many facets of our daily lives due to their intrinsic and versatile properties. Styrenics are durable and weather-resistant, making them a longer-lasting alternative to other materials. They also have a low density and a high stiffness compared to other engineering plastics, which allows the manufacture of lightweight applications with reduced transportation costs and fuel emissions.

Unfortunately, polystyrene in particular seems to have become a victim of its own success. As an efficient material it is also cheap, meaning little value is placed on the material at the end of its life. Several billion dollars of value is estimated* to have been lost in the plastics industry each year by not capturing the material at end of life.

This is something that we are aiming to change. By taking a holistic approach and examining our entire value chain, we want to ensure that the use of this valuable material is maximised in every step of its entire life cycle. Our aim is to create sustainable styrenics solutions that have the product performance and properties on par with conventional solutions – for all applications using styrenics today and in the future.

Together with customers and a variety of waste sorters, recyclers, and technology providers, we are engaging in collaborative innovation of cutting-edge sustainable products. By driving product stewardship and quality management, we ensure compliance with product regulations and deliver safe, high-quality, and high-performance products to our customers. Together with associations and our business partners, we strive to achieve high and well-acknowledged sustainability standards in the styrenics industry. We have analysed our products and production processes from cradle-to-grave and cradle-to-gate and are now focusing on developing the best pathways to unlock the true potential of styrenics for a circular, low-carbon economy.

MATERIALITY ASSESSMENT

The input of internal and external stakeholders in our recent materiality assessment helped us to prioritise our sustainability topics so that it responds to our stakeholders' needs and expectations.

The circular economy is a topic of high relevance to both our stakeholders and us. Several topics relating to a circular economy such as recycling, waste collection and sorting, eco-sourcing, sustainable procurement, as well as marine litter and pellet loss were identified as having an impact by us and of significance to our stakeholders.

We are constantly striving to optimise and develop innovative products and applications by designing for sustainability. We work closely with our customers by offering services ranging from innovation workshops to development support and co-development projects to solve technical and performance challenges in line with mutual sustainability targets.

Our customers require safe products that are compliant with local and international regulations during handling and for their final applications. Thus, producing safe and sustainable products by complying with regulations and delivering top-quality solutions to our customers is critical to our business.

ADDRESSING THE UN SDGS

We are contributing to a circular economy by developing innovative and sustainable solutions.

We form strategic partnerships to drive sustainable development across our entire value chain.

* Source: Ellen MacArthur Foundation (2016 report: Rethinking the Future of Plastics)

OUR PERFORMANCE

Key highlights

- World's first specialty styrenics material made using **renewable feedstock**
- Life cycle assessments conducted to calculate **carbon footprint** of **depolymerisation**
- EU-funded project to demonstrate production of ABS from **recycled feedstock** commenced

Sustainability targets

- Offer **30% recycled polystyrene** content in plastic packaging in Europe by 2025 | In progress
- Scale up commercialisation of **recycled ABS products** by 2021
- Introduce **mechanically recycled polystyrene** to the market (by 2021 in Europe and 2022 in Americas and Asia)
- Improvement of the **sustainability portfolio management** tool by 2022
- Offer **recycled-attributed** and **bio-attributed products** by 2022

CREATING A CIRCULAR, LOW-CARBON ECONOMY FOR STYRENICS

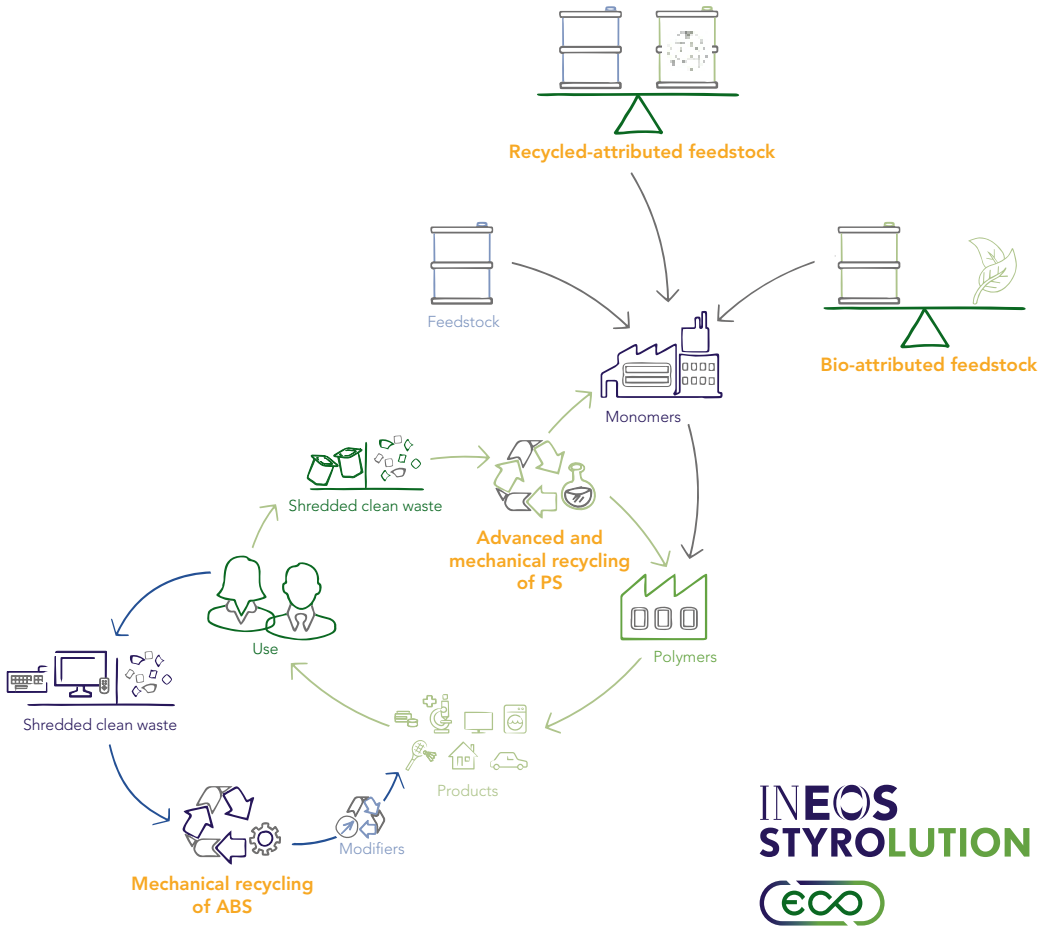
The complexity of a circular economy requires a collaborative approach. Therefore, we are embarking on several projects to develop sustainable solutions in our products' lifecycles, by engaging not only styrenics manufacturers but also stakeholders across our value chain, from suppliers, sorters, recyclers, industry associations, technology providers, brand owners and consumers.

Our aim is to create an impact and actively shift our industry to build a circular, low-carbon economy through our efforts in the upcoming years. We are focusing on developing recycling processes of styrenics and introducing renewable and recycled feedstock into our products.

In 2019, we launched **INEOS Styrolution ECO**, our family of sustainable styrenics solutions that comprises products made from recycled post-consumer plastic waste as well as materials based on renewable feedstock. Terluran® ECO, an ABS grade containing recycled material, was the first INEOS Styrolution ECO product that we launched at commercial scale.

In 2020, we continued to expand this family of products by including Styrolux® ECO and Styroflex® ECO, speciality styrenics materials made using renewable feedstock. As this new product range matches the performance of our existing product portfolio, it will reduce our greenhouse gas footprint, reduce the amount of post-consumer waste going to landfill or incineration, support the collection, sorting, and recycling of post-consumer plastic waste, and help our customers to meet their sustainability targets.

Our approach to a circular, low-carbon economy for styrenics



INEOS STYROLUTION ECO

RESPONSIBLE BUSINESS PRACTICES ACROSS OUR VALUE CHAIN

As part of the INEOS Group, we have defined global targets that are aligned with our material topics and key business needs. By 2025, we commit to deliver significant volumes of recycled polystyrene and use, on average, 30% recycled content in our products destined for polystyrene packaging in Europe. This is a very ambitious target and to achieve this, mandatory separate collection of all plastics, the implementation of state-of-the-art sorting technologies to support sorting polystyrene from post-consumer waste, as well as the acceptance of depolymerisation and advanced recycling methods is crucial.

We actively participate in industry associations such as the World Plastics Council, the Styrene Information & Research Center, the European Chemical Industry Council (cefic), PlasticsEurope, Styrenics Circular Solutions (SCS), and the Circular Plastics Alliance, Foodservice Packaging Institute (FPI), and Chemistry Industry Association of Canada (CIAC) through which we drive and implement joint solutions as an industry.

DRIVING FOR SUSTAINABILITY: MINIMISING WASTE, MAXIMISING RECYCLING

As our global R&D pipeline is the foundation for the future growth of INEOS Styrolution, we are continuously improving our sustainability portfolio management tool. By 2022, we will be able to monitor the expected effects of new product developments from the early development stage onwards in much more detail. With this tool, we will be able to develop and market safe and sustainable products and assess their environmental impact from the development phase, over production phase and application phase until the end of life. This tool will be part of our global research and development tool and will become an integral part of management decisions and innovation agenda.

As a plastic producer, we see the importance of maximising collection, sorting, and recycling of plastics waste to create high-performance products for our customers. We are therefore actively looking at how we can help them enhance the recyclability of their products and offer solutions to integrate recycled content in their product design.

With our knowledge and expertise in material properties and behaviour, we are in a prime position to support our customers. By understanding the chemistry, quality, and properties of recycled materials, we are able to create new grades containing recycled content that function like virgin material in the production process, offering a drop-in solution for our customers.

Co-injection moulding

Together with our research partner Neue Materialien Bayreuth, we are exploring co-injection technology to help our customers to use more recycled materials. With this moulding technique, the core of the injected part can be made out of recycled ABS (for example), and the so-called "skin" or the outside, is made of virgin material.

This gives our customers safe products with more freedom of design and usage of different colours. Many of our customers have made sustainable pledges, committing to use more than 30% recycled material in their products. And the use of a single material (recycled ABS on the inside and virgin ABS on the outside), allows for the product to be recycled. We mainly see this as a potential solution for the household and electronics segments.

Cosmetic packaging

Cosmetic packaging is often black. Conventional carbon black pigments interfere with the near infrared (NIR) signal of the sorting machine, which then does not identify the ABS material and classifies it as mixed waste. Together with sorting technology company Tomra, we are looking into the development of a non-carbon black colour pigment for cosmetic packaging that is detectable by NIR and therefore recyclable.

From hangers to cutlery

We are sourcing polystyrene clothes hangers from an American multinational retail company to produce food-contact approved recycled polystyrene grades. Trials are now ongoing with customers to produce cutlery and cookie trays that match the requirements of key customers and applications in the food service and food packaging markets.

REDUCING OUR ENVIRONMENTAL FOOTPRINT

Delivering circular solutions for our styrenics products helps to avoid littering, landfill, and incineration. Our styrenics solutions contribute to significant environmental savings during their life cycle due to the reduced use of fossil fuel and lower greenhouse gas emissions during recycling. This helps us to significantly reduce our greenhouse gas (GHG) emissions and our use of fossil feedstock.

LIFE CYCLE ASSESSMENTS

We undertook two life cycle assessments (LCAs) of our polystyrene recycling process to compare the GHG footprint of recycled polystyrene versus virgin polystyrene. Initial results of the German government-funded ResolVe project and an internal GHG calculation study conducted in 2018-2020 predict CO_2 equivalent emission savings between 37% and 50%, respectively. Both these studies rely on assumptions and the best available data at the time.

In 2020-2021, Styrenics Circular Solutions (SCS), of which we are a founding member, also conducted a comparative LCAs into three different recycling technologies: mechanical recycling, depolymerisation (monomer recycling) and dissolution. These calculations were performed by Neue Materialien Bayreuth (using technology from Agilyx).

Initial results of the SCS assessment has proven to be positive, even with what we believe to be, very conservative methodology. All three technologies confirmed significant CO_2 savings for recycled food-quality polystyrene, with mechanical recycling displaying the largest greenhouse gas (GHG) savings among the three technologies investigated.

*GPPS - General Purpose Polystyrene
HIPS - High Impact Polystyrene
ABS - Acrylonitrile Butadiene Styrene
SBC - Styrene Acrylonitrile Copolymer
SAN - Styrene Acrylonitrile
NAS - Styrene Methyl Methacrylate (brand name)

Depolymerisation offers considerable GHG savings from cradle to gate as the polystyrene waste is converted to styrene oil in a single step, thus avoiding multiple, energy-intensive steps that is needed to produce fossil-based feedstock. Depolymerisation also allows for more flexibility with applications as it is able to process a broader range of plastic waste and offer a broader set of product grades to our customers.

We are confident that this study shows the huge potential of these recycling technologies in the styrenics industry's transition to a circular economy. We will continue to investigate technologies as they mature and scale to ensure we are following the right approaches and keeping the industry aware of our activities.

MEASURING OUR PRODUCTS' CARBON FOOTPRINT

We also conducted product carbon footprint calculations in 2019 and 2020 on some of our key products* at grade level: GPPS, HIPS, ABS, SBC, SAN, NAS and SMMA. With input from recycling and bio-feedstock partners, we have been able to model the carbon footprint for production of these grades at the Antwerp site (using site data from 2018). Our advanced on-site data monitoring has allowed us to model our process inputs, outputs, energies, and wastes and turn all of this into corresponding values for greenhouse gas emissions. This approach helps us to assess the benefits of eco-sourcing approach to deliver circular, low-carbon products.

These calculations were supported with input data from our recycling partners (Indaver). GPPS, HIPS and SBC calculations have already been validated by Ethos research (Manchester, UK). The assumptions, models and mass balances have been verified as correct and conservative. The validation of SAN and NAS calculations by Ethos is currently ongoing.

EFFECTIVE RECYCLING STARTS WITH EFFECTIVE SORTING

The sorting of plastics waste is the essential step in the waste management of mixed plastics waste streams. Effective sorting and washing of plastics waste can divert this valuable resource from either incineration or landfill to deliver material with the required quality and specifications needed for recycling.

Sorting polystyrene waste

Polystyrene waste is already collected and sorted today, and we see new developments and sorting infrastructure being built. The fact that polystyrene is easily sortable with existing sorting technologies such as near-infrared (NIR) is a clear advantage as there is sufficient affinity with sorters for this. As sorted post-consumer waste gets increasingly valued as input for recycling plants, we believe that the enhanced ecological and economical value will drive further sorting of polystyrene.

Today, many stakeholders only sort a limited set of polymers, which then do not make it into recycled food-grade applications. On the other hand, polystyrene, once collected and sorted, can be efficiently recycled, ensuring a full uptake into products as well as applications with the highest quality requirements.

We are currently in talks with waste sorters and recyclers in order to ensure a consistent and high-quality supply of post-consumer polystyrene waste that we can recycle.

With new innovative NIR technology and state-of-the-art washing, high-quality recycled polystyrene is now technologically feasible, and we are currently aiming to get recycled polystyrene with a purity of greater than 99.9% out of household packaging waste. This will ensure a consistent and high-quality supply of material that can then be recycled.

We are also working with Styrenics Circular Solutions (SCS) to create a market pull away from incineration and landfill towards game-changing recycling solutions for styrenics by engaging with regional waste collection and sorting partners. SCS is building a close link between waste stream volumes of relevant quality and the respective high-tech recycling processes, as well as developing the market for the recycled material. Trials with technology providers at specific sorting locations have proven the excellent sortability of styrenics out of mixed plastics waste and that all kinds of styrenics can be separated. This paves the way to have this new raw material available for recycling technologies.

Sorting ABS waste

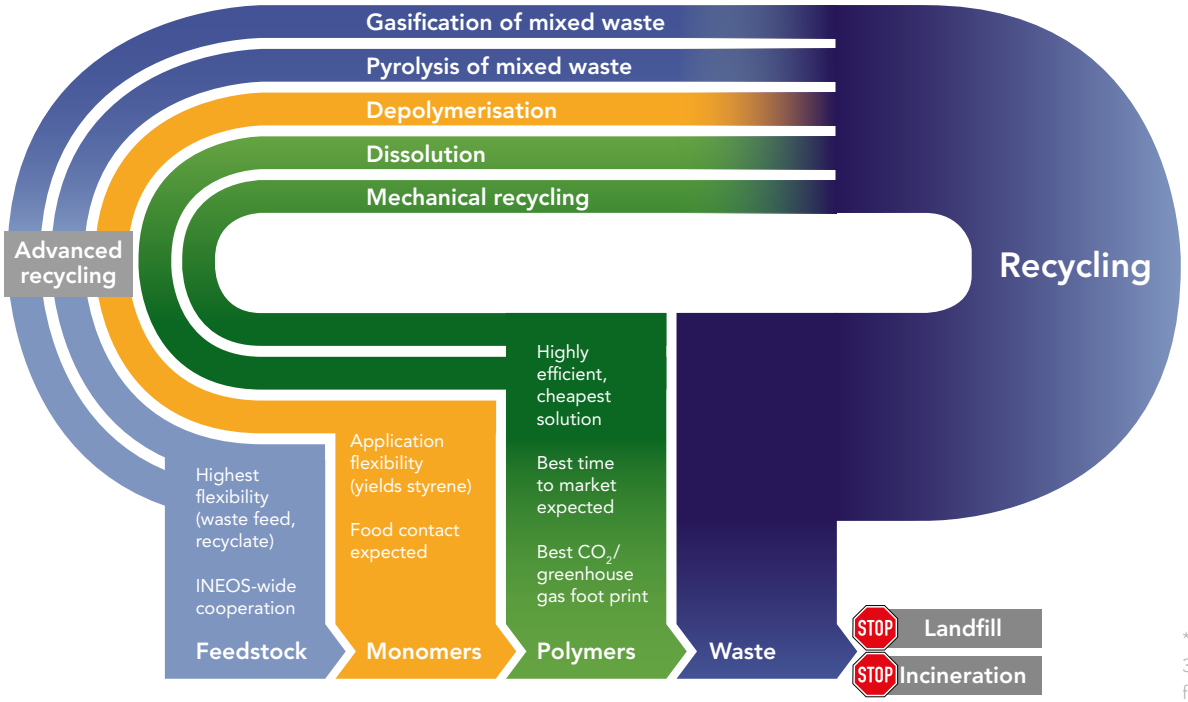
ABS is a styrenics material that, due to its light weight, helps conserve energy and reduces fuel consumption in the automotive industry, reduces energy consumption by insulating buildings, and protects electronic equipment and household appliances with aesthetic and durable housings. Moreover, ABS is also entirely recyclable.

We source our recycled ABS feedstock from WEEE (waste electrical and electronic equipment), which mainly comprises household appliances and tools, televisions, and computers that have reached the end of their life.

As part of our efforts to bring high-quality recycled ABS to the market, we have identified various waste sources. This, in combination with the sorting technology and our manufacturing expertise can help us deliver a consistent, high quality of recycled materials. We have signed agreements with an Austrian recycler, bage plastics, a Korean recycler, Samsung Resins, and a Chinese recycler, GER, to source high-quality post-consumer recycled ABS to produce Terluran® ECO with 50% and 70% recycled content. These agreements will enable us to offer locally sourced recycled ABS to our customers in Europe and Asia-Pacific.

The circular economy for plastics is not just about sorting and recycling a limited set of polymers. It is about each polymer that contributes to innovations and circular solutions that can be realised within a clear timeframe. We aim to make this vision clear to all stakeholders and regulators and build on the added value of all plastics that can contribute to circular solutions.

Recycling technologies for polystyrene



* INEOS pledge of using, on average, 30% recycled content in products destined for polystyrene packaging in Europe

POLYSTYRENE: MADE FOR RECYCLING

Polystyrene is not only a versatile, aesthetic, and durable material, it is also one of the most recyclable polymers. It is one of the best sortable plastics in the waste stream, its barrier properties block possible contaminants, and its ideal ceiling temperature allows it to be depolymerised.

These unique properties allow it to be recycled using several different technologies from mechanical recycling and dissolution to advanced recycling methods such as depolymerisation, pyrolysis and gasification. These technologies offer recycled polystyrene matching virgin quality with no sacrifice in properties, thus enabling food-contact applications and nearly infinite recycling cycles. Therefore, we are working on different technologies in parallel to reach the recycling quota for polystyrene* and offer this recycled material to our customers by 2025.

Mechanical recycling: breaking it down
This method of recycling polystyrene has a comparably high technology maturity and has the lowest carbon footprint.

In 2020, SCS successfully demonstrated high-purity recyclability of polystyrene via mechanical recycling, proving the viability of achieving purity levels that exceed 99.9%. With the inclusion of an additional 'super-cleaning' technology, we believe that mechanical recycling of polystyrene will have the potential to enable food-grade approval. Following its positive challenge test results, SCS is currently seeking EU authorisation from the European Food Safety Authority (EFSA) for mechanically recycled polystyrene as food contact material.

Our most recent commercially available ECO product in EMEA is Styrolution® PS ECO, containing 100% post-consumer recycled content. This material is used behind a functional barrier making it suitable for food contact applications such as XPS foam food packaging trays. The concept, which conforms with requirements under FC Regulation (EU) No 10/2011, is based on a layer of virgin polystyrene enclosing the recycled polystyrene. We are starting up production in EMEA in 2021, to grow volumes in line with our pledge to use on average 30% recycled content in products destined for polystyrene packaging in Europe by 2025.

In the Americas, we are testing mechanically recycled polystyrene grades (comprising 25% recycled content) with customers and aim to commercialise this product for food-contact applications by 2022. As a member of the American Chemistry Council's (ACC) Plastics Division, we aim to meet the ACC's goal of ensuring that 100% of our plastics packaging in the Americas is recyclable or recoverable by 2030.

In Asia-Pacific, we are currently setting up infrastructure and partner networks to source mechanically recycled polystyrene and aim to introduce recycled grades to the market by 2022.

Dissolution: dissolving plastic
Dissolution purifies polystyrene by multiple washing steps including solvent extraction. This reduces or eliminates legacy additives and impurities to create a valuable source of polystyrene for construction applications.

We have signed a joint development agreement with Montreal-based technology company Polystyvert. We are currently testing different types of feedstock from industrial waste to post-consumer waste streams to produce polystyrene from Polystyvert's pilot plant and, as a next step, plan to run trials at a larger scale.

Depolymerisation: unzipping polystyrene
Depolymerisation provides us the ability to "unzip" a polymer chain and then break it down into the individual building-block molecules. As this technology avoids multiple processing steps in comparison to fossil fuel, it uses fewer resources, resulting in a significantly lower greenhouse gas footprint. Since it is broken down to the molecular level (styrene monomer), new styrenics products can be produced that match the quality and properties as with virgin styrene.

Through our partnership with Indaver, a leading European waste management company, we will benefit from their demonstration plant for advanced recycling, where polystyrene waste will be recycled to purified styrene. The demo-installation will be operational in 2023.

We have signed a joint development agreement with Recycling Technologies to adapt its fluidised bed technology, currently used for mixed plastics, for the commercial recycling of polystyrene.

We are now advancing plans to build a polystyrene recycling plant based on depolymerisation in Wingles, France. The planned full demonstration-scale recycling facility is expected to have a recycling capacity of 15,000 tonnes a year. During the design phase, we will work on the complete plant setup, especially the purification of the raw styrene monomer produced by Recycling Technologies' reactor.

As an intermediate step, we are now working on a pilot plant, which we aim to have operational in early 2022. This additional step will minimise the risk moving from lab-scale to demonstration-scale, ensure a quicker scale-up from demonstration-scale to commercial-scale, and also give us more insight to find the best available solution to perfectly adapt to downstream operations (polymerisation). In parallel, we are also finalising the engineering studies for the demonstration plant, which will be operational in 2024-25.

Project ResolVe – successful completion and outcome

Led by our global R&D team, Project ResolVe, was granted a funding from the German Federal Ministry of Education and Research (BMBF) to explore the recycling of polystyrene. The project created basic chemistry know-how, supporting the commercialisation of polystyrene depolymerisation, such as our planned recycling plants.

This project, which ended in 2020, concluded that depolymerisation is a very efficient recycling solution for polystyrene. The depolymerised styrene – in combination with distillation as purification step – is ready to be polymerised again to yield polystyrene in food quality. The project was conducted with strong contributions from INEOS in Cologne, two institutes of the University of Aachen (RWTH) – the Institute for Processing and Recycling (Institut für Aufbereitung und Recycling, I.A.R.) and the Institute of Plastics Processing (Institut für Kunststoffverarbeitung, IKV) – as well as Neue Materialien Bayreuth GmbH.

Due to polystyrene waste now being collected and sorted in Belgium and France and our collaborations with providers to produce recycled styrene, we can ensure a full loop of polystyrene from waste to recycled products in both these countries.

Pyrolysis: collaboration catalyst

Pyrolysis is a thermal cracking process to convert plastic waste to an oil, which is often further purified and then used as feedstock in the production of base chemicals (ethylene, propylene, butadiene, benzene) for polymer production. This allows us to produce different types of styrenics materials, from polystyrene for packaging to ABS, SAN, and SMMA for various durable applications. This recycling process allows the final products to have exactly the same properties as virgin materials including meeting food-grade quality.

As an INEOS business, we benefit from collaboration within the INEOS group, particularly INEOS Olefins & Polymers, which is currently collaborating on a new advanced plastics recycling facility with Plastics Energy.

Pyrolysis of mixed waste can take advantage of the attribution approach. We work in line with internationally recognised certification bodies like the Roundtable for Sustainable Biomaterials (RSB) and International Sustainability and Carbon Certification (ISCC) to have transparent and credible processes to integrate renewable and recycled materials into our production processes.

All of the above-mentioned recycling technologies complement each other. Each will be needed depending on the quality of input waste, the requirements of the final products, and the environmental impact of each technology used. This is why we are working on all of these technologies in parallel.

POSITIVE FEEDBACK FROM CUSTOMERS

Sirap, an international leader of food-packaging containers, is working with us to be the first mover to use recycled polystyrene in the food-packaging sector. Trials with the material were successful and Sirap has used the material with the functional barrier approach to produce some XPS trays for food packaging.

Unternehmensgruppe Theo Müller, Germany's largest privately held dairy business, received some test samples from us and are pleased with the results. The dairy company believes that this test material has the potential to become one of the best products in terms of environmental impact as well as performance.

We are now working together to develop a solution that aims to deliver commercial-scale production of recycled yoghurt cups by 2022.

Ferrero, a leading manufacturer of chocolate and confectionery products, is collaborating with us to explore recycled and recyclable packaging solutions that comply with food contact regulations.

BUILDING THE BEST RECYCLED ABS IN THE WORLD

In 2019, we introduced Terluran® ECO, our first standard ABS grades with post-consumer recycled material. The two new grades Terluran® ECO GP-22 MR50 and Terluran® ECO GP-22 MR70 contain 50 and 70 percent of recycled post-consumer waste electrical and electronic equipment (WEEE), respectively. With our extensive R&D expertise and access to formulation components, we ensured that our recycled grades match the mechanical property profile of our virgin ABS grades and can be used as a drop-in solution by our customers.

As a key player in the market, we drive market dynamics in EMEA, Asia-Pacific and the Americas. In 2020, we saw a rapid growth in demand, capacity, and sales of Terluran® ECO in EMEA. Several blue-chip companies have evaluated the new material and plan to announce first applications in the market shortly.

We have signed agreements with an Austrian recycler, bage plastics, Korean recycler Samsung Resin, and Chinese recycler, GER, to source high-quality WEEE (waste electrical and electronic equipment) to produce Terluran® ECO with 50% and 70% recycled content. We plan to integrate these recyclers' post-consumer recycled electrical and electronic waste into state-of-the-art recycling ABS formulations.

Following its success in EMEA, Terluran® ECO has been well received by brand owners and converters in the Americas and Asia. We are now working on retail, electronics and consumer product applications in using locally sourced post-consumer recycled ABS.

We are developing other recycled ABS products, Novodur® ECO, in white as well as colour options. In addition, we are developing Novodur® ECO High Heat and Terblend® N ECO in various formulations. Test materials are currently being sampled to customers and we aim to make these products available in the market shortly.

The scope of our mass balance certification audit conducted by the Roundtable for Sustainable Biomaterials (RSB) in Antwerp was extended to include our production processes for ABS and covered recycled feedstock like r-styrene, r-benzene, and r-ethylene.

VACUUM CLEANER
MADE OF RECYCLED ABS
TERLURAN® ECO GP-22 MR50

TOOLBOX
MADE OF RECYCLED ABS
TERLURAN® ECO GP-22 MR50

COFFEE MACHINE
MADE OF RECYCLED ABS
TERLURAN® ECO GP-22 MR70

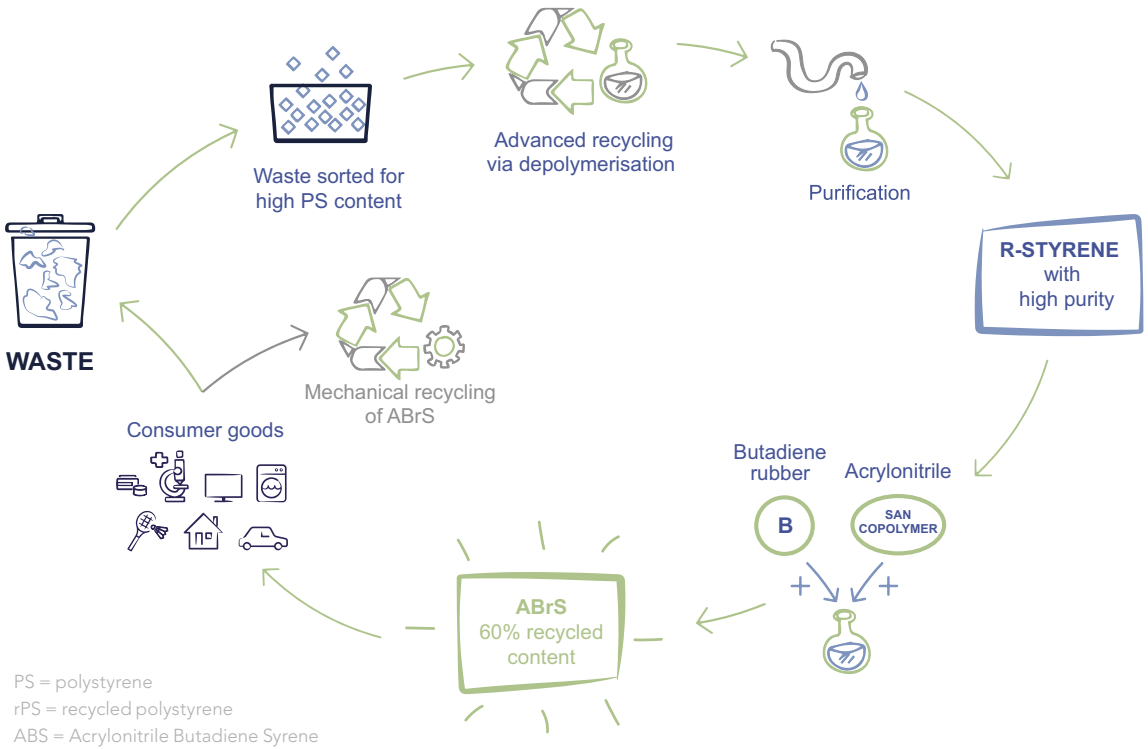
ABSolutely Circular:
Breathing new LIFE into our products

We are leading a consortium comprising Indaver and a key customer to advance the production of ABS from recycled feedstock through a project called "ABSolutely Circular". In 2020, the project was accepted by the EU LIFE programme, the European Union's funding instrument for the environment and resource efficiency and has received funding.

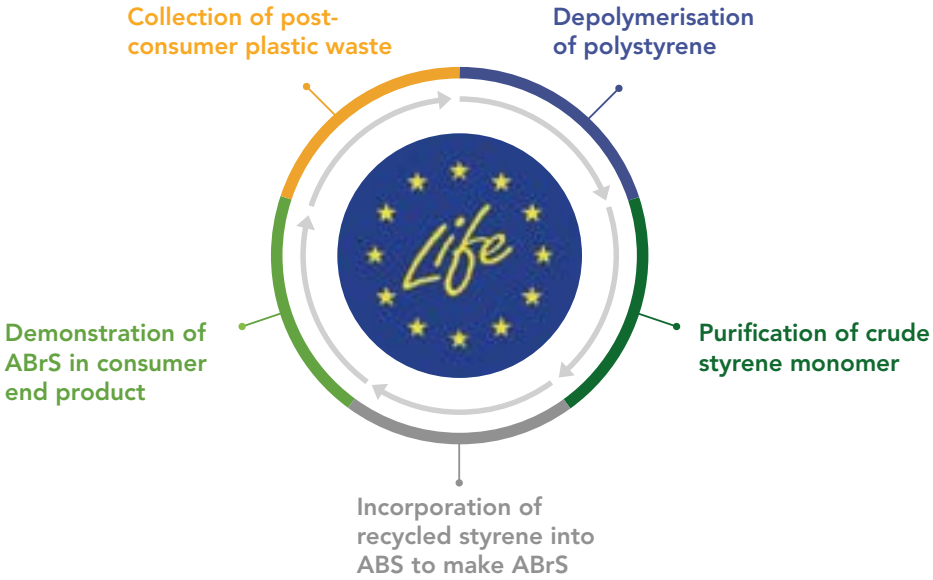
The main objective of this project is to transfer the innovative technology of polystyrene depolymerisation to other styrenics copolymers, such as ABS, for use in durable applications. This will be demonstrated at pilot-scale before being implemented in our global ABS plant. Our aim is to include recycled styrene content in many applications and industries and eventually upscale this in our production sites globally. The project is also planned to demonstrate scaling of the solution from lab-scale to demonstration plant and ultimately to commercialisation. The project takes advantage of recycling of polystyrene via depolymerisation.

Indaver will build a sorting and depolymerisation plant in Antwerp to deliver recycled styrene. We plan to build a plant to deliver pilot-scale material for demo applications with ABrS content to our customers.

Our concept: From polystyrene waste to rPS and ABrS with a variety of applications



PS = polystyrene
rPS = recycled polystyrene
ABS = Acrylonitrile Butadiene Syrene
ABrS = Acrylonitrile Butadiene with recycled Syrene



USING RENEWABLE RESOURCES AS A RAW MATERIAL

One of the primary aims of our sustainability strategy is to reduce our use of fossil fuel feedstock as well as our greenhouse gas emissions. Together with other INEOS companies and Scandinavian bio-refineries, we have developed an approach that uses wood-based feedstock in our petrochemical installations. This means we significantly reduce our greenhouse gas (GHG) emissions and our use of fossil feedstock. Using a so-called "bio-attribution" approach, this substitution not only lowers the carbon footprint of our styrenics products but also paves the way towards low-carbon styrenics.

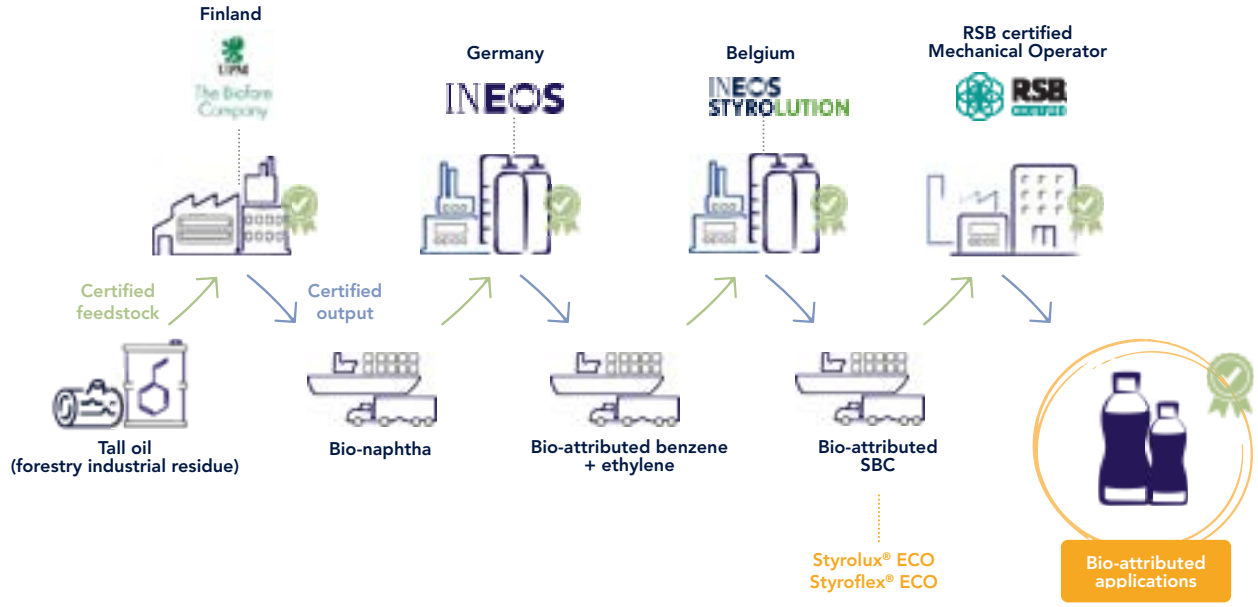
Following its audit, the Roundtable for Sustainable Biomaterials (RSB) has certified each step of the sourcing and production process at our site in Antwerp. This means that the processing of the renewable feedstock along our entire supply chain is socially responsible, environmentally sustainable, and credibly sourced, ensuring that our operations are in line with the highest legal, environmental, social and management requirements. We are now in the process of getting our sourcing and production processes in Ludwigshafen certified by International Sustainability and Carbon Certification (ISCC).

For our customers, this bio-attributed approach enables an easy transition from fossil to renewables as it offers a drop-in solution. Through this approach, we reduce the carbon footprint in our customer's supply chain, and for them there is no compromise in performance, no product development necessary, no need to adapt technology and no new regulatory approvals needed.

In 2020, we launched Styrolux® ECO and Styroflex® ECO, the world's first specialty styrenics materials made using bio-attributed feedstock. It uses fewer fossil resources and reduced GHG emissions by at least 74% when compared to styrenic polymers produced using fossil fuel.

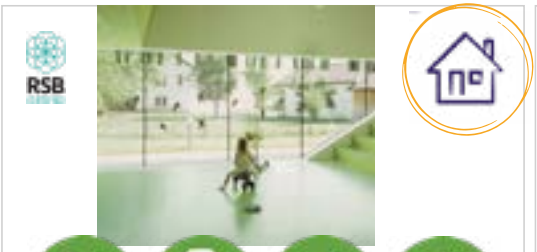
We plan to use this attribution approach at other sites to integrate renewable and recycled raw materials.

Our RSB-certified supply chain in Antwerp



What is the attribution approach?

This approach allows us to mix fossil feedstock and sustainable resources (such as renewable feedstock or recycled materials) in our existing production processes. As both types of feedstock are mixed together during production, it is not possible to guarantee a dedicated concentration of sustainable feedstock in the final product. Therefore, we use a specific set of rules to track the total amount of sustainable resources used as raw material and allocate an equivalent amount to the output (or end product). This approach guarantees a solid bookkeeping system and a link between the raw material and end product, as well as requires full transparency and traceability throughout the value chain. We allocate the input of sustainable raw material to end products, considering a chain of custody, clearly identifying each process step in the chain, and considering process losses.



NORA RUBBER FLOORINGS
MADE OF
STYROFLEX® ECO 2G66 B60

SHRINK SLEEVES
MADE OF
STYROLUX® ECO

DESSERT CUPS
MADE OF
STYROLUX® ECO

SUSTAINABLE PERFORMANCE. ALL APPLICATIONS: OUR ROADMAP

	Available now	1-3 years	> 3 years
Polystyrene	**Styrolution® PS ECO:** High purity mechanically recycled grades with virgin-like performance	**Styrolution® PS ECO:** food grade polystyrene from depolymerisation	
ABS	**Terluran® ECO:** Standard ABS grades with virgin-like performance	Recycled ABS grades in a wide colour and performance range	Grades based on styrene from polystyrene depolymerisation and other monomers from recycling
Transparent specialties	**Styrolux® ECO & Styroflex® ECO, Luran® ECO & NAS® ECO:** Certified transparent products based on bio-attributed feedstock	**Styrolux® ECO & Styroflex® ECO, Luran® ECO & NAS® ECO:** Certified transparent products based on recycled-attributed feedstock	Grades based on styrene from polystyrene depolymerisation and other monomers from recycling
Opaque specialties	**Novodur® ECO* & Novodur® ECO HH*:** Pre-coloured ABS grades with mechanically recycled content providing virgin-like performance	**Terblend N® ECO:** Pre-coloured ABS/ PA blends with mechanically recycled content providing virgin-like performance	Grades based on styrene from polystyrene depolymerisation and other monomers from recycling

*available now as development grades

RESPONSIBLE PRODUCT STEWARDSHIP

As a responsible corporate citizen, we take responsibility for the environmental and social impacts of our products. We aim to ensure that our raw materials and products comply with legal requirements in all the regions and industries we serve. For example, in the food packaging industry, our products meet strict standards, including those set by the European Food Safety Authority (EFSA) and the U.S. Food and Drug Administration (FDA).

We make use of our internal and external experts to provide customer-centric regulatory support and proactively address global and product safety standards. We stay close to our customers through our network of product stewards in the regions, who also provide business development support. In addition, we have a group of global product stewards focusing on compliance, risk reduction and supporting cross company regulatory services.

Our certified quality management system ensures the consistent delivery of high-quality products around the world, and in combination with regulatory affairs, assists in building and maintaining the trust of our customers. The system is based on best practices and international standards, such as ISO 9001 and ISO 14001.

The EU's recent Chemicals Strategy on Sustainability sets the long-term vision for policy on chemicals, prioritising innovation that is "safe and sustainable by design". Our Regulatory team is now working on meeting the Strategy's criteria, while continuing to deliver safe, sustainable, and high-performance products.

Our Regulatory team has also been instrumental in the roll-out of our ECO products to the market through its in-depth analytical work to assess contamination in post-consumer waste sources. The team is now looking into the required regulatory packages to support the commercialisation of further ECO products that are also RoHS*- and REACH**-compliant.

To gain a broader market overview, assess product quality and minimise risks, we also work closely with industry associations, such as PlasticsEurope, cefic, and the U.S. Styrene Information & Research Center. These partnerships help us better understand current and future regulatory developments, for instance, by giving us access to studies on feedstock and product safety.

PRODUCT RESPONSIBILITY

We constantly monitor international regulations as they develop: to anticipate requirements, improve our products and ensure compliance in all markets in which we operate. For example, in applying global inventory management, we have implemented automated tools such as the Substance Volume Tracking Tool for e.g. REACH to avoid non-compliance cases.

We make use of an eShop on our website to provide up-to-date information to our customers on product stewardship, providing a wide range of information that can be downloaded at any time to assist customers in using our products effectively and safely. We provide over 3,000 downloadable safety data sheets on our website that cover our large range of products. They are provided in up to 32 languages covering the 89 countries in which those products are sold. For customers who register on our website, around 265 regulatory documents are available for download, including statements on food contact, RoHS, REACH, and SVHC***.

Concerning "conflict minerals" as defined by the Securities and Exchange Commission (SEC), i.e. cassiterite (containing tin), columbite-tantalite (containing tantalum), wolframite (containing tungsten), gold and their derivatives, these have not been intentionally added as ingredients in the manufacture of our products and, to the best of our knowledge, are not known to be present in the final products.

In 2020, INEOS Styrolution has not identified any non-compliances with regulations in connection with the health and safety impacts of its products and services.

PRECAUTIONARY PRINCIPLE

As a manufacturer committed to the long-term sustainability of our business, we manage the use of our chemicals in a responsible manner by applying the precautionary principle. This principle is an inherent part of our approach to risk assessment and risk management. We are familiar with and closely scrutinise our substances' properties, establish guidelines for safe handling and processing and will continuously review and update our criteria and guidelines for the development of new products. In all our plants, the precautionary principle is an integral component in our management of change process, requiring a documented risk assessment for all process changes.

* RoHS: Restriction of Hazardous Substances Directive
** REACH: EU regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
*** SVHC: Substance of very high concern

PLASTICS FOR THE PLANET, PLASTICS FOR PEOPLE

Plastics can contribute to a better and safer planet and thus play a key role in the shift to a circular, low-carbon economy. Plastics have become even more essential during a pandemic where there are enhanced health concerns and medical needs. It is fundamental for us as plastics producer to contribute to the safety and enhanced medical care for people.

COMBATING COVID-19 WITH OUR PRODUCTS

During this unprecedented global pandemic, we are successfully helping our customers find solutions to tackle COVID-19.
INEOS Styrolution is recognised as a "business essential" company integral to the healthcare industry supply chain. We supply materials that are used in a variety of applications across various market sub-segments. These include labware, respiratory and drug delivery, IV and fluid transfer, mobile/ digital health, surgical equipment, and medical packaging. Our team has successfully partnered with many of our customers to answer the global outcry for much-needed medical supplies, be it the diagnosis of the disease (blood analysis kits), treatment of patients (ventilators, IV sets), or personal protective equipment (face shields).

Some examples include, but are not limited to:

- K-Resin® and polystyrene from our Yeosu and Ulsan facilities are utilised in different types of COVID-19 detection kits.
- Products such as Terlux® HD and Novodur® HD made in Ludwigshafen Schwarzheide and Cologne, respectively, are being used in the production of various respiratory and oxygen delivery equipment.
- Addressing the shortages of PPE (personal protective equipment) for frontline healthcare providers, Styrolux® from Altamira, polystyrene from Channahon are being used in face shields and respirators.
- Luran® S grades are utilised to produce the housings for INEOS Hygienics' hand sanitiser dispensers.
- Styrolux® from Antwerp and NAS® XC from Decatur are being used in the production of social distancing barriers that are now commonly found in supermarkets, office spaces, and other public venues.
- Terluran® ABS grades produced from each of our sites have been used around the world in applications such as safety goggles, paper towel dispensers, hand sanitiser housings, and testing devices.
- Our team in Asia-Pacific qualified the use of Zylar® in LDS (low dead space) syringes. These syringes are being used in the distribution of COVID-19 vaccinations. LDS syringes allow healthcare providers to accurately extract more doses from a single vaccine vial when compared to a standard syringe body.

HAND SANITISER DISPENSER MADE OF LURAN® S 757G

We have supported many of our "non-healthcare" customers (from automotive, household, extrusion segments) who notified us of their intention to start producing medical equipment.
With our expansive global reach, extensive technical knowledge, and in-depth insight of various industries, we have helped guide many of these customers, who may have no experience producing medical devices, in the proper material selection and processing for the targeted applications.

ENSURING SAFE AND RESOURCE EFFICIENT OPERATIONS

UPHOLDING SAFETY AS OUR CORE VALUE
REDUCING OUR ENVIRONMENTAL FOOTPRINT

UPHOLDING SAFETY AS OUR CORE VALUE

Our employees, contractors and on-site logistics personnel are our most valuable asset, which is why workplace safety is and remains our core value. For us, incident-free operation is our objective.

OUR APPROACH

INEOS Styrolution is convinced that being a market leader goes hand-in-hand with an outstanding safety record and that all accidents are preventable. We take our responsibility for safety, health, and environment (SHE) very seriously and are fully committed to improving performance across all our operations.

Our commitment to safety starts at the top, with the management board being responsible for our safety performance. At the same time, it is the responsibility of everyone at INEOS Styrolution to ensure the highest standards of safety and health in everything that we do every day.

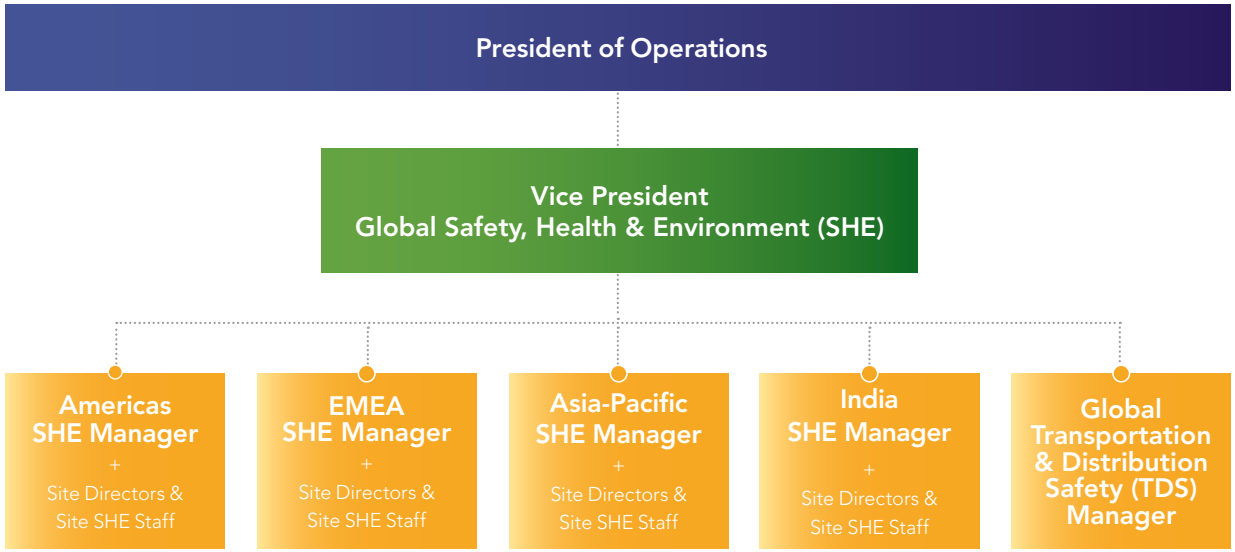
We have established a SHE culture of open dialogue, coaching and trust that reinforces our SHE performance. We aim to minimise the impact our facilities have on local communities and local environments. This means working in close partnership with community groups and key stakeholders to ensure that we are a responsible neighbour and partner.

We strive to meet, and where feasible, exceed strict safety and health performance targets. We are transparent about our performance and publish our results locally and nationally, as required. According to our recent materiality analysis, out of all 21 key topics, health and safety was rated as having an impact by us and of significance to our stakeholders.

SHE STRUCTURE AND PROCESS

We have an established SHE structure that is tightly integrated with our operations. Our President of Operations directs global company SHE improvements and processes through a team of global and regional SHE experts. This Global team coordinates, advises, audits, reports and tracks operational SHE performance of the sites, supply chain and offices. All sites have a team of local SHE experts that implement SHE improvement efforts and processes, manage day to day SHE activities, train employees and contractors on SHE-related topics, and monitor compliance to company and local authority requirements.

Our SHE structure

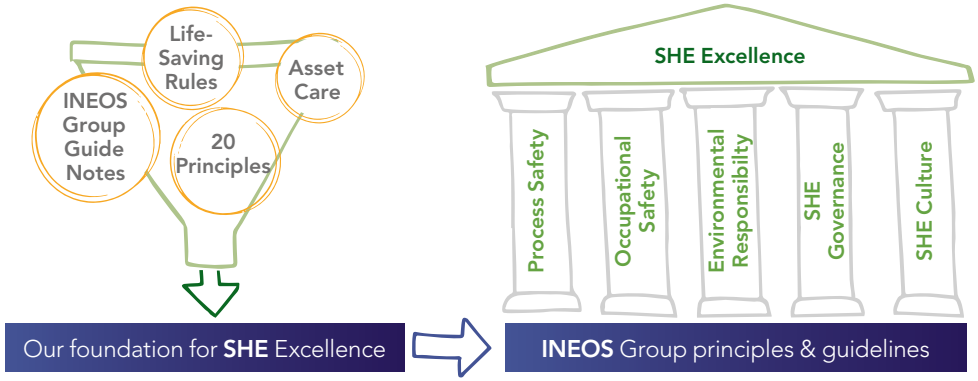


Our global SHE Excellence programme was established to ensure high SHE standards and management systems. INEOS Group's SHE principles, Group operations guidelines and lifesaving rules are the foundation of our Excellence programme. This programme outlines the processes we follow to ensure the necessary SHE elements are in-place across our operations.

OUR SAFETY PRINCIPLES

We focus our attention on safety in the processes we apply and the behaviours we expect. In alignment with all other INEOS Group businesses, we follow key process safety and behavioural safety principles that have become our **20 Principles**. These 20 principles form the foundation of our SHE Excellence programme, and define what is expected of all our employees, contractors, and businesses on a day-to-day basis.

In following the Process Safety Principles, we ensure our operations implement risk assessment for process safety with the proper asset design, appropriate safeguards, management of change, asset maintenance and inspections, pre-start-up safety checks and emergency planning. The Behavioural Safety Principles ensure risk assessment for occupational safety measures. These include requirements for training, contractor assessments, personal protective equipment (PPE), behavioural-based safety observations, job safety analyses, work authorisation and standard operating procedures.



Regular training activities, auditing, and the exchange of best practices across all regions and sites keep safety at the forefront of operations. We audit all our sites using the 20 Principles audit protocol to ensure the sites continue the journey of SHE Excellence. These audit processes take place according to a rolling three-year schedule for all sites. The recent audit cycle for all sites included auditing of the ten process safety principles protocol in 2018, the ten behavioural safety principles protocol in 2019, and 2020 was an off year used to catch up on findings and corrective actions.

For the recent audit cycle described above, we increased our internal standards by adapting the protocol to ensure that best practices identified during previous audit cycles are now the normal standard of today's protocol. Audits are led by trained members within our Operational Leadership team, accompanied by an Internal Audit team knowledgeable in SHE and the operational aspects of our business. During such audits, findings related to serious deviations are mitigated by immediate corrective actions and ultimately resolved through permanent actions. Findings related to minor deviations are integrated into the site's annual SHE improvement plan.

ADDRESSING THE UN SDGS

We ensure the health and safety of our entire workforce as well as our contractors.

OUR PERFORMANCE

Key highlights

- Total case injury rate **(TCIR) of 0.19** compared to an **overall target of 0.25** (for employees as well as contractors)

Sustainability targets

- **Continual improvement** of our company's safety performance
- Annual total case injury rate **(TCIR) of 0.25 for 2020**

We further strive for continuous improvement of our safety performance. An example of this has been the recent development and implementation of INEOS Styrolution Guide Notes. These standards provide consistent guidance for workers in our facilities to appropriately assess risks and utilise best practices to focus on prevention of our most common incidents. The guidelines specify mandatory compliance with elements that will minimise such risks. These include the following focus areas:

- working at height
- pelletiser safety
- prevention of extruder fires
- prevention of dropped objects

SHE EXCELLENCE AWARDS

We established the SHE Excellence awards in 2018 to reward sites and offices that have made significant contributions to sustainable safety, health, and environmental compliance. In 2020, the regional SHE Excellence award winners for Asia-Pacific, EMEA, and the Americas were our manufacturing sites in Ningbo, Antwerp (polymers plants), and Sarnia. Out of these three, Antwerp was recognised as the global winner of the SHE Excellence award.

INJURIES, OCCUPATIONAL DISEASES, LOST DAYS AND WORK-RELATED FATALITIES

INEOS Styrolution reports all safety matters to its management board on a monthly basis. In terms of key parameters, we focus on personal injuries, environmental performance, non-compliance with regulations, asset integrity, loss of containment, technical inspections, other high-potential incidents or near misses and behavioural-based safety observations (BBSOs). In 2020, 100% of our locations had safety committees comprising both management and wage employees.

Last year, we saw a slight increase in indicators regarding our overall safety performance, e.g. the total number of injuries and severity rate. The number of injuries that resulted in employees or contractors having OSHA recordable cases increased as indicated in the total case injury rate (TCIR) of 0.19 vs 0.12 in 2019. The number of injury cases that resulted in employees and contractors being away from work for one or more days also increased, as reflected in the lost time injury rate (LTIR) of 0.10 vs 0.06 in 2019.

The DART rate measures how many workplace injuries and illnesses require employees to miss work, perform restricted work activities or transfer to another job within a calendar year. DART focuses on more severe injuries and illness that may result in life-changing events. We had an increase in our DART rate from 0.06 in 2019 to 0.15 in 2020.

LOSS OF CONTAINMENT

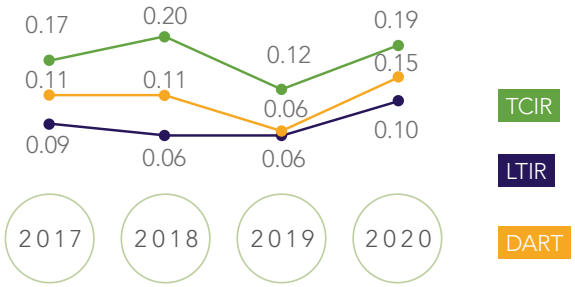
We are required to report any loss of containment (LOC) events that occur at our production sites that are above release thresholds equal to 1/10th the U.S. EPA reportable quantity (RQ) threshold, as a process safety and environmental impact indicator. Our performance trend indicates that we have experienced an overall improvement in reducing the number of LOC events since 2015.

As an effort to further reduce chemical releases, we now require all sites to track and report all chemical leaks that are less than the LOC threshold defined above. This is a developing internal metric across our operations.

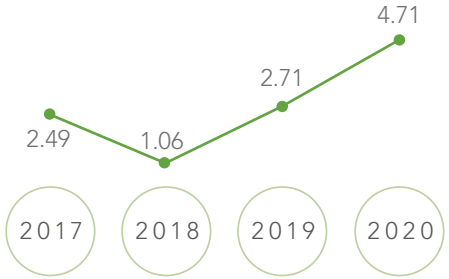
TRANSPORTATION AND DISTRIBUTION SAFETY

In the interest of improving transportation and distribution safety (TDS), we monitor and track logistics safety incidents involving our products and raw materials. Most of these occurrences are the responsibility of our carriers. However, we understand that our selection of carriers that demonstrate high performance in SHE provides reliable material delivery to our operations and customers, as well as ensures public safety in the communities where we do business. Major transportation incidents are reported according to the criteria in the table Criteria per incident type.

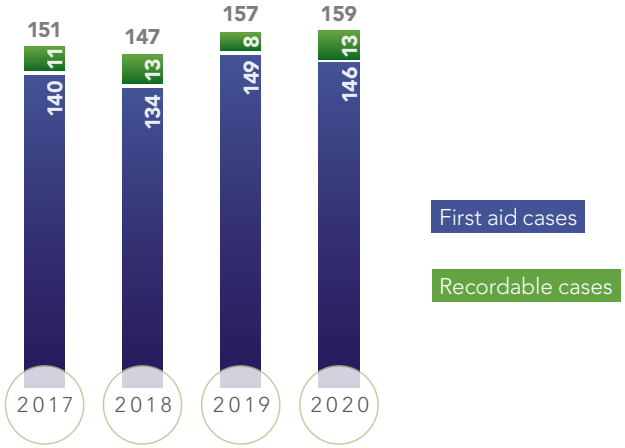
Performance trend



Severity rate



Total number of injuries



LOC data by number or occurrences across global business since 2017

YEAR	LOSS OF CONTAINMENT (LOC)
2017	6
2018	5
2019	8
2020	4

Criteria per incident type

INCIDENT TYPE	CRITERIA
Injury incident	Death or >3 days absence from work
Spillage/ leakage	> 50 kg ADR transport category 0 & 1 > 333 kg ADR transport category 2 > 1,000 kg ADR transport category 3 & 4
Property damage	> 50,000 euros
Public disruption	Impact of more than 1 hour
Media coverage	National media coverage

TCIR Total case injury rate per 200,000 work hours (includes employees and contractors)

LTIR Lost time injury rate per 200,000 work hours (includes employees and contractors)

DART Rate of injury cases involving days away or restricted transfer per 200,000 work hours (includes employees and contractors)

Severity rate Reflects the number of days away from work per 200,000 work hours (includes employees and contractors)

The 2018 and 2019 data shown in the graphics on this page have not been externally audited

COMBATING COVID-19: ENSURING SAFE WORKING CONDITIONS

To curtail the spread of the Coronavirus, we acted swiftly to protect employees and implemented strict hygiene measures, social distancing and facemask procedures across the globe, even before it was mandated by local authorities.

We put a set of 10 workplace rules in place for all employees to follow when working at our offices and production sites. We also developed and implemented detailed workplace readiness essentials.

With focus on safety as our core value, we remained focused on the well-being of our employees and contractors who are essential to our operations. To ensure their safety, we had to minimise their exposure to potentially infected persons by strictly controlling access to the work environment. We maintained an average of 35% of our workforce at each production site throughout 2020, thus ensuring that our assets kept running, with at least the minimum employee and contractor staffing to run them safely. All other employees continued to work from home.

Through such proactive planning, our production sites were able to continue to supply our customers with products throughout the year. Many of these product materials were key ingredients utilised by our customers to supply vital safety and medical equipment necessary to fight the spread of COVID-19.

The full return to offices and site locations has been gradual, considering country specific regulations for COVID-19, including strict hygiene measures, social distancing procedures and testing protocol. This continues to be monitored daily in case additional measures need to be implemented.

Technicians from our R&D lab in Cologne, Germany, at work, while maintaining social distancing measures

REDUCING OUR ENVIRONMENTAL FOOTPRINT

Operating responsibly is embedded in our corporate values. We are committed to using resources efficiently and safeguarding the environment.

OUR APPROACH

As a leading manufacturer for polystyrene and styrenics specialities globally, we aim to use available resources efficiently and reduce our environmental footprint.

Complete compliance with local and national environmental legislation is mandatory for our operations. We strive to continually improve our operations as well as our sustainability performance by following the key drivers of our environmental policy:

- **Reduction in energy use and greenhouse gas emissions:** Striving to continually optimise the energy efficiency of our technology and operations
- **Resource efficiency, including scrap reduction and waste management:** Efficiently using raw materials, including reuse, recycling and recovery through optimisation of our processes
- **Efficient use of water:** Reducing the use of water where possible and optimising the water efficiency of our operations:
- **Reduction of air emissions and wastewater discharge:** prevention of accidental emissions through advanced process control
- **Prevention of pellet loss:** Avoid the spillage of pellets into the environment through preventative and mitigation measures as well as monitoring at our production sites and during transportation
- **Transparency and open communication on our environmental performance with stakeholders** (personnel, customers, authorities, communities)

To monitor the evolution of our environmental performance, we have integrated key performance indicators (KPIs) on energy and water use, material yield, waste management and air emissions into our business and site procedures.

The continuous tracking and improvement of our data accuracy and our improvement projects reflects the expertise of our manufacturing processes, and our target of operational excellence.

Complying with required regulations, especially for waste and air emissions, is part of our SHE Excellence programme and managed by our site, regional and global SHE representatives. This includes reporting of data, investigation of environmental incidents, risk assessments, defining and review of processes as well as internal and external ISO audits.

As part of the INEOS Group, we have completed the CDP climate change survey in order to gain external validation for our initiatives.

As noted last year, all sites are now ISO 14001 certified. To provide additional synergies, we will integrate ISO 14001 and ISO 9001 surveillance audits moving forward. ISO 14001 recertification audits will occur in 2022. Further implementation of an energy management system (EMS) is under consideration in line with other priorities of our recycling and low-carbon agenda.

Environmental topics are part of our Risk & Control audit programme and include testing on compliance evaluations, soil investigations or remediation, and environmental control measures. In addition, all our sites have programmes to ensure open communication with the local communities.

Our global sustainability data is collected on an annual basis, in accordance with the GRI Standards disclosures and in compliance with local and national legislation. The sustainability data from our manufacturing sites are consolidated by SHE, energy, technology, and sustainability managers and validated at site, regional and global levels.

As part of our goal to continually improve our operational and sustainability performance, we combine our site expertise with our global technology team, exchanging and developing the best available process and technology solutions.

Our two new Chinese sites have been integrated into the company and construction is ongoing in the ABS conversion project in Wingles, France, the new ABS site in Ningbo, China and the ASA plant in Texas, USA. In 2020, we have completed the construction of our EBSM expansion at our Antwerp facility. Through this project, we expect to see reduced specific electricity usage of 5% and high-pressure steam reduction of 3% in the coming year. Expanding our operations gives us the opportunity to debottleneck our capacities and be more resource-efficient in our production, while implementing the best available technology to supply markets locally and reduce the environmental footprint of our products.

OUR PERFORMANCE

MATERIALITY ASSESSMENT

The input of internal and external stakeholders in our recent materiality matrix helped us to prioritise our sustainability topics so that it responds to our stakeholders' needs and expectations. In this assessment, **low-carbon economy, emissions, energy, water, wastewater and waste, and marine litter and pellet loss were rated as having an impact by us and of significance to our stakeholders.**

ENVIRONMENTAL DATA

BOUNDARY

The following data represents the summary of the environmental impact, measured at all INEOS Styrolution assets and legal entities of our 20 production sites worldwide. This covers the consumption and emissions from our activities and utilities that we source from third parties but excludes emissions from our raw materials.

SCOPE

The performance data refers to the net impact of INEOS Styrolution's production activities, including emissions and consumption of resources. Performance data related to activities provided to non-INEOS Styrolution plants as well as all non-production sites (offices, warehouses, etc.) are excluded from this report.

We have retained the same scope since the start of our environmental data collection in 2014, with the exception of new plants being added.

METHOD AND ACCURACY

Water, wastewater, waste, and energy usage is predominantly based on conducted measurements. Modifications on energy reporting were made to better reflect the energy usage of our sites. Energy recuperated from by-products of our processes have been added in our yearly energy consumption. As a result of modifications to reporting requirements, the energy usage of our styrene monomer sites (and hence INEOS Styrolution as a whole) has been updated.

In the cases where accurate measurements were not possible, estimates and assumptions have been made.

For air emissions from combustion gases (NOx, SO_2 and CO), our measurements and estimates comply with local legal requirements for monitoring and reporting. As measuring equipment is not available at all sites, we used an accuracy limit of +/-3% for measuring, monitoring and collection of data for emissions and consumption.

ADDRESSING THE UN SDGs

We ensure resource-efficient production and use of our products.

We are shifting to a low-carbon economy and are taking action to combat climate change and its impacts.

We are undertaking efforts globally to eliminate marine litter and pellet loss in our operations as well as in our value chain.

Key highlights

- **8.1 %** reduction in specific **greenhouse gas emissions** since 2014
- Audits for **bio-attributed** offerings conducted in Antwerp. A similar audit planned to be conducted in Ludwigshafen for 2021.

Sustainability targets

- Develop a global strategy to **reduce GHG emissions by 2030**
- Conduct **Operation Clean Sweep® audits** for all sites by 2021

RESOURCE EFFICIENCY

Resource efficiency is central to our business and fundamental to our operational excellence as it relates to reliable operations. It is a driver for many of our improvement initiatives and capital expenditures as well as in our daily work at our production sites. It is internally reported and reviewed by our management team.

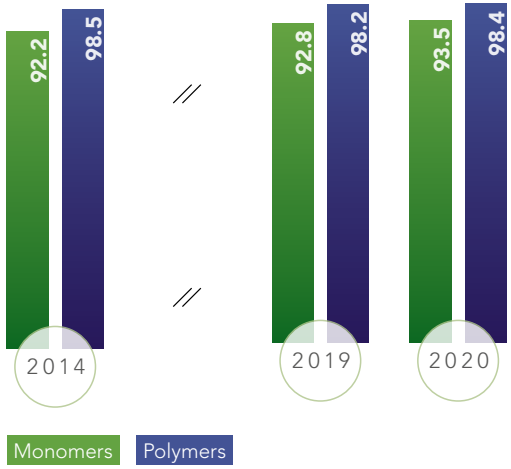
We use material yield as an indicator for our resource efficiency performance. Raw material yield is defined as polymer or monomer produced per unit of raw material used.

Our yield definition excludes low value by-products and waste streams, which however are also mostly further reused, recycled, or recovered.

DISCUSSION OF DATA

The diagram illustrates the development of the material yield for our polymers and for our ethylbenzene styrene monomer (EBSM) plants. The yield for both polymers and monomers is at a stable high level. Monomer yield is lower than polymer yield, as more by-products are formed in the EBSM production process.

Resource efficiency: material yield [%]



INEOS Styrolution production site in Cologne, Germany

WASTE REDUCTION

To us, waste management starts with efficient use of raw materials and the avoidance of waste generation where possible. When waste is produced, we first consider recycling, followed by energy recovery, and incineration or landfill as the last option.

Although waste is avoided by optimised operations and the reuse of side streams at neighbouring plants or sites, the amount of generated waste is still relevant. Our conscious waste management including appropriate storage, handling and disposal are additional measures that we take to mitigate waste. We define waste in accordance with international standards and as defined by national legislation and aim to comply with all local waste management regulations.

Waste accumulation at our sites can vary depending on the chemical processes and the presence of on-site utilities such as wastewater treatment plants. We aim to reduce landfill waste by exploring opportunities to recycle and reuse. In addition, we strive to reduce the overall amount of waste related to production. We separate waste from demolition and Asset Care projects as these are project-related and not part of our daily operations. In order to reduce risk and increase safety within our sites, significant effort has been undertaken at numerous sites to remove redundant assets from our facilities. During 2020, this activity slowed due to COVID-19 restrictions on contractor entry. As a result, the amount of related waste decreased.

DISCUSSION OF DATA

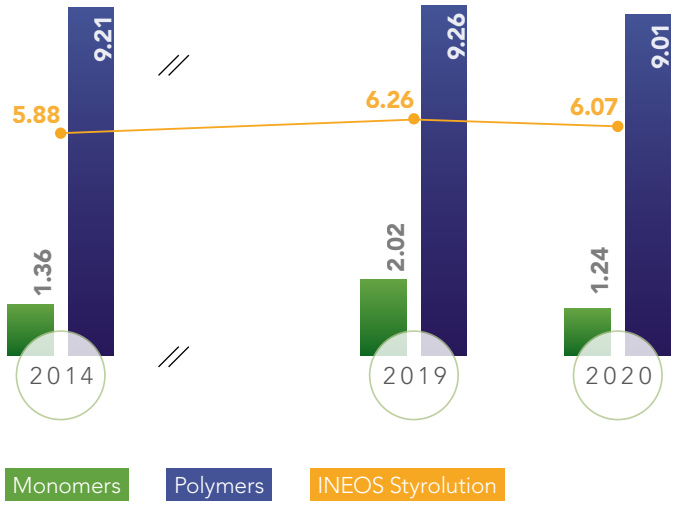
Our Asian sites are leading the way with significant reductions in the amount of waste generated per kilogramme of production. Since 2014, our sites in Asia have reduced their specific waste by 44%.

Investment in our new Chinese sites has shown great promise as the sites in Ningbo and Foshan generate very little waste.

Our sites made good progress in 2020 to reduce specific waste with a reduction of 3% versus 2019. A key driver for this was the reduction of sludge from various sites.
As part of a redundant asset removal plan and upcoming investments, we expect figures for demolition waste to increase through 2023

Specific waste by source	2014	2019	2020
Specific waste by source [kg/tonne produced]			
Operations	2.72	2.69	3.00
Projects	0.80	0.69	0.97
Sludge	2.42	2.26	2.13
Municipal	0.67	0.48	0.65
Other	0.07	0.82	0.30
Specific waste by destination [kg/tonne produced] **including project waste**			
Recycling recovery	2.14	2.48	2.90
Incineration	1.97	2.18	1.74
Landfill	2.37	1.65	2.25
Other	0.05	0.63	0.14
Specific waste by category including project waste [kg/tonne produced]			
Hazardous waste	2.04	2.23	1.82
Non-hazardous waste	4.50	4.71	5.21

Specific waste excluding project waste [kg/tonne produced]



while this plan is still in execution. For waste arising from necessary infrastructure or demolition works, we mainly focus on good handling practices and maximisation of recycling and reuse of the generated waste.

Over the last years, we have successfully shifted from landfill waste to recycling and recovery. Currently, 41% of our overall waste is sent to recycling and recovery and 32% to landfill. Over the period 2014 to 2020, landfill waste has been reduced by 5%, while waste that is recycled and recovered increased by 36%. We continue to evaluate further measures to reduce landfill waste over the next years.

Another key waste indicator is the distribution between hazardous and non-hazardous waste: in 2020, 26% of our waste was from hazardous waste and 74% from non-hazardous waste. Hazardous waste, which requires special handling, disposal, and storage measures, was reduced by 18% in 2020 versus the previous year. We aim to minimise and recover our hazardous waste and recycle non-hazardous waste as much as possible.

Total specific waste linked to production from our polymer and monomer sites, excluding project waste, increased by 3% compared to 2014. The main sources of production waste for polymers are process waste from ABS rubber production and sludge from wastewater treatment plants. The main sources of waste in EBSM production are project waste, spent catalyst and exported wastewater.

This means that our ambitious target to reduce our waste from production by 10% for this period was not reached despite our efforts to improve our waste management. Here, a shift in our product portfolio towards specialities and high-quality polymer products that generate a higher quantity of intermediate waste has impacted our overall waste figures.

ENERGY EFFICIENCY

Energy usage is integral to our resource efficiency efforts and is a key driver for all capital expenditure projects. Since the establishment of our company in 2011, we have completed a number of energy reduction projects, and every year, our Capex programme includes numerous initiatives to improve energy efficiency. We have implemented energy management systems to measure, monitor, internally report, and evaluate the use of energy.

Energy reporting at our 20 sites involves fossil fuels, electricity, steam, and oil residues. The energy usage can vary annually depending on site-specific conditions such as turnarounds and the type of chemical process.

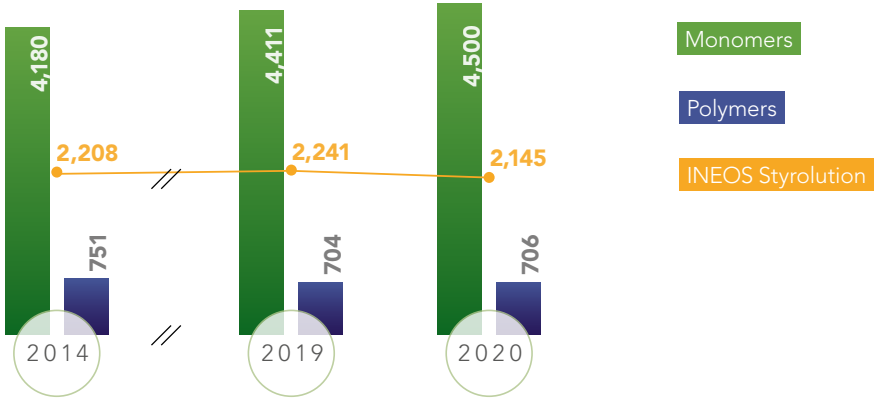
DISCUSSION OF DATA

As a result of modifications to reporting requirements, the energy usage of the monomer sites (and hence INEOS Styrolution as a whole) has been updated. In 2020, 55.1% of our energy use was from fossil fuels, 34.3% from steam and 9% from electricity. In general, steam and fossil fuels are mainly used by EBSM plants, whereas extruders at polymer production sites use a higher quantity of electricity.

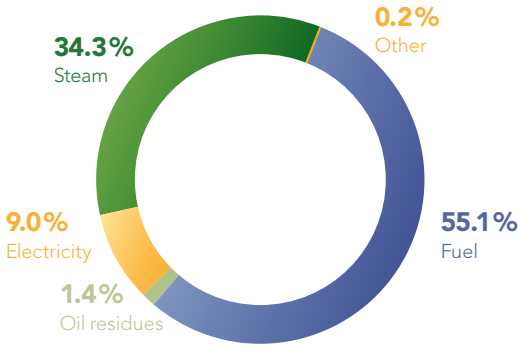
Compared to 2019, our polymers production sites showed a small increase in specific energy use in 2020. One of the key reasons for higher specific energy is the lower production rates at our sites in 2020 brought about by the general economic slowdown related to COVID-19.

Our four EBSM plants represent approximately 80% of our global energy usage. This is a direct result of the different thermodynamics of EBSM processes versus polymer processes. Compared to our baseline year of 2014, INEOS Styrolution's overall specific energy consumption has decreased by 3%.

Specific energy consumption [kWh/tonne produced]



2020 Share by energy source



GREENHOUSE GAS EMISSIONS

We are committed to reduce our greenhouse gas (GHG) emissions and take actions to mitigate the negative effects of climate change to keep temperature increase well below 2°C (above pre-industrial levels). Our efforts and interests to comply with the globally established carbon emission targets, is of high interest to our customers, stakeholders, and investors.

We report and review our specific GHG emissions on an annual basis. Based on GHG emissions assessment, global leadership, with input from local business units, set emissions conservation objectives & action points. Energy and GHG reduction projects are identified and tracked in our Capex system and exchanged within the INEOS Carbon & Energy network. Within this network, joint cooperation within INEOS businesses for energy efficiency projects as well as innovations are shared and discussed on a regular basis. At present, we are using all these information to develop a meaningful GHG emission reduction roadmap – our path forward towards mitigating the negative effects of climate change.

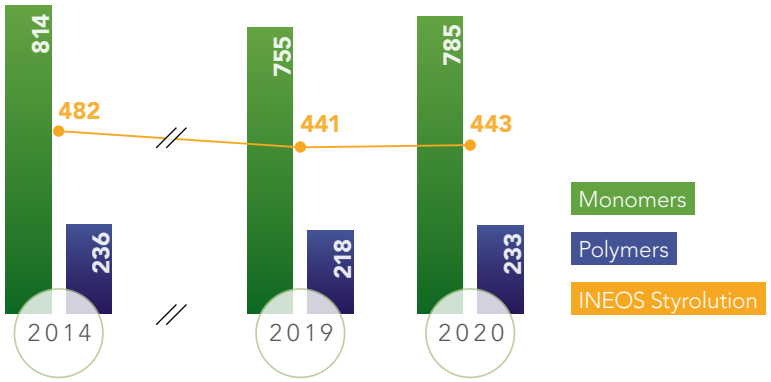
Our specific GHG emissions is based on our production volume. In addition, emissions used in the calculation of this intensity metric cover Scopes 1 and 2 CO_2 emissions as defined in the Greenhouse Gas Protocol. Included in our Scope 1 emissions are direct emissions from fossil fuel consumption at our sites, CO_2 equivalents from N_2O (nitrous oxide) and CH_4 (methane), and also process emissions from refrigerants such as HFC (hydrofluorocarbons), PFC (perfluorocarbons), CFC (chlorofluorocarbons) and HCFC (hydrochlorofluorocarbons). Scope 2 includes indirect CO_2 emissions related to sourced electricity and utilities such as steam. Emissions related to exported utilities are deducted from the gross emissions.

CO_2 emissions are evaluated either based on CO_2 conversion factors or calculated based on the carbon content in fuels. The used conversion factors are either given by energy suppliers, national/ regional authorities or taken from global warming potentials as stated in international standards such as the Intergovernmental Panel on Climate Change (IPCC) or the GHG protocol.

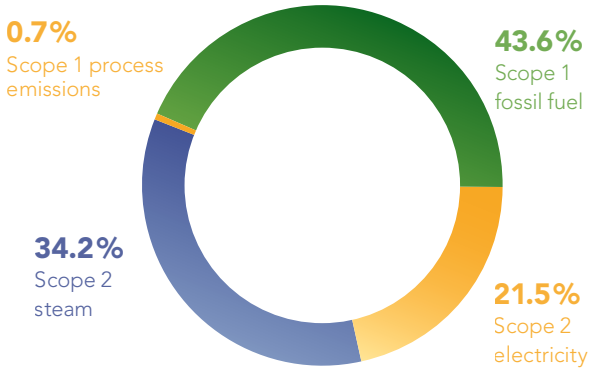
INEOS Styrolution's emissions inventories are audited and verified in different ways:

- As part of our global SHE Excellence programme, an independent contractor conducts routine environmental regulatory compliance audits which assesses accuracy of emissions reporting. Additionally, a certification body for ISO standards, including the ISO 14001 standard, and assessor of GHG emissions inventories, performs audits of our corporate sustainability and emissions reporting processes.
- In addition to third-party audits, our global Sustainability programme includes multiple levels (site, regional and global) of emissions review and validation to ensure accurate reporting.
- Regulatory compliance programmes including emission reporting are also audited and validated by local, state and federal regulatory agencies. Both on-site/ field and electronic regulatory compliance audits are conducted routinely by state and local governments.

Specific greenhouse gas emissions [kg/tonne produced]



2020 Greenhouse gas emissions by source



DISCUSSION OF DATA

In 2020, 44% of our total greenhouse gas emissions are attributable to scope 1 emissions and 56% to scope 2 emissions. It can be seen that 22% of our GHG emissions were related to electricity production, although only 9% of our energy consumption was electricity-based. The key factors here are CO_2 conversion factors for electricity that can strongly vary depending on the local supplier.

The accessibility and availability of energy sources, especially renewable energies, can be nationally and regionally limited. Increasing the share of renewables in our electricity mix to reduce the carbon impact of this energy source will be subject to further follow-up.

In 2020, both monomer and polymer sites trended upward slightly in specific GHG emissions but remain lower than baseline year of 2014. As noted previously, the general economic downturn related to the COVID pandemic and the corresponding reductions in operating rates resulted in site producing at less than optimal conditions.

WATER USE

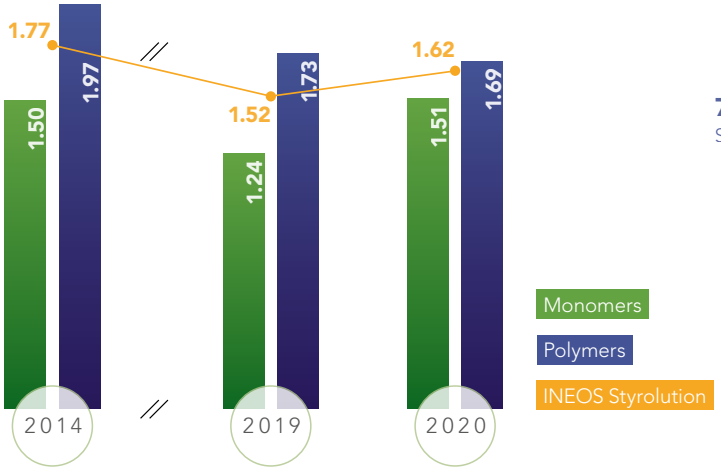
We report on process and cooling water, relating to the efficiency of our processes. By definition, process water comes in contact with our product and can be either reused or sent to an on-site or off-site wastewater treatment facility. Cooling water does not come into direct contact with the product, therefore no organic contamination occurs. In case of a separate discharge point, it can be routed back directly to a river or sea, without further treatment by a wastewater facility. Regardless of regional differences, the use and discharge of process and cooling water are monitored by quantity and quality.

INEOS Styrolution utilises two main types of cooling water systems; semi-open and closed. The choice of system is based upon access to surface water and the ability to return heated water to that surface water system. Semi-open systems are dependent upon the temperature of the incoming water and can lose efficiency in hot temperatures. The use of closed cooling systems requires low make-up water in the cooler months, but there can be high evaporative losses in periods of high temperatures. Process water use fluctuates much less due to meteorological circumstances and is rather linked to stable and reliable operations. Our initiatives to reduce water use are also in line with our set target focus on process water.

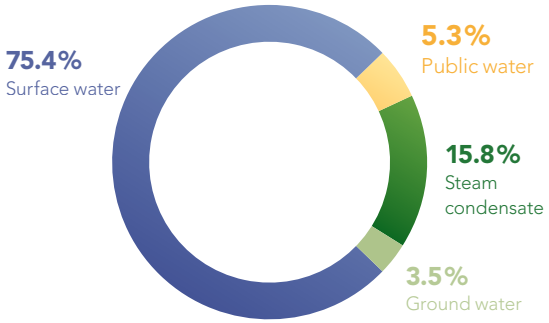
The figures indicate the breakdown of data on our total water use as well as our wastewater discharge. Compared to 2019, specific water use including cooling water increased by 4%. Our polymer sites continue to improve the re-use of water on the sites.

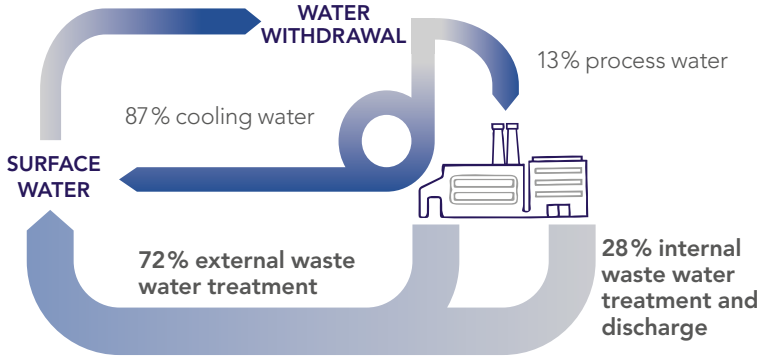
Water withdrawal excluding cooling water

[m³/tonne produced]



2020 Water usage by source excluding cooling water





DISCUSSION OF DATA

Water used for production purposes is drawn from different sources, such as surface water and wells. It can also be imported from neighbouring sites, which has a different environmental impact. Groundwater is the least favoured source. Only 4% of our total process water consumption comes from ground water.

Reporting the total volume of our water use subdivided by source contributes to our understanding of its overall impact and evolution. Compared to 2019, surface water (our primary source of water use) increased by 6% and public water decreased by 12%. The water imported by steam condensate increased by 17%. The usage of steam condensate can vary at sites, depending on the required import and export to other facilities.

In general, polymer production sites use more process water than monomer production sites. The reasons for this fluctuation are limited measurements, housekeeping, increased cleaning and a new demineralised water plant in Altamira, Mexico. In addition, our polymer portfolio shift towards high-quality specialties, such as medical applications, caused higher water consumption. Our 2020 specific water use increased primarily due to the use of additional water during two large turnarounds occurring at our EBSM sites in 2020 as well as reduced production across the EBSM business. Compared to 2019, water use by monomer production increased by 22%, whereas our polymer production plants decreased their water use by 2%. Overall, withdrawal of process water increased by 6% in 2020, resulting in a reduction of 8% between 2014 and 2020. This is in line with our target of 3% reduction over the period 2014 to 2020.

INEOS Styrolution production site in Altamira, Mexico.

WASTEWATER

The amount and quality of water discharged by our sites is directly linked to both ecological impact and operational costs. Efficient treatment of emissions and reduction of wastewater discharge mitigates our impact on rivers and local habitats. We aim to further reduce our environmental impact through improved efficiency of water use within our sites, leading to a reduction of wastewater discharged.

All of our production sites have wastewater treatment plants at site or send their wastewater to an external wastewater treatment facility. Several measures, such as closed-loop water systems to reuse the water for cleaning purposes or as cooling water, as well as procedures to reuse their process water or condensate at neighbouring production plants, are in place or in progress. Our process sedimentation basins, filters, as well as flotation units help in preventing solids from entering wastewater treatment facilities. Due to water scarcity in India, effluents from the wastewater treatment is used for irrigation on site.

Wastewater is a key indicator and part of local and national reporting at each of our production facilities. Compliance with local requirements is actively monitored and anticipated, led by our SHE managers onsite as well as our regional SHE managers.

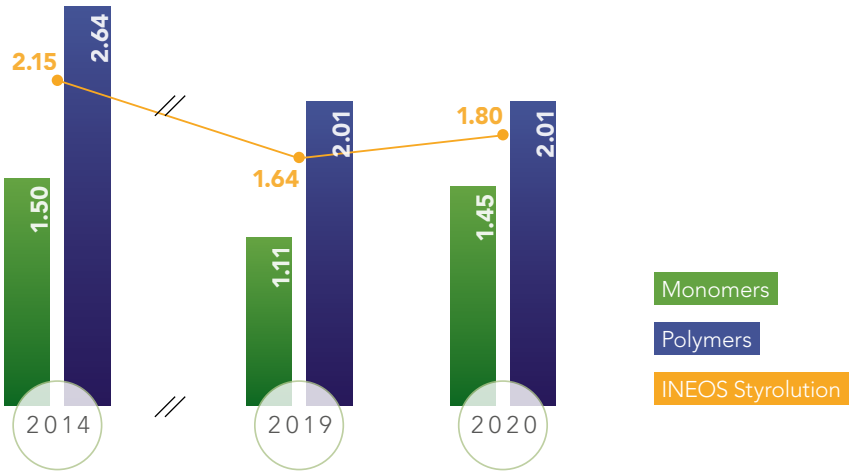
All process wastewater as well as contaminated cooling water are included in the reported scheme. After internal or external treatment in wastewater treatment facilities, the water is directly discharged to surface water.

DISCUSSION OF DATA

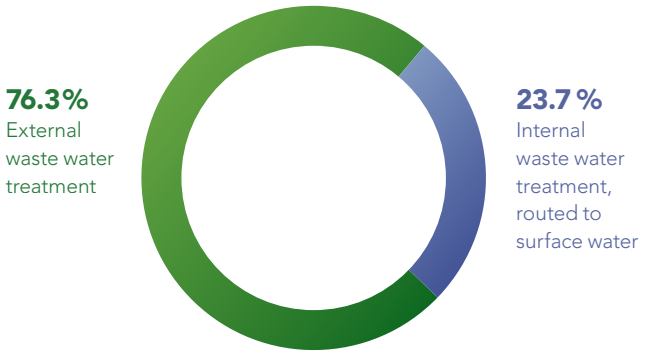
Globally, 24% of our total wastewater is treated on site and 76% of our total wastewater is sent to a third-party wastewater treatment facility.

Compared to 2019, overall specific wastewater increased by 10%. In general, polymer production sites discharge more wastewater than monomer production sites. However, due to large EBSM turnarounds in 2020, wastewater discharge by monomer production sites increased by 30% since the previous year. During 2014 to 2020, we achieved a 17% reduction in wastewater discharge. This means we have continued to improve beyond our reduction target of 7%.

Specific waste water discharge [m³/tonne produced]



2020 Destination of discharge



AIR EMISSIONS

Air emission management is of high significance to our industry's environmental management. It ensures that the air quality in the neighbourhood remains suitable and that the impact on nearby habitats and our atmosphere is limited. Air emissions are therefore highly regulated and part of the technical handling, advanced monitoring, and reporting, and are subject to continuous improvement.

Air management is an integral part of the environmental management of our sites.

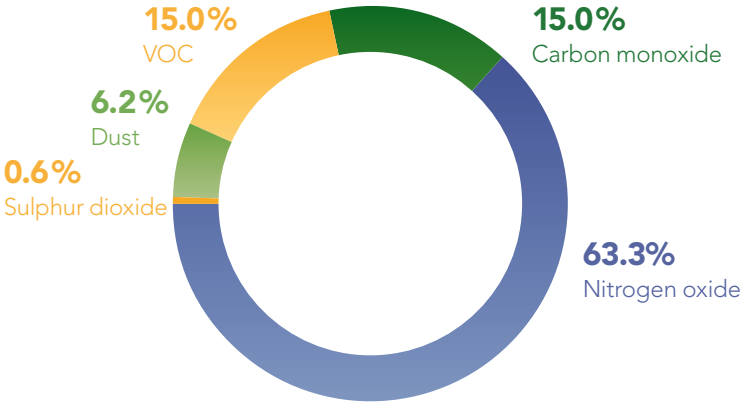
Air emissions from manufacturing (VOC) and combustion gases (NOx, SO_2, CO and dust) are monitored at each site according to local legislation. We treat our air emissions from our production sites with methods such as condensation, filtration, absorption, or incineration, in line with national and local legislation requirements. The results are reviewed and evaluated for further optimisation. Diffuse air emissions in operations are monitored via leak detection and repair procedures.

DISCUSSION OF DATA

Compared to 2019, we reported an increase of 4.1% in NOx emissions, a decrease of 52% in SO_2, a decrease of 3.1% in CO and a decrease of 1.3% in dust.

The air emissions of NOx, CO, SO_2 and dust are related to the combustion of fossil fuel and waste. The large fluctuations in SO_2 is due to specific monitoring activity at our polymer site in Thailand.

2020 Air emissions by share



PREVENTING PLASTIC PELLET LOSS WITH OPERATION CLEAN SWEEP®

Marine litter and pellet loss are a global issue and a key concern for us. The general sources for pellet loss in the environment are pellet-handling facilities such as pellet manufacturers, logistics and transportation companies, processors, compounders, suppliers, or customers.

Operation Clean Sweep® (OCS), the industry programme to prevent pellet loss, which we joined in 2015, is a high priority for us. The foundation of OCS is built upon five action pillars: commitment, assessment, facility upgrade, awareness, and improvement.

During our implementation period, we performed a root cause analysis and defined preventive and mitigation measurements to avoid the escape of pellets from their primary containment. Potential locations for spillage can be within operations (such as packaging areas), logistics (loading and unloading areas) or warehouses.

Examples of our preventive measurements are additional covers for pelletisers, spilling protections, funnels, sizing of collection tools or pipes. In case of an occasional spill, mitigation steps such as systematic clean-up by our employees, pit collections, filters in rainwater drainages and wastewater treatment facilities have been installed to prevent stray pellets leaving our sites. In case of such an incident, preventive and mitigations measurements are re-evaluated and enhanced.

To continually improve our OCS approach, we enhanced our cleaning equipment protocols, reviewed our housekeeping programme, extended Asset Care initiatives, and trained employees and contractors. In addition, supervisors performed frequent checks in high-risk areas. The importance of OCS has been communicated to our contractors and integrated where possible in their bonus malus performance measurement.

From our leadership, OCS is integrated in awareness campaigns, in internally and externally performed audits, and communicated to the supply chain to encourage and raise awareness to the OCS programme.

HIGHLIGHTS OF OUR 2020 PERFORMANCE

The following examples highlight initiatives undertaken at a regional level:

- **All our Asian sites completed their on-boarding to the OCS programme.** Hereby, all the pillars of OCS have been integrated and adapted into daily operations. We will continue to improve our preventive and mitigation measures in operations.
- **At our sites in the EMEA, we continued our engineering study on truck blowing stations.** We reviewed best-practice solutions regionally as well at the INEOS group level. At each site, we reviewed potential locations, engineering possibilities and required regulations. Once finalised, the project will move to the next implementation stage.
- **In the Americas, we continue to enhance engagement with regional organisations to manage OCS.** We have joined with the American Chemistry Council and the Chemistry Industry Association of Canada to expand our efforts within our sites
- **In our supply chain:** Systematic audits of our supply chain have been implemented in all regions. Hereby internal and external warehouses, tollers and transloading areas have been reviewed. Based on the results, audits may be repeated more frequently.
- **In our production sites:** due to the success of our supply chain audit and the on-boarding of all regions to OCS, we are extending the level of transparency to ensure that all sites fulfil the same standard requirements. A consolidated assessment protocol has been developed for use across the sites. Several operational audits were planned in 2020 but have been postponed due to COVID-19 restrictions. The current goal is to have site reviews for all our sites in 2021.
- **We continued our engagement within the PlasticsEurope OCS task force** to increase communication with governmental and non-governmental organisations on pellet loss and exchange best-practice examples. Locally in Antwerp, we participate in the Port of Antwerp OCS initiative to address and prevent pellet loss at the regional chemical hub, collaborating with all stakeholders such as manufacturers and logistics providers. Frequent exchange meetings, investments and annual waste collection events are part of our engagement.

TRANSPORT & DISTRIBUTION

ENVIRONMENTAL FOOTPRINT

Transport and distribution are integrated into our supply chain management. INEOS Styrolution relies on an intermodal distribution model of trains, ships, and trucks to find the most efficient route for the worldwide distribution of our products.

As we have production sites worldwide, we are able to serve our customers from closer locations, which helps minimise intercontinental transport. We do not apply airfreight as a regular mode for intercontinental transports.

In order to lower our environmental impact, we favour the use of rail and sea transport, rather than road-based transport. We aim to ship our products directly to our customers without the use of intermediaries and use off-site warehouses for temporary or overflow storage only.

Since bulk shipments have a lower environmental impact, we encourage our customers to order in bulk when possible. We select our service providers according to a set of quality standards, such as safety, environmental friendliness, as well as adherence to social, ethical standards and technical standards of the chemical industry and the INEOS Styrolution Supplier Code of Conduct.

Euro 6/ VI is the latest and most comprehensive EU standard on the reduction of exhaust emissions from passenger and commercial vehicles. We encourage our logistics providers to always be at the highest norm (Euro 6/ VI), with tendering being undertaken regularly. Measuring our safety and environmental impact helps us optimise our performance and monitor improvements. Therefore, we collaborate with environmentally friendly logistics partners to set and measure our environmental and safety performance, such as miles travelled, fuel consumed, greenhouse gas emissions, loss of containment as well as transport accidents and collaborate with them on reducing their carbon footprint.

In support of the Operation Clean Sweep (OCS) initiative, we regularly audit our logistics service providers and ensure sharing of best practices to avoid any pellet loss in the environment.

TRANSPORT SAFETY

INEOS Styrolution has internal reporting criteria for distribution incidents that require detailed follow-up and reporting to our management board. This means that all transport incidents have a very high visibility and priority in the company and learnings from all transport incidents are shared within the organisation.

We also use the European Chemical Industry Council (Cefic)'s Safety & Quality Assessment System (SQAS) to evaluate the performance of our logistics service providers and chemical distributors, and thereby assure carrier competence and reduce the likelihood of incidents. SQAS assessments cover quality, safety, security, environment, and CSR.

In EMEA, we are increasing the rigour of the application of the SQAS, and in Asia-Pacific, we are in the process of implementing SQAS and performing our own assessments of our logistics service providers. In the Americas, we rolled out a logistics service provider assessment where we monitor U.S. motor carrier safety and performance data published by the Federal Motor Carrier Safety Administration via their Safety Management System (SMS) tool. The SMS is a huge database, which contains all incidents, audits, and assessment data relative to our contracted carrier fleet. It helps us spot trends and develop interventions in areas, such as driver fitness, vehicle maintenance, and unsafe driving.

We developed and are implementing an audit programme based on the Oil Companies International Marine Forum (OCIMF)'s International Safety Guide for Oil Tankers and Terminals (ISGOTT) standards. These standards evaluate internal management systems such as maintenance, training, management of change as well as a range of safety topics. In this way, we have reached out to our marine terminal partners to continue to drive improvement in the management and safe handling of our products. The audit programme was put on hold in 2020.

We have implemented a more routine technical communication programme to help educate our customers and all of our transport partners (truck, rail, barge, tanker ships and terminals) on the safe handling of our products. We intend to help expand the understanding of safe handling of our products with everyone in our supply chain.

All our sea terminals will conduct a self-assessment against these standards, which we will follow up with a validation inspection with the INEOS Marine Assurance Group.

COMBATING COVID-19: WITH SAFE AND RELIABLE OPERATIONS

As the COVID-19 pandemic is spreading across countries and continents, manufacturing companies such as us are faced with many challenges. Despite the uncertainty in the supply of raw materials and demand for our products, our site leaders have guided their teams to meet all demands while following strict hygiene social distancing measures.

With the tremendous support of our workforce, all our plants have been in operation since March 2020, with the exception of our plants in India where the government had instructed us like others to shut down.

We had an average of 35% of our workforce present at each site, thus ensuring that our assets kept running, without going under the minimum safety staffing to run them. At the same time, we demonstrated flexibility, adjusting the production rate at our plants to meet the demands of our customers.
Our two construction sites in Bayport, Texas, USA and in Ningbo, China faced minimal disruption with construction rate as expected and on track.

VALUING OUR PEOPLE

ENGAGING AND DEVELOPING OUR EMPLOYEES

DRIVING SUSTAINABILITY ALONG THE VALUE CHAIN

SUPPORTING THE COMMUNITIES IN WHICH WE LIVE AND WORK

ENGAGING AND DEVELOPING OUR EMPLOYEES

Our people are INEOS Styrolution's most important asset. Their creativity, diversity, knowledge, passion, and expertise help us achieve a competitive advantage and drive business success.

In our materiality assessment, being a reliable employer as well as education and training were rated as having an impact by us and of significance to our stakeholders.

OUR APPROACH

One of our core guiding principles is "valuing and respecting people" and we aim to maintain positive relations with our employees and develop a healthy working environment where our workforce can develop and maximise their potential.

With 20 manufacturing sites in ten countries and 24 sales offices around the world, our employees are accustomed to working with people of diverse cultural backgrounds. We truly believe in diversity and equal employment opportunities regardless of gender, age, nationality, religion, race, or cultural background. We focus on having an inclusive approach, which is open and transparent and welcomes talent first and foremost.

ADDRESSING THE UN SDGs

We promote the well-being of our workforce through concerted efforts to improve their health and well-being.

We offer life-long learning opportunities through training and development of our workforce.

We promote productive employment and decent work for all.

OUR PERFORMANCE

Key highlights

- Launch of **recruitment websites** in all three regions

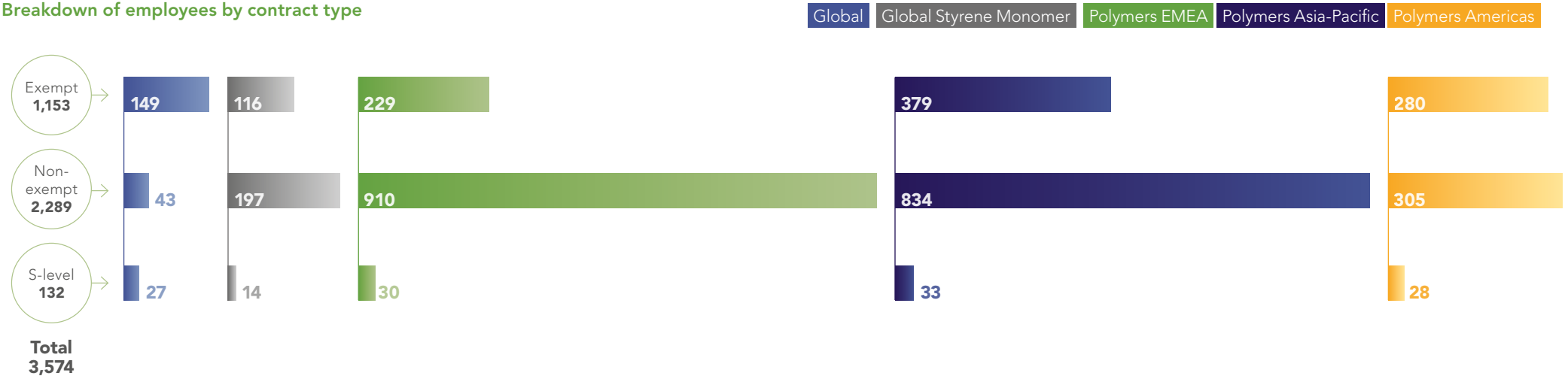
Sustainability actions

- Conduct **employee survey** for the entire workforce in 2021
- Launch 1st **succession planning** cycle in 2021
- Roll out **global payroll platform** by 2024

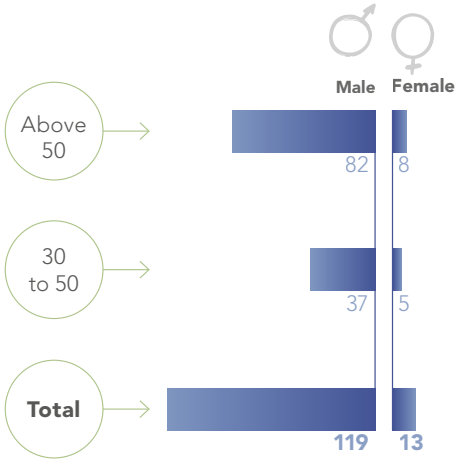
EMPLOYEE DEMOGRAPHICS

In 2020, INEOS Styrolution's workforce totalled 3,574 employees with 83% male and 17% female employees.

Breakdown of employees by contract type



Breakdown of senior management by age



This is a split based on job level:

Non-exempt: Tarif or staff (under collective bargaining agreements) at the lower end of the salary structure

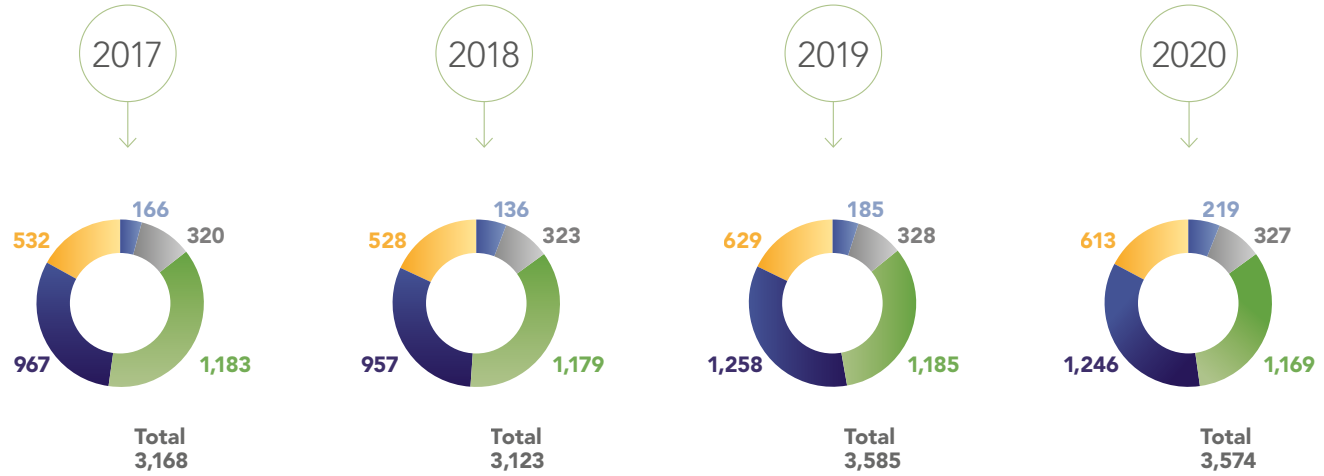
Exempt: Hay grades 15-19. They have different compensation and benefits compared to non-exempt staff and S-level executives.

S-Level: Senior executives with Hay grades 20 and above. They have different compensation and benefits compared to non-exempt and exempt staff.

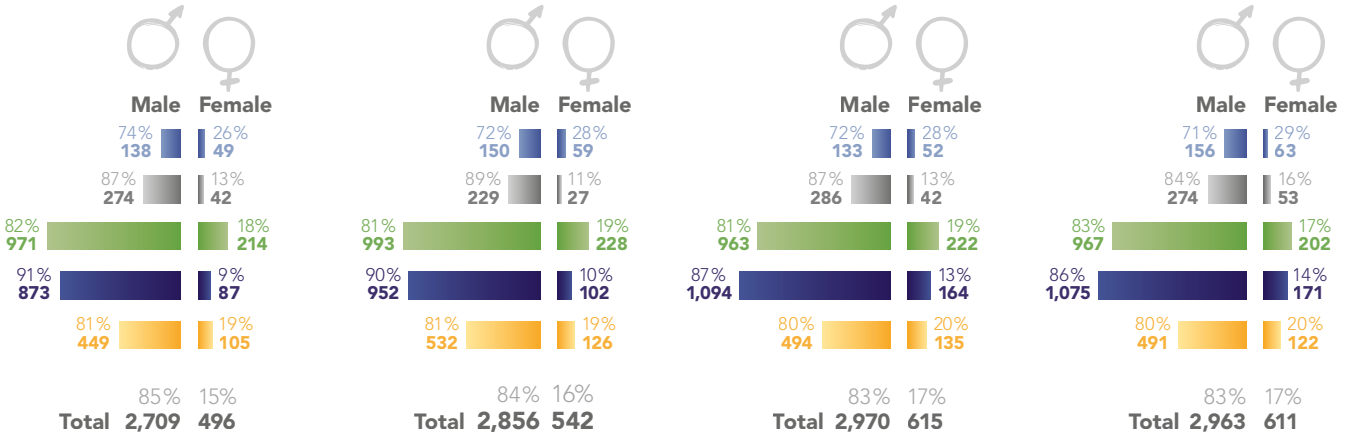
Hay grades are categorised according the Hay evaluation system for corresponding job grades used worldwide.

All the units stated in the graphics in this chapter indicate headcount.

Breakdown of employees by segment

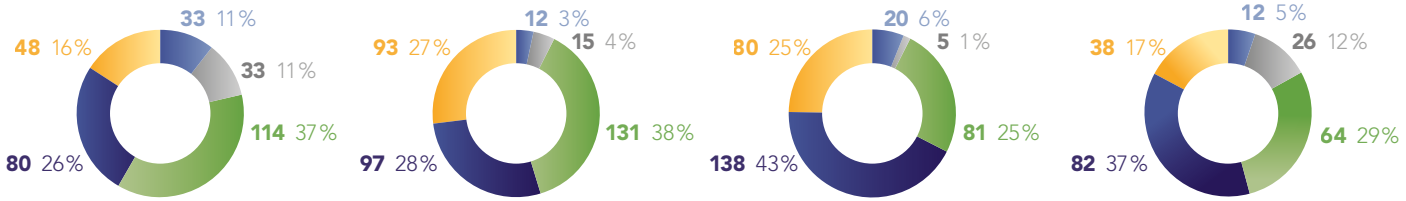


Gender diversity by segment



Global
Global Styrene Monomer
Polymers EMEA
Polymers Asia-Pacific
Polymers Americas

Breakdown of new hires by segment



RECRUITING THE BEST AND BRIGHTEST

In a competitive, global industry such as ours, success hinges on our ability to attract and retain the most qualified and committed workforce.

We recruit young graduates as part of a five-year INEOS Graduate Programme offered by our parent company, which aims at developing the best commercial graduates internationally. Through this programme, young recruits are offered meaningful responsibilities, on-the-job and core skills training, a personal mentor, as well as competitive pay and benefits based on market standards.

As part of the programme, INEOS Graduates meet senior INEOS executives to discuss company strategy, growth projects and global efforts towards sustainability. They also develop their knowledge of financial management, leadership, and business strategy through interactive sessions.

In 2020, we launched recruitment websites for the EMEA, Americas and Asia-Pacific regions. Through these dedicated websites that comprise country-specific webpages, potential applicants immediately see basic information about our company, their potential job environment as well as testimonials in their local language.

GLOBAL EMPLOYEE TURNOVER

In 2020, 212 employees left INEOS Styrolution, which translates to a global employee turnover of 5.9%. The reduction compared to 2019 was due to the lower number of resignations. We will also continue our efforts to retain talent as well as introduce young talent to the company.

In order to reduce our voluntary departures, we are working to get a better understanding of the motivations of those who resign. We have implemented processes to make exit interviews consistent across all regions and include more job levels.

IMPROVING EMPLOYEE ENGAGEMENT

We highly value the opinion of our workforce. Following our first global employee survey in 2017, many initiatives were implemented based on employee feedback.

We will be conducting a follow-up employee survey in 2021 to assess the performance of our company together. Topics covered in the survey include: leadership and management, strategy and goals, customer orientation, working conditions, work-life balance, recognition, and compensation, as well as information and communication. We strive for a 65% participation rate of our workforce.

Following the acquisition of the two polystyrene sites, Ningbo, and Foshan, in China, we onboarded 185 new staff to our company. We conducted town hall sessions in Foshan, Ningbo, and Shanghai to explain the transition. This was followed with communication on the specific details of transitions including detailed analysis for each employee as well as formal written communication. Some of our senior management toured the two sites to introduce the new employees to our company values and culture.

Employee turnover

	GLOBAL	STYRENE MONOMER	EMEA	ASIA-PACIFIC	AMERICAS	TOTAL
Resignations	7	9	39	44	7	106
Terminations	2	9	8	7	8	34
Redundancies	1	0	1	10	0	12
Retirements	1	3	13	23	12	52
Others (incl. deceased, disabled, probation period failure)	0	0	4	3	1	8
Total	**11**	**21**	**65**	**87**	**28**	**212**
Compared to total employees in segment	5.0%	6.4%	5.6%	7.0%	4.6%	
Compared to total headcount	0.31%	0.59%	1.82%	2.43%	0.78 %	

PROMOTING GOOD HEALTH AND WELL-BEING

Safety, health, and fitness are of paramount importance to our company. Therefore, we support and encourage a healthier lifestyle for our employees. Many of our production sites and offices have fitness centres within the company premises, where employees can make use of the facilities thanks to subsidised fees by the company.

The INEOS Energy Station, an internal online health and fitness hub, created by our parent company INEOS, provides help and expertise on training, nutrition, mental health, and general well-being for a wide range of physical abilities. The hub also promotes fitness events and fun challenges for its workforce worldwide. One of its most popular challenges is the annual INEOS Tour de France Challenge, where teams aim to complete all 21 stages of the Tour de France. In 2020, several colleagues from our sites and offices came together virtually to participate in the challenge and also raised money to support local charities.

The Energy Station organised several virtual fitness challenges during the COVID pandemic as the workforce was not able to access gyms and fitness facilities. Many of our employees actively participated in virtual challenges and online courses offered by the hub.

GLOBAL HR INFORMATION SYSTEM

Our global Human Resources Information System (HRIS), which was launched in 2018, has enabled globally aligned, transparent and professional processes around recruitment, on-boarding, learning and performance reviews.

In 2020, we included a module on Succession Planning and Development in the system. In 2021, we will implement the 1st succession planning cycle and re-evaluate the criticality of 75% exempt / S-level positions in the system. By the end of 2022, we plan to evaluate the future potential of 75% of all exempt / S-level by management as well as complete the Employee Development Interview (EDI) of 75% of all exempt / S-level employees EDI via Success Factors.

We plan to roll out a global payroll platform with interface to the HRIS by 2024. We will begin implementation in Asia-Pacific in 2021, with go-live scheduled for early 2022.

DEVELOPING OUR PEOPLE

We offer our workforce a broad portfolio of e-learning courses. In addition to mandatory training on compliance and safety health & environment (SHE) topics, we also provide courses on professional skills, language training, behaviour assessment, competency development, and soft skills.

Training Bites, our monthly webinar series, is our most popular training format. Colleagues from different departments share their expertise on specific topics. Some of the topics covered via Training Bites are: Gen-Z at the workplace, our safety culture, empowering women in the workplace, enabling a circular economy for styrenics, and cybersecurity at the workplace.

We follow local legislation with regard to renewing technical certificates for employees both at our offices as well as at our manufacturing sites. To further drive generational balance, we focus on tailor-made training and succession planning for all employees globally.

No global and regional management development programmes (MDPs) were conducted in 2020 due to COVID restrictions. In 2020, 97%* of our exempt employees reported an annual performance review with their manager. In the case annual performance reviews were not done, it was due to factors such as maternity leave, parental leave, or long-term illness. Due to the new Performance & Goals module in our global information system, Human Resources, direct managers, and upper management are capable of tracking objectives, calibration, and the progress of employees.

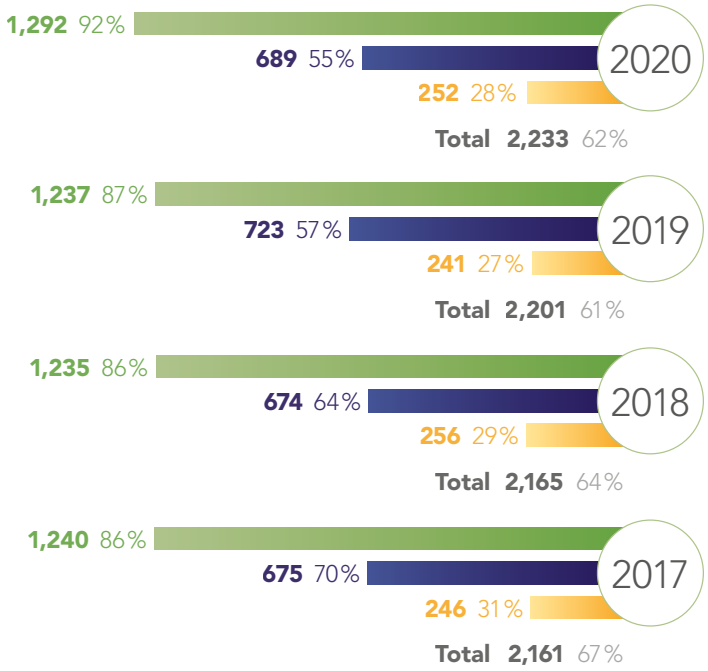
In addition, an employee development interview (EDI) process, run over a two-year cycle, is available for exempt employees worldwide. The employee and their manager jointly discuss skills needed to perform their work, skills that might be needed to fulfil future requirements and aspirations, and professional development steps that can be taken to enable the acquisition of those skills. No development interviews were conducted in 2020 because of the expected implementation of the new succession module planning module, which will include these interviews.

* Due to the use of different definitions, there is a difference in the 2018 and 2019 figures stated in this report in comparison to our financial statements for the same year.

OPERATIONAL CHANGE AND COLLECTIVE BARGAINING

Our employees have the freedom to organise and collectively bargain. We do not intend to impair the rights of any employees included in any collective bargaining agreement or prohibit the lawful exercise of any rights guaranteed by any applicable legislation. In 2020, 62% of INEOS Styrolution's workforce was covered by collective bargaining agreements.

Collective bargaining by region*



Polymers EMEA
Polymers Asia-Pacific
Polymers Americas

* this includes non-exempt employees globally, except South Korea where employees up to grade 37 are included

The data for 2017, 2018 and 2019 was incorrectly stated in our previous report and has been corrected here.

COMBATING COVID-19: SUPPORTING OUR EMPLOYEES

To curtail the spread of COVID-19, we acted swiftly to safeguard employees and migrate to a new way of working. We implemented "working from home" for all office staff, even before the official mandate by governmental authorities. Due to the restrictions on travel during the height of the pandemic, our workforce continued to be productive with virtual meetings and digital communication replacing face-to-face discussions.

We ensured that only required staff were present at a time in our production facilities with the necessary distancing and hygiene measures in place. Sufficient masks, disinfectant and hand sanitisers were provided to all employees when entering the company premises.

Since the beginning and throughout the lockdown phase, we ensured periodic and consistent messaging to employees. Where the COVID-19 situation allows, we are (partially) returning our workforce to the office and planning face to face meetings with customers and suppliers again, with strict hygiene measures as well as social distancing procedures. This is being monitored on a regular basis in case additional measures need to be implemented.

DRIVING SUSTAINABILITY ALONG THE VALUE CHAIN

Our efforts to monitor and enhance our sustainability performance are grounded in the activities of our own business. We believe, however, that our overall responsibility is not limited to our own manufacturing sites. We, therefore, assess sustainability performance along the entire styrenics supply chain to ensure that our suppliers meet high sustainability standards.

OUR APPROACH

Sustainable procurement practices are increasingly driving companies' purchasing decisions, policies, and reputation. We work with over 10,000 suppliers worldwide that provide us with raw materials, equipment as well as services, such as logistics, utilities, and IT. As a company with a global reach, we have the ability to influence the sustainability practices in our supply base and are committed to forming strategic partnerships with our top suppliers that have the most impact on our business from a risk and spend perspective.

In our recent materiality assessment, sustainable procurement and eco-sourcing were rated as having an impact by us and of significance to our stakeholders.

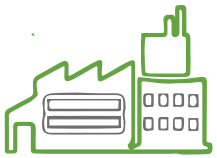
Together with our various supply chain partners, we continue to ensure efficient and effective production planning and execution as well as filling and storing of finished and intermediate material, based on customer demand and requirements. By engaging our stakeholders on sustainability performance, we limit the risk of delivering products to the marketplace that are not in line with ourvalues or the stated intent of our sustainability programme.

The cornerstone of our supply chain management is our Supplier Code of Conduct. In 2020, we worked closely with other INEOS businesses to update our Supplier Code of Conduct. The new policy defines our minimum expectations and requirements in supplier standards, including health and safety, environmental protection, labour practices and human rights, ethics, and fair business practices.

We expect all our suppliers – at a minimum – to comply with our Supplier Code of Conduct, which provides additional details of our expectations from suppliers. We also monitor and review their performance through our own internal assessments as well as through third-party assessors.

Responsible business practices across our supply chain

Responsible procurement of our raw materials & supply chain



Energy- & resource-efficient production of granules in our plants

Safe & reliable transportation of our granules to our customer's site

ADDRESSING THE UN SDGs

We are shifting to a low-carbon economy and taking action to combat climate change and its impacts by reducing our greenhouse gas footprint as well as the footprint of our customers down the value chain.

We address marine litter and pellet loss by engaging with our upstream and downstream supply chain to ensure compliance with our efforts to avoid pellet loss.

We form strategic partnerships with suppliers and recyclers to drive sustainable development across our entire value chain.

OUR PERFORMANCE

Key highlights

- **80 %** of total supplier spend to be third-party assessed by 2020 | Achieved 81.9%
- **100%** of buyers trained on sustainability in 2020 | Achieved
- Sustainability to be included as a **key component** in supplier excellence programme by 2020 | Achieved

Our sustainability targets and actions

- **100 %** of buyers trained on sustainability in 2021
- Ensure that all strategic suppliers* commit to our new INEOS Styrolution **Supplier Code of Conduct** by 2022
- Secure sufficient feedstock to ensure upscaling of more than **5000 tonnes of ECO products** by 2021

ENSURING RESPONSIBLE SOURCING

Underpinning a circular economy is a circular supply chain. Therefore, in addition to working with suppliers, collectors, sorters, and recyclers upstream, we also focus on our downstream value chain. We want to be a responsible and reliable supplier to our customers and we support them in becoming more sustainable.

Our newly launched ECO family of sustainable products includes materials comprising recycled post-consumer plastic waste as well as materials based on renewable feedstock. Therefore, we are engaging with sorting and recycling companies in our supply chain to secure high-quality post-consumer waste for our recycled polystyrene and ABS products.

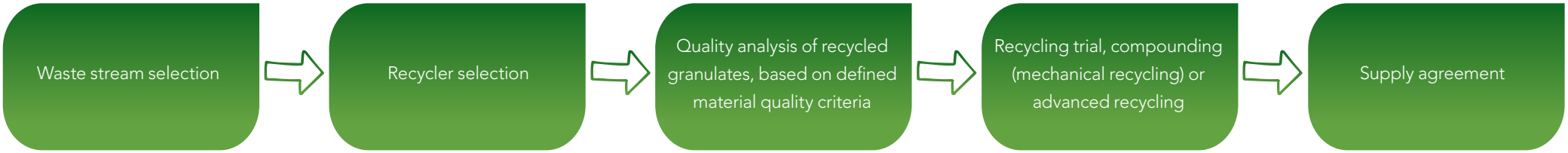
We are also offering the integration of renewable feedstock as a replacement for fossil fuel. Each step of the sourcing and production process of these renewable materials is certified by independent organisations, such as Roundtable for Sustainable Biomaterials (RSB) and International Sustainability & Carbon Certification (ISCC). We have conducted surveillance audits with RSB & ISCC at our sites in Antwerp in 2020 and in Ludwigshafen in 2021.

We have harmonised and standardised the procurement processes to secure feedstock for our ECO products. We first identify the waste sources (such as household waste, waste electrical and electronic equipment, end-of-life-vehicles, and construction waste) that will deliver the feedstock that we require and select recyclers that can ensure a consistent supply of feedstock. We analyse material samples from potential suppliers at one of our R&D centres based on defined material criteria. If the sample passes the quality check and suitability trials, we develop a formal agreement with the supplier.

Our target is to secure sufficient feedstock to ensure upscaling of more than 5000 tonnes of ECO products by 2021 and we believe that our eco-sourcing strategy will support significant further volume growth of ECO products with recycled content.

* We have defined strategic suppliers as those that are business-critical and/ or with high spend and with a high impact on our business objectives and growth.

Feedstock procurement process for post-consumer recycled ABS, polystyrene and other polymer granulates



With our ECO range of products, we will significantly reduce the greenhouse gas footprint – for ourselves as well as for our customers down the value chain.

To quantify the sustainability of our supply chain, we conducted detailed greenhouse gas (GHG) calculations of key materials such as our recycled material as well as bio-feedstock. The amount of ECO products made using recycled and bio-feedstock will be measured as a key indicator towards our 2025 roadmap. Our baseline will be the year 2020, as upscaling has planned from then on.

In addition, we limit the negative impact of plastics in the environment due to pellet loss by engaging with our upstream and downstream supply chain partners to have them comply with our efforts to avoid pellet loss.

ENVIRONMENTAL AND SOCIAL RESPONSIBILITY IN OUR SUPPLY CHAIN

In 2020, we provided a refresher training for all our existing buyers as well as a training for new buyers as part of their onboarding. Since 2016, we have been assessing the sustainability performance of our suppliers through annual internal assessments as well as through independent third-party assessors such as EcoVadis. Our top suppliers, comprising companies with long-standing sustainability programmes, account for over 80% of spend volume.

Over the past four years, the percentage of global supplier spend assessed on environmental and social criteria increased from 67% to over 82% by 2020. As a next step, we aim to identify our strategic suppliers based on risk assessment to prioritise ones that have a relevant sustainable impact to our business and include them in our monitoring and assessment.

As part of our Supplier Excellence initiative, in 2020, we developed a sustainability dashboard, which gives us an overview of our suppliers based on sustainability criteria such as environmental protection, labour practices, ethics and fair business practices, as well as health and safety. The data is updated in real time by our robotic automation process. Through this process, we ensure a systematic sustainability screening of our suppliers, evaluate the sustainability performance of our suppliers and monitor our own sustainability performance.

We are systematically integrating sustainability as a key component in our Supplier Excellence programme, such as including additional sustainability criteria to evaluate supplier performance.

Our Sustainable Procurement approach encourages buyers to work together with strategic partners to innovate around sustainability and move towards a fully circular business model.

SUPPORTING THE COMMUNITIES IN WHICH WE LIVE AND WORK

We believe that resilient and thriving communities are vital to a sustainable future. We want to be an active corporate citizen to the communities in which we operate.

OUR APPROACH

A key cornerstone of our community involvement activities is our responsibility and accountability to current and future generations. We want to make a positive impact in the communities where we live and work. As part of the plastics industry, we raise awareness and engage our employees to contribute to environmental activities and aim to enhance the health and well-being of young and disadvantaged children. Besides these initiatives, we also respond to the most pressing needs of the communities by volunteering or by providing financial assistance.

The year 2020 was a challenging one with the global COVID-19 pandemic severely affecting our lives. We therefore focused our efforts to provide urgently needed help to the most vulnerable and disadvantaged members of society.

ADDRESSING THE UN SDGs

We ensure the well-being of the people living in the communities we operate in by addressing their most pressing needs.

We support education and provide necessary infrastructure to ensure inclusive education in our local communities.

OUR PERFORMANCE

COMBATING COVID-19: CARING FOR COMMUNITIES

The outbreak of the pandemic led to a global shortage of protective medical equipment such as surgical masks, protective suits, and safety goggles to control the outbreak.

We donated 20,000 single-use facemasks to be distributed across Foshan and Ningbo districts in China.

We provided Terluran® ABS to Friedrich-Alexander-University Erlangen-Nuremberg, Germany to help produce protective glasses for frontline healthcare workers at the university clinic and other healthcare institutions in the area. Within four weeks, the team at the FAU produced 100,000 pairs of protective glasses.

In Ontario, Canada, we responded to a demand and provided personal protection equipment to protect local healthcare workers from respiratory hazards within their workplace.

Our Americas headquarters in Aurora, Illinois sent face shields to frontline healthcare workers in New York City, Chicago and surrounding suburbs, and the hard-hit Navajo Nation community, within Arizona, USA. We also gave a USD 10,000 (over EUR 8700) donation to local Chicago-area food banks.

To combat the outbreak, employees and contractors immediately took proactive steps to implement safety measures. A colleague from our Sarnia site used a recipe published by the World Health Organization (WHO) to create liquid hand sanitiser in her very own kitchen, which she then donated to front-line workers. We also delegated a business development manager responsible for healthcare and packaging to support our parent company INEOS in producing hand sanitisers. In association with a sanitation provider, we facilitated a disinfection project in Godhra, adjacent to our plant in Katol, India. For one month every day, roads, schools, municipal offices, police station and government hospitals in Godhra were sanitised to prevent the spread of COVID-19 during the lockdown. This project, which also included monetary support to the local communities, has protected 150,000 residents by helping contain the spread of COVID-19.

We also distributed 2,200 ration kits containing essential food supplies to deprived families in Vadodara and Moxi who had lost their income due to the COVID-19 lockdown.

As we had to temporarily halt many of our regular community involvement programmes due to COVID restrictions, we redirected our funds and efforts to provide critical relief to local organisations in around our production sites and offices.

The INEOS Community Fund of GBP 1 million was established by INEOS Chairman Sir Jim Ratcliffe in March 2020. The fund enables INEOS sites across the world to support charitable organisations during this particularly difficult time. Below are the organisations to which we have donated up to EUR 10,000.

INEOS Community Fund donations to combat COVID-19

LOCATION	ORGANISATION
Foshan, China	Jinben Primary and Jinben Middle Schools
Singapore	Singapore Food Bank
Antwerp, Belgium	Maud@Co, Bring a Smile, Hearts 4 Mercy Koning Boudewijnstichting, VZW Pagadderke, Tejo
Cologne, Germany	Förderverein für krebskranke Kinder e.V. TuWaS – Technik und Naturwissenschaften an Schulen FSV Jüchen 1984 e.V.
Frankfurt, Germany	School@Home
Ludwigshafen, Germany	Deutsche Leukämie-Forschungshilfe – Aktion für krebskranke Kinder Adler helfen Menschen e.V. Kinderschutzbund Neustadt-Bad Dürkheim e.V.
Sarnia, Canada	Canadian Mental Health Association of Lambton-Kent St. Clair Child and Youth Services
Aurora, Illinois, USA	Boys and Girls Club of Chicago Girl Forward Chicago, Toys for Tots, St Jude Children's Research Hospital
Bayport, Texas USA	Today's Harbor for Children
Texas City, Texas, USA	The Salvation Army Galveston County
Sao Paulo, Brazil	Associação de Apoio à Criança com Câncer
Mexico City, Mexico	Ayuda y Solidaridad con las Niñas de la Ca

INEOS Styrolution donations to combat COVID-19

LOCATION	ORGANISATION
Antwerp, Belgium	Koning Boudewijnstichting, VZW Pagadderke, Tejo
Cologne, Germany	Förderverein für krebskranke Kinder e.V. TuWaS – Technik und Naturwissenschaften an Schulen FSV Jüchen 1984 e.V.
Frankfurt, Germany	Frankfurter Tafel e.V., StreetAngel e.V.
Ludwigshafen, Germany	Adler helfen Menschen e.V. Kinderschutzbund Neustadt-Bad Dürkheim e.V.
Schwarzheide, Germany	ProKids, Björn Steiger Stiftung, Frauenhaus Lauchhammer, Kindergartens Pittiplatsch, Peitz, Bummi & Saalhausener Kinderparadies, Meuroer SV, Ronald McDonald House Cottbus, Schwarzheider Karneval, SV Tauer, SV DaheimSein
Map Ta Phut, Thailand	Camillian Social Center Rayong, Rayong Hospital
Aurora, Illinois, USA	Boys and Girls Club of Chicago Girl Forward Chicago, Toys for Tots, St Jude Children's Research Hospital

IMPROVING GREEN SPACES

We support the development of "green zones" at several locations in India. We developed some barren land into a green belt with more than 400 local species of trees.

At Nandesari, we transformed three debris dumps into green zones with about 200 trees and flowerbeds. This has helped to revive the ecosystem in the area and is keeping air pollution and dust in check.

We also volunteered to support the Lambton wildlife tree planting near our production site in Sarnia, Canada. We planted native trees at the Mandaumin Woods Nature Reserve to replace ash trees impacted by invasive insects.

SUPPORTING LOCAL SCHOOLS

We supported a local school in Bharuch, India in providing computer education to students with special needs. With the help of special software and audio-visual learning aids, students are being provided computer and internet literacy as well as special skills such as typing and digital art.

We facilitated the construction of a solar plant at a school in Dodka, near our plant in Moxi. This school is now using solar-generated electricity to power the school, thus cutting their electricity expenses by 100%. The surplus electricity generated will be sold to the national electric grid. We provided fresh meals to about 100 students with special needs at a residential school in Vadodara for the entire year. We plan to continue supporting the students with their nutritional needs round the year.

Visit our website for an overview of our community involvement activities globally

Volunteering to plant native trees at the Mandaumin Woods Nature Reserve near Sarnia, Canada

Developing a green belt near our production site in Moxi, India

MANAGING OUR BUSINESS RESPONSIBLY

ENSURING FAIR BUSINESS PRACTICES

MAKING SUSTAINABLE GROWTH A REALITY

ENSURING FAIR BUSINESS PRACTICES

We operate with a fundamental respect for the rights of the individual, our employees as well as business partners. We are firmly opposed to all forms of human rights violations or deficient labour conditions and expect this across our value chain.

OUR APPROACH

Ensuring fair business practices that encompass human rights, regulatory compliance and ethical behaviour are the foundations of our business success. We believe that high standards on business integrity and human rights are critical to deliver our strategy, create long-term value and maintain our licence to operate.

We are committed to complying with all relevant local, national, and international laws, as manifested in our own values and guiding principles. Our globally defined policies and standards to some extent even exceed the requirements of local laws, and we strive to live up to the highest standards of business practice regarding ethics, integrity, and transparency.

We do not compromise our safety, health, or environmental standards for any reason, including profit or production. Our recent materiality assessment showed human rights and ethics were rated as having an impact by us and of significance to our stakeholders. Tax has not been considered as a material topic in our materiality assessment. However, as a responsible corporate citizen, we comply with all national and international tax obligations.

ADDRESSING THE UN SDGs

We promote productive employment and decent work for all.

OUR GLOBAL COMPLIANCE PROGRAMME

We have in place a Compliance programme with an organisational framework at global, regional, and country levels to ensure that INEOS Styrolution always operates as a responsible corporate citizen everywhere. This programme is strongly supported by the Risk & Control programme.

OUR CODE OF CONDUCT

The cornerstone of our Compliance programme is the INEOS Styrolution Code of Conduct. Acting in accordance with our Code of Conduct is a prerequisite for each of our employees and we expect all employees to hold themselves to the highest standards of ethics, integrity, openness, and accountability in the way they conduct business. To ensure that all employees fully understand our policies, the Code of Conduct has been translated into selected languages and is posted on our intranet. Our entire active employee base is trained on its content at a minimum every two years. A quarterly compliance update, summarising policy updates and information about ongoing compliance events, is emailed to employees. In addition, an internal newsletter on compliance topics is regularly issued, which highlights the policies and provides concrete examples of compliant and non-compliant behaviour.

Topics our Code of Conduct include:

- Fair treatment and equal employment opportunity
- Human rights and labour standards
- Anti-harassment
- Competition & antitrust
- Bribery & corruption
- Money laundering
- Insider trading
- Gifts & entertainment
- Conflict of interest
- Dealing with governments

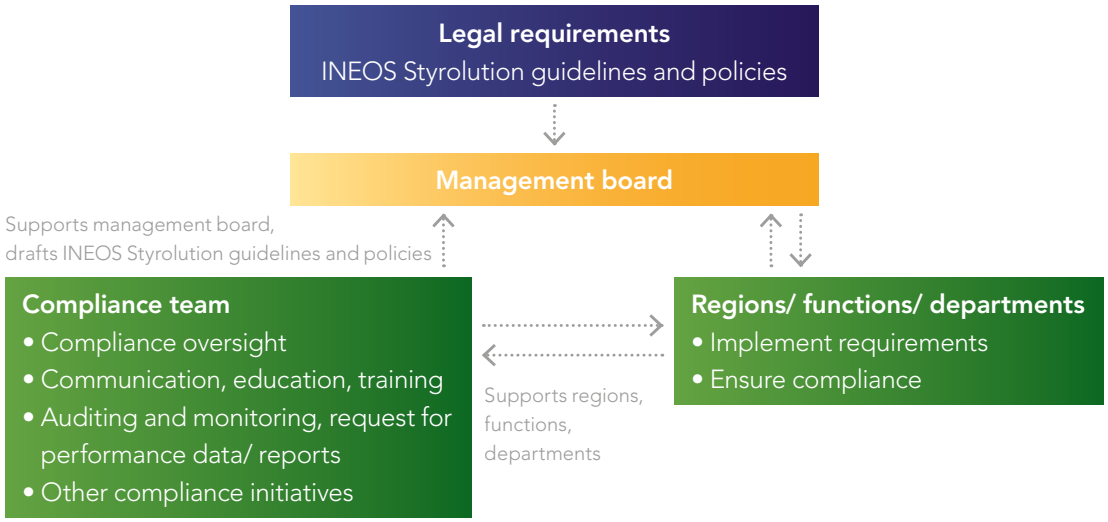
Further parts of the Compliance Program are additional policies issued by INEOS Styrolution, which can be found on a dedicated section of our intranet.

COMPLIANCE TEAM ROLES AND RESPONSIBILITIES

INEOS Styrolution maintains four compliance teams: one team for each of the three regions and one global team. Each of these teams is made up of a representative from Legal, Business, Human Resources, SHE and Finance. Members of other departments participate occasionally as members of the extended team.

The Chief Compliance Officer of the company, reporting directly to the CEO, chairs the global team, as well as oversees and manages regulatory compliance issues, ensuring that the company complies with both its internal policies and its outside regulatory requirements.

Compliance team roles and responsibilities



OUR PERFORMANCE

Key highlights

- **Biennial training** of entire active employee base on **Code of Conduct**

Key actions

- Conduct **biennial training** of entire active employee base on **Code of Conduct** in 2021
- Conduct **online refresher training** on **anti-bribery, anti-corruption**, and **anti-money-laundering** in 2021
- Conduct **online refresher training** on **antitrust** in 2021

HUMAN RIGHTS

Human rights abuses have no place in our society and we aim to have a positive impact by identifying and managing human rights-related risks in all our activities.

Thorough due diligence is performed to mitigate those risks, and we seek to remediate any possible adverse human rights impacts that we might have caused or to which we might have contributed. We set minimum mandatory requirements for all our suppliers and relevant contractors on topics such as freedom of association, non-discrimination, fair treatment of employees, and zero tolerance in relation to child labour, forced labour, bonded labour and modern slavery. All work performed for INEOS Styrolution has to be voluntary. No employee or contractor can be required to surrender any government-issued identification, passports, work permits or travel documents as a condition of employment. Employees are free to terminate their employment upon reasonable notice. We ensure that there are no unreasonable restrictions imposed on movement within the workplace or upon entering or exiting company-provided facilities.

We do not consider human rights abuse as an elevated risk for our business, however, we are vigilant to prevent it and have set clear criteria in the Code of Conduct as well as the Supplier Code of Conduct.

ANTI-BRIBERY, ANTI-CORRUPTION AND ANTI-MONEY LAUNDERING

Anti-corruption and anti-bribery are included in the Code of Conduct and consequently brought to the awareness of INEOS Styrolution's employees. Further information on this topic is embedded in the anti-bribery and corruption policy (also covering the main areas and expectations of money laundering regulations). This policy specifically includes – as already contained in the Code of Conduct – a clear statement that no gifts or entertainment of any kind may be offered to any politician, political party, or any politically exposed persons

ANTI-COMPETITIVE BEHAVIOUR

All employees are prohibited from entering into any discussions, formal or informal agreements or understandings with competitors that may restrict competition. Vigorous competition, free from collusion and unreasonable restraint, is the most effective mechanism to ensure that we provide high-quality and well-priced products and services. Failure to comply with competition, antitrust and other trade regulation laws in any jurisdiction in which we conduct business could result in serious consequences, for both our company and the offending individuals, including significant civil and criminal penalties.

We encourage and support employees in familiarising themselves and complying with the competition laws relevant to their role and their business. For employees whose job function exposes them to anti-trust sensitive matters, further guidance is provided through regularly repeated, mandatory training on policies related to compliance with antitrust and competition law. We have in place a policy related to interaction with competitors that defines certain reporting and filing requirements.

INTERNATIONAL TRADE

Our international trade policy outlines the areas in which national and international laws and regulations can impact our business. The policy also introduces certain requirements on due diligence for interacting with third parties, such as customers, suppliers, or agents, particularly if located in or transacting into and out of certain listed countries. Selection of countries is based on issued and active trade restrictions (e.g. sanctions lists, DPLs), on the corruption perception index issued by Transparency International, as well as the considerations of the anti-money laundering regulations.

THIRD-PARTY SCREENING

For the screening requirements defined in INEOS Styrolution's policies, a compliance due diligence checklist has been issued clarifying the need for information, when dealing with identified high-risk countries and introducing certain requirements when identifying and selecting agents and other representatives of INEOS Styrolution. In addition, an IT screening tool that has been rolled out globally to support such due diligence processes electronically. Should there be any doubt about the propriety of any transaction or course of conduct, the Code of Conduct instructs employees to contact the Legal department immediately for direction.

INFORMATION AND CYBER SECURITY

We have implemented an information- and cyber security programme to protect the data and IT environment of our company and employees, as well as that of our customers and business partners, from any kind of security-related threats.

The IT department is part of the enterprise risk management and performs regular IT risk assessments and audits of our internal IT control system. Our IT security-related policies and processes are based on the ISO 27001 standard and the NIST framework.

One of our main goals is to be compliant with applicable laws, regulations, and contractual obligations, especially to the European General Data Protection Regulation (GDPR). In this respect, we provide and verify end-to-end security in all aspects of our IT environment, starting with client and server security up to vendor risk management and internal audits. In alignment with the INEOS Group, we conduct two mandatory IT security awareness trainings every year and perform several email phishing simulations to identify and test the training and awareness of our employees.

DATA PROTECTION

Due to the adoption of the GDPR, a major reform designed to strengthen and unify data protection, we have introduced a global data protection policy. In addition, we ensured that our current practices are re-assessed, documented, and shared, in order to meet the requirements of the GDPR as it came into effect in 2018. Standard employee statements related to data protection as well as the templates for "commissioned data processing" have been reviewed and updated in line with the GDPR. Given the fast-changing landscape related to data protection, there is continuous development of data protection-related policies and contractual documents.

MANAGING COMPLIANCE VIOLATIONS

Since 2014, we have a reporting mechanism in place with an independent provider operating a standardised compliance hotline accessible by phone, email or via the internet, which also offers response in various languages. This anonymous hotline is available at all times (24 hours a day, 365 days a year) and is free of charge to the caller. Each call received on the compliance hotline is categorised and tracked according to a variety of criteria, including labour and business practices as well as human rights issues.

In 2020, all reports received via the compliance hotline were fully investigated and resolved. The reported issues were related to working environment and business practices. None of the calls were related to impacts on society or human rights.

To the best of our knowledge, in 2020, in none of INEOS Styrolution operations, were cases of human rights abuse, child or forced labour, corruption, or incidents in anti-competitive behaviour identified. The total number and percentage of operations actively assessed for risks related to corruption is not provided for reasons of confidentiality. We can also confirm that, to the best of our knowledge, we did not incur any justified cases of employee discrimination in 2020.

MAKING SUSTAINABLE GROWTH A REALITY

We take an integrated approach to deliver a strong sustainability performance that benefits both our customers as well as society.
We are convinced that truly sustainable business management is a prerequisite for accomplishing growth and long-term success – for our customers and ourselves.

OUR APPROACH

INEOS Styrolution looks at sustainability as a genuine driver of growth and value. It is embedded in our Triple Shift growth strategy, which was launched in 2014. As the name suggests, the strategy is a commitment to three essential elements:

- a focus on and split across all focus industries
- the company's strong dedication to its styrenic specialties business
- Improved global presence with a special focus on growth regions

In the first shift, we place a stronger focus on five higher-growth industries, namely automotive, electronics, healthcare, construction, and household. Growth of these industries is supported by global megatrends, such as resource efficiency, need for mobility and demographic change.

The second shift refers to a stronger focus on higher-value specialties and ABS standard products and is reflected in INEOS Styrolution's broad portfolio of more than 1,500 high-performance and value-added products, a large number of customised solutions, comprehensive service packages and a close relationship with key customers and external partners.

Finally, our global presence enables a shift towards high-growth regions. This move includes strategically investing in growth markets by expanding our assets and sales footprint, particularly in Asia-Pacific and the Americas. Our global production and supply footprint are continuously strengthened, enabling local sourcing for customers, and providing them with greater supply security. This also has a beneficial impact on the company's environmental footprint.

We carefully listen to our customers' needs, continuously engage in collaborative innovation, and position sustainability as an integral part of our business management activities. We strive to optimise our economic, environmental, and social performance to deliver safe, best quality and high-performance products that eventually render our customers' businesses as well as end consumers' choices more sustainable.

Our Triple Shift strategy has guided us well during the first decade of our existence, has led us to a step change in profitability and has allowed us to become the number one global player in styrenics.

ADDRESSING THE UN SDGs

We are driving sustainable economic growth through investments and strong business performance.

OUR PERFORMANCE

We believe that sustainable management and operations are the basis of our business success. Since our foundation in 2011, we have significantly strengthened our competitiveness in many business areas and have continuously delivered a strong business performance.

Today, we are the leading global styrenics supplier with access to customers in growth industries, such as automotive, electronics and healthcare. We are well-positioned in the higher-value ABS standard and specialties markets and have a strong asset footprint globally. We can rely on our broad product portfolio, considerable intellectual property, and our world-scale commodity manufacturing platform with best-cost technology. We are leveraging these strengths to the benefit of our customers.

Our ability to transform our industry position into solid financial results, as shown in the graph, enables us to develop the company further and invest into the future.

STRATEGIC INVESTMENTS

Our investment decisions and growth strategy are guided by an emphasis on sustainable business practices.

As part of our larger expansion plans into China, we are building a world-scale ABS plant, adjacent to our polystyrene plant in Ningbo, China. With China being the fastest growing market for ABS, this plant is a perfect example of us executing on our Triple Shift strategy: strengthening our production and supply in high-growth regions.

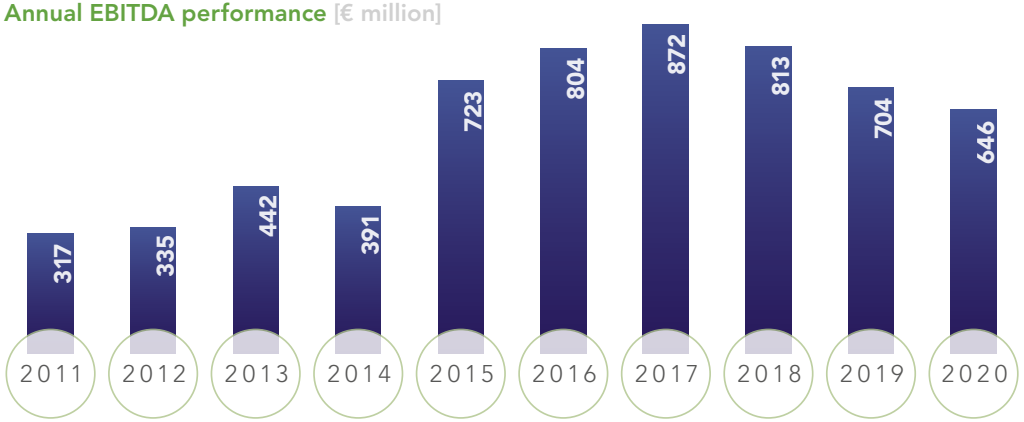
The plant will have an estimated annual capacity of 600,000 tonnes. Construction has already begun, and the new site is expected to be operational in 2023. As sustainability is a key factor for our business, our environmental policy has been implemented for the project right from the beginning. During the engineering phase, sustainability and energy assessments have been performed internally as well as with INEOS experts. Based on process knowledge from our existing plants, we included our best technology design changes to reduce energy, CO_2, water, waste, and air emissions where possible and in accordance with local regulations. We have improved the water concept and included further re-looping to reduce water and wastewater consumption. Best practices from the Operation Clean Sweep (OCS) programme have been included and will be taken up again in the last phase of design.

In Europe, we are investing in a new ABS production line at our site in Wingles, France, to meet the growing demand for ABS. We have completed construction. Production has been delayed because we are optimising quality to meet the quality expectations of our customers. We expect this line to be operational by the end of 2021. This line will produce an additional 50 kilotonnes annually.

We are now advancing plans to build the first-of-its-kind polystyrene recycling plant based on depolymerisation in Wingles, France. The planned full commercial scale recycling facility, with a recycling capacity of 15,000 tonnes a year, is expected to be fully operational in 2023. We are now testing different types of post-consumer polystyrene feedstock in the pilot recycling plant that is being constructed in the UK, which we believe will help us find the best available solution and reach a quicker scale-up to industrial scale.

We are also expanding our ABS and ASA capacity in the Americas through the construction of a new 100 kilotonne capacity ASA plant in Bayport, Texas, USA, expected to be operational in 2022. The development of this new site is part of our bigger expansion plan for the Americas, which includes increased ABS capacity at our site in Altamira, Mexico, while ASA production is transferred to the new site in Bayport. This additional capacity will allow us to produce more product locally for our customers in the near future with

Annual EBITDA performance [€ million]



The EBITDA data for 2015 was incorrectly stated in our previous report and has been corrected here.

the same focus on safety, quality, reliability and using resources sustainably by avoiding the need to import ABS and ASA from other regions. As the new ASA plant is also adjacent to our largest styrene production facility, it will allow us to receive styrene, our largest ASA feedstock, via pipeline, instead of transporting it by ocean vessel.

As part of our shift to a circular business model, we are working with several leading-edge technology providers in North America and Europe to further advance a circular economy for polystyrene. We are combining state-of the-art technologies from leading technology providers with our own manufacturing expertise to convert waste polystyrene back into feedstock, and thus divert this material from landfill or incineration.

We are collaborating with Indaver, a European waste management company with large-scale treatment facilities in the port of Antwerp to advance depolymerisation of polystyrene in Europe. Indaver is currently setting up a demo-installation in the port of Antwerp, with a recycling capacity of 15,000 tonnes a year and is scheduled to be operational in 2022.

We are also collaborating with Indaver in a project funded by the EU LIFE programme, the European Union's funding instrument for the environment and resource efficiency. The project, which is planned for a duration of four years, will demonstrate the production of ABS based on recycled feedstock. The project, called "LIFE ABSolutely Circular" aims at demonstrating the environmental and economic benefits of using advanced recycling technologies to close the loop of plastic recycling.

An initial key objective of the project is to demonstrate for the first time the production of ABS based on recycled feedstock taking advantage of advanced recycling technologies. The project is also planned to demonstrate scaling of the solution from lab-scale to demonstration plant and ultimately to commercialisation.

In parallel to our strategic investments in our facilities, we are continuing to improve our product portfolio to ensure it is more sustainable and resource efficient. We are expanding our INEOS Styrolution ECO product line since its launch in 2019. Our current ECO product portfolio now includes Terluran® ECO, Styrolution® PS ECO, Styrolux® ECO and Styroflex® ECO. These products are made using recycled post-consumer waste and materials based on bio-attributed feedstock. This new family of solutions will reduce the amount of post-consumer waste going to landfills, significantly reduce greenhouse gas emissions, support the recycling of post-consumer waste, and efficiently use existing resources.

For more information on INEOS Styrolution ECO, please visit www.styrolution-eco.com

Overview and expected timeline of our sustainable ECO product offerings

	Available now	1-3 years	> 3 years
Polystyrene	**Styrolution® PS ECO:** High purity mechanically recycled grades with virgin-like performance	**Styrolution® PS ECO:** food grade polystyrene from depolymerisation	
ABS	**Terluran® ECO:** Standard ABS grades with virgin-like performance	Recycled ABS grades in a wide colour and performance range	Grades based on styrene from polystyrene depolymerisation and other monomers from recycling
Transparent specialties	**Styrolux® ECO & Styroflex® ECO, Luran® ECO & NAS® ECO:** Certified transparent products based on bio-attributed feedstock	**Styrolux® ECO & Styroflex® ECO, Luran® ECO & NAS® ECO:** Certified transparent products based on recycled-attributed feedstock	Grades based on styrene from polystyrene depolymerisation and other monomers from recycling
Opaque specialties	**Novodur® ECO* & Novodur® ECO HH*:** Pre-coloured ABS grades with mechanically recycled content providing virgin-like performance	**Terblend N® ECO:** Pre-coloured ABS/ PA blends with mechanically recycled content providing virgin-like performance	Grades based on styrene from polystyrene depolymerisation and other monomers from recycling

* available now as development grades

OUR RISK & CONTROL PROGRAMME

INEOS Styrolution is exposed to various risks that could impact the achievement of its corporate objectives. In order to identify, assess, monitor, and mitigate these risks, a company-wide Risk & Control programme was established and is continuously developed further. The scope of the programme covers six pillars reflecting the company's main business areas: Strategy & Business, Finance, Compliance, Operations (including SHE), Human Resources and IT. This programme is embedded in a three lines model as an integral component of our governance, management, and operations.

The six pillars of our risk & control programme

Risk management process

THE THREE LINES MODEL

Management board

1st line of defence	2nd line of defence	3rd line of defence	External audit
• Operational management • Internal controls	• Compliance • Risk & control	• Internal audit	
• Manage business in compliant manner	• Compliance with legal requirements • Systematic identification and evaluation of risks and internal controls	• Provide further assurance by independent substantial & control testing	Focus on ICFR* • Financial reporting • Governmental authorities: tax, payroll, legal

*Internal Controls over Financial Reporting

FIRST LINE

The first line is undertaken by operational management, initiated by the pillar heads, who are responsible for implementing and maintaining effective internal controls for their respective area of responsibility and for executing Risk & Control processes on a daily basis. Operational management is also responsible for implementing corrective actions to address control deficiencies.

SECOND LINE

The second line is undertaken by the Compliance team, the Risk & Control department, and the Risk Management Committee. The latter acts as the reporting medium for this line. The Compliance team monitors various specific risks, such as non-compliance with applicable laws and regulations.

To strengthen the company's governance structure, a Risk Management Committee has been established with representatives from each of the six pillars. This committee meets periodically to monitor the risk management process and drive continuous improvement within the programme. The Risk & Control department coordinates this on a daily basis. Risks are identified and assessed by considering impact and likelihood through risk workshops and risk assessments.

Controls are then implemented to mitigate the identified risks. Annual control testing is performed within each pillar to determine if controls are well-designed and operating effectively. All controls are tested on a three-year-rotational basis. Results are reported to the CEO, CFO and Risk Management Committee members on a regular basis.

Our Risk & Control programme is based on a Risk & Control matrix, capturing the defined key company risks and related mitigation measures (controls). To reflect the increasing importance and potential impact of sustainability to our business, we nominated a sustainability risk, which is also reflected in our Risk & Control programme. This risk is ranked in the top ten key risks of our company. To mitigate our risks, we have established specific controls around sustainability, which are assessed annually by the business functions that deal with this topic as part of their daily business.

THIRD LINE

The third line is represented by our Internal Audit department. Internal audits are performed based on an annual audit plan, which is approved by the management board. The audit plan is based on a risk approach and covers all our entities and business functions. The scope of each audit is defined by the Internal Audit department in coordination with the management board. The Internal Audit function reports functionally to the CEO and CFO.

For Risk & Control activities, we use an SAP-based tool to conduct annual risk assessments and perform yearly testing of the design and operating effectiveness of our internal control system. The tool also provides automated controls (called continuous control monitoring or CCM). These can detect any exception to controls shortening issues identification and ultimately enhancing the internal control system.

COMBATING COVID-19: RISK & CONTROL

The company's Risk & Control matrix is continuously being reviewed by the Risk & Control team together with the Risk Management Committee to evaluate preparedness to address COVID-19-impact on business activities and processes in all pillars.

Major risks affected by a pandemics outbreak are reflected in our company's risk & control matrix, and addressed by remediating controls, which are tested for design and operating effectiveness via annual control testing activities.

These risks and controls, include, but are not limited to

- Risk from global economic conditions, addressed by controls such as
- Finance: customer credit reviews, regional credit management guideline, country risk monitoring
- Strategy & Business: review early warning indicators of a downturn, tight management of finished goods inventories
- Risk from supply shortage or non-in time (Strategy & Business): manage and keep target safety stocks – critical feedstock, supply chain strategy review, monitoring of supplier financial position
- Risk arising from external/internal crisis communication (Operations): transportation/ safety guidelines, global crisis management plan
- Risk arising from inadequate business continuity management (IT): Business continuity plan is in place and tested frequently, disaster recovery plan, backup, and recovery processes
- High turnover and recruiting challenges (HR): succession planning for key positions.

The Risk & Control community continuously monitors risk and control activities and reviews for necessary enhancements for the risk & control matrix to address any additional risks coming up with potential impact on our company´s business activities.

ABOUT THIS REPORT

This report has been prepared in accordance with the Global Reporting Initiative's (GRI) Standards core option. The report's content has been selected based on GRI's reporting principles of materiality, sustainability context, completeness, balance and stakeholder inclusion. The collected data provides an overview of our sustainability efforts between January 1 and December 31, 2020, and covers the activities of all INEOS Styrolution legal entities worldwide, which fell within the scope of the company's consolidated financial statements as of December 31, 2020. For the avoidance of doubt, this excludes the activities of INEOS ABS, Addyston, USA.

The financial information presented in this report is consistent with the company's audited consolidated financial statement and management report for the year ending December 31, 2020, which was prepared in accordance with International Financial Reporting Standards (IFRS) and interpretations.

This report has been published on September 15, 2021. The previous year's report was published on August 31, 2020. INEOS Styrolution has published sustainability reports since 2015 with an annual reporting cycle, all of which can be downloaded from the company's website.

All internal stakeholders accountable for the company's sustainability programme and performance, including the management board, have validated the content of this report. The report content has been assured by the audit firm KPMG, upon company request. Click here to view their independent assurance statement.

For more information on our sustainability approach and actions, please write to INSTY.sustainability@ineos.com or visit our website at www.ineos-styrolution.com

OUR MATERIAL ASPECTS & BOUNDARIES

Matching our stakeholders' expectations against our own assessment has helped us more thoroughly understand our sustainability performance across all of our activities, where action needs to be prioritised in terms of the material aspects, and which topic areas we can influence with our actions. Along the value chain, we have the possibility to take action with respect to the following individual aspects:

	Materiality topic	GRI disclosures	Link to chapter	Boundary of the aspects			Company's contribution to the impacts	Company's link to the impacts due to its business relationships
				Suppliers	Production	Customers		
Environmental	Low-carbon economy	Emissions (self-defined topic)	Reducing our environmental footprint	●	●		●	
	Emissions	Emissions	Reducing our environmental footprint	●	●	●	●	
	Advanced recycling	Circularity (self-defined topic)	Shaping the future with sustainable styrenics	●	●	●	●	
	Mechanical reycling	Circularity (self-defined topic)	Shaping the future with sustainable styrenics	●	●	●	●	
	Marine litter & pellet loss	Circularity (self-defined topic)	Reducing our environmental footprint	●	●		●	●
	Design for sustainability	Circularity (self-defined topic)	Shaping the future with sustainable styrenics		●	●	●	●
Social	Health & safety	Occupational health & safety	Upholding safety as our core value	●	●		●	
	Sustainable procurement	Supplier environmental assessment Supplier social assessment	Driving sustainablity along the value chain	●				●
	Safe & sustainable products	Customer health & safety	Shaping the future with sustainable styrenics	●	●	●	●	●
Economic	Human rights & ethics	Anti-corruption & antitrust law Anti-competitive behaviour Child labour Forced or compulsory labour	Ensuring fair business practices	●	●		●	

GRI INDEX

GENERAL DISCLOSURES

GRI Standard Number	Disclosure	Chapter	Page	Comments
ORGANISATIONAL PROFILE				
102-1	Name of the organisation	Our commitment to sustainability	8	
102-2	Activities, brands, products, and services	Our commitment to sustainability	6-7	We do not produce any banned products.
102-3	Location of headquarters	Our commitment to sustainability	6	
102-4	Location of operations	Our commitment to sustainability	6	
102-5	Ownership and legal form	Our commitment to sustainability	8	
102-6	Markets served	Our commitment to sustainability	6	
102-7	Scale of the organization	Our commitment to sustainability	6	
102-8	Information on employees and other workers	Engaging and developing our employees	54-55	We currently do not disclose employment data based on temporary, part-time and fulltime contracts, as it is not material to our business. We employ only relatively few contractors (compared with the total number of our own employees).
102-9	Supply chain	Driving sustainability along the value chain	59-61	
102-10	Significant changes to the organization and its supply chain	Our commitment to sustainability	8	There have been no significant changes in the structure of our supply chain.
102-11	Precautionary principle or approach	Shaping the future with sustainable styrenics	31	
102-12	External initiatives	Our commitment to sustainability Shaping the future with sustainable styrenics	18 22, 24-28	
102-13	Membership of associations	Our commitment to sustainability	18, 22	

GRI Standard Number	Disclosure	Chapter	Page	Comments
STRATEGY				
102-14	Statement from senior decision-maker	Message from our CEO	3	
102-15	Key impacts, risks, and opportunities	Our commitment to sustainability	14	
ETHICS & INTEGRITY				
102-16	Values, principles, standards, and norms of behavior	Ensuring fair business practices	66	
102-17	Mechanisms for advice and concerns about ethics	Ensuring fair business practices	69	
GOVERNANCE				
102-18	Governance structure	Our commitment to sustainability	13	
102-19	Delegating authority	Ensuring fair business practices	67	
102-20	Executive-level responsibility for economic, environmental, and social topics	Our commitment to sustainability	13	
102-25	Conflicts of interest			There are no conflicts of interest such as cross-board membership, cross-shareholding as we are fully owned by INEOS.
102-30	Effectiveness of risk management processes	Making sustainable growth a reality	73-74	
102-35	Remuneration policies			We do not provide this information for reasons of confidentiality.
STAKEHOLDER ENGAGEMENT				
102-40	List of stakeholder groups	Our commitment to sustainability	18	
102-41	Collective bargaining agreements	Engaging and developing our employees	58	
102-42	Identifying and selecting stakeholders	Our commitment to sustainability	18	
102-43	Approach to stakeholder engagement	Our commitment to sustainability	18	

GRI Standard Number	Disclosure	Chapter	Page	Comments
102-44	Key topics and concerns raised	Our commitment to sustainability	14, 18	No concerns were raised during our stakeholder engagement. The key topics were not raised by external stakeholders, but were only rated by them.
REPORTING PRACTICE				
102-45	Entities included in the consolidated financial statements	Our commitment to sustainability About this report	8 75	
102-46	Defining report content and topic boundaries	Our commitment to sustainability	14, 76	
102-47	List of material topics	Our commitment to sustainability	14	
102-48	Restatements of information	Reducing our environmental footprint	40	Modifications on energy reporting were made to better reflect the energy usage of our sites. Energy recuperated from by-products of our processes have been added in our yearly energy consumption. As a result of modifications to reporting requirements, the energy usage of our styrene monomer sites (and hence INEOS Styrolution as a whole) has been updated.
		Engaging and developing our employees	57	Due to the use of different definitions, there a difference in the 2018 and 2019 figures stated in this chapter in comparison to our financial statements for the same year. The collective bargaining data for 2017, 2018, and 2019 was incorrectly stated in our previous report and has been corrected in this report.
		Making sustainable growth a reality	71	The EBITDA data for 2015 was incorrectly stated in our previous report and has been corrected in this report.

GRI Standard Number	Disclosure	Chapter	Page	Comments
102-49	Changes in reporting	Reducing our environmental footprint	40	Modifications on energy reporting were made to better reflect the energy usage of our sites. Energy recuperated from by-products of our processes have been added in our yearly energy consumption. As a result of modifications to reporting requirements, the energy usage of our styrene monomer sites (and hence INEOS Styrolution as a whole) has been updated.
		Engaging and developing our employees	57	Due to the use of different definitions, there a difference in the 2018 and 2019 figures stated in this chapter in comparison to our financial statements for the same year.
102-50	Reporting period	About this report	75	
102-51	Date of most recent report	About this report	75	
102-52	Reporting cycle	About this report	75	
102-53	Contact point for questions regarding the report	About this report	75	
102-54	Claims of reporting in accordance with the GRI Standards	About this report	75	
102-55	GRI content index	GRI index	77-86	
102-56	External assurance	About this report	87	

ECONOMIC

GRI Standard Number	Disclosure	Chapter	Page	Comments
ANTI-CORRUPTION AND ANTITRUST LAW				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Ensuring fair business practices	14 76 66	Tax has not been considered as a material topic in our materiality assessment and has thus been excluded.
103-2	The management approach and its components	Ensuring fair business practices	66-69	
103-3	Evaluation of the management approach	Ensuring fair business practices	66-69	The results of the evaulation of our management approach have not been disclosed due to reasons of confidentiality. There have been no related adjustments to the management approach.
205-1	Operations assessed for risks related to corruption	Ensuring fair business practices	69	The total number and percentage of operations assessed for risks related to corruption is not provided for reasons of confidentiality.
ANTI-COMPETITIVE BEHAVIOUR				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Ensuring fair business practices	14 76 66	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Ensuring fair business practices	66-69	
103-3	Evaluation of the management approach	Ensuring fair business practices	66	The results of the evaulation of our management approach have not been disclosed due to reasons of confidentiality. There have been no related adjustments to the management approach.
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Ensuring fair business practices	66-68	The total number and percentage of operations assessed for risks related to corruption is not provided for confidentiality reasons.

ENVIRONMENT

GRI Standard Number	Disclosure	Chapter	Page	Comments
CIRCULARITY: ADVANCED AND MECHANICAL RECYCLING (self-defined topic)				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Shaping our future with sustainable styrenics	14 76 39	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Shaping our future with sustainable styrenics	20-21, 25-28	
103-3	Evaluation of the management approach	Our commitment to sustainability Shaping our future with sustainable styrenics	10-11 20-21, 25-28	
CIRCULARITY: DESIGN FOR SUSTAINABILITY (self-defined topic)				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Shaping our future with sustainable styrenics	14 76 39	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Shaping our future with sustainable styrenics	20-22	
103-3	Evaluation of the management approach	Our commitment to sustainability Shaping our future with sustainable styrenics	10-11 20-22	
CIRCULARITY: MARINE LITTER & PELLET LOSS (self-defined topic)				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Shaping our future with sustainable styrenics	14 76 39	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Shaping our future with sustainable styrenics	39, 40, 49	
103-3	Evaluation of the management approach	Our commitment to sustainability Shaping our future with sustainable styrenics	10-11 49	

GRI Standard Number	Disclosure	Chapter	Page	Comments
LOW-CARBON ECONOMY (self-defined topic) AND EMISSIONS				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Reducing our environmental footprint	14 76 39	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Reducing our environmental footprint	39, 40, 44	
103-3	Evaluation of the management approach	Reducing our environmental footprint (section on GHG emissions)	44-45	
305-4	GHG emissions intensity	Reducing our environmental footprint	39, 40, 44	
SUPPLIER ENVIRONMENTAL ASSESSMENT				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Driving sustainability along the value chain	14 76 59	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Driving sustainability along the value chain	59-61	
103-3	Evaluation of the management approach	Driving sustainability along the value chain	59-61	There have been no related adjustments to the management approach.
308-1	New suppliers that were screened using environmental criteria	Driving sustainability along the value chain	59-61	We screen suppliers based on % of total spend.

SOCIAL

GRI Standard Number	Disclosure	Chapter	Page	Comments
OCCUPATIONAL HEALTH & SAFETY				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Upholding safety as our core value	14 76 34-37	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Upholding safety as our core value	34-37	
103-3	Evaluation of the management approach	Upholding safety as our core value	34-37	There have been no related adjustments to the management approach.
403-2	Hazard identification, risk assessment, and incident investigation	Upholding safety as our core value	36	
CHILD LABOUR				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Ensuring fair business practices	14 76 66	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Ensuring fair business practices	66-69	
103-3	Evaluation of the management approach	Ensuring fair business practices	66-69	The results of the evaluation of our management approach have not been disclosed due to reasons of confidentiality. There have been no related adjustments to the management approach.
408-1	Operations and suppliers at significant risk for incidents of child labor	Ensuring fair business practices	68	To the best of our knowledge, in 2020, in none of INEOS Styrolution operations, were cases of human rights abuse, child or forced labour, corruption, or incidents in anti-competitive behaviour identified. The total number and percentage of operations actively assessed for risks related to corruption is not provided for reasons of confidentiality.

GRI Standard Number	Disclosure	Chapter	Page	Comments
FORCED OR COMPULSORY LABOUR				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Ensuring fair business practices	14 76 66	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Ensuring fair business practices	66-69	
103-3	Evaluation of the management approach	Ensuring fair business practices	66-69	The results of the evaulation of our management approach have not been disclosed due to reasons of confidentiality. There have been no related adjustments to the management approach.
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Ensuring fair business practices	68	To the best of our knowledge, in 2020, in none of INEOS Styrolution's operations were cases of human rights abuse, child or forced labour, corruption, or incidents of anti-competitive behaviour identified. The total number and percentage of operations assessed for risks related to corruption is not provided for reasons of confidentiality.
SUPPLIER SOCIAL ASSESSMENT				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Driving sustainability along the value chain	14 76 59	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Driving sustainability along the value chain	59-61	
103-3	Evaluation of the management approach	Driving sustainability along the value chain	59-61	There have been no related adjustments to the management approach.
414-1	New suppliers that were screened using social criteria	Driving sustainability along the value chain	59-61	We do not provide quantitative information as we only screen strategic suppliers (defined as those that are business-critical and/ or with high spend and a high impact on our business objectives and growth)

GRI Standard Number	Disclosure	Chapter	Page	Comments
CUSTOMER HEALTH & SAFETY				
103-1	Explanation of the material topic and its boundary	Determining what is material Our material aspects & boundaries Shaping the future with sustainable styrenics	14 76 20	There is no specific limitation regarding the topic boundary.
103-2	The management approach and its components	Shaping the future with sustainable styrenics	20, 21, 31	
103-3	Evaluation of the management approach	Shaping the future with sustainable styrenics	20	There have been no related adjustments to the management approach.
416-1	Assessment of the health and safety impacts of product and service categories	Shaping the future with sustainable styrenics	31	We have provided qualitative information on the assessment of the health and safety impacts of product and service categories. We do not report on percentage figures as this is not applicable to us. We essentially sell non-hazardous polymer products.

LIMITED ASSURANCE REPORT OF THE INDEPENDENT AUDITOR REGARDING SUSTAINABILITY INFORMATION

To the Management Board of
INEOS Styrolution Group GmbH, Frankfurt

We have performed an independent limited assurance engagement on selected qualitative and quantitative disclosures listed in the GRI content index of the Online-"Sustainability Report 2020" (further "Report") published under http://www.ineos-styrolution.com/INTERSHOP/static/WFS/Styrolution-Portal-Site/-/Styrolution-Portal/en_US/INEOS-Styrolutionsustainability-report-2020.pdf for the period from January 1 to December 31, 2020 of INEOS Styrolution Group GmbH, Frankfurt (further "INEOS Styrolution").

All other non-material information included in the report was not part of our engagement. Furthermore, it was not part of our engagement to review product or services-related information, references to external information sources, expert opinions and future-related statements in the Report.

As described in the section "Environmental and social responsibility in our supply chain" INEOS Styrolution engaged the external provider EcoVadis to perform audits on suppliers to assess their sustainability performance. The adequacy and accuracy of the conclusions from these external assessments were not part of our limited assurance engagement.

Management´s Responsibility for the Report

The legal representatives of INEOS Styrolution are responsible for the preparation of the Report in accordance with the Reporting Criteria. INEOS Styrolution's Report applies the principles and standard disclosures of the Standards of the Global Reporting Initiative (GRI), the Corporate Accounting and Reporting Standard (Scope 1 und 2) of the Greenhouse Gas Protocol initiative by the World Resources Institute and the World Business Council for Sustainable Development (WBCSD), in combination with internally developed criteria for the evaluation method Loss of Containment as Reporting Criteria (further "Reporting Criteria").

The responsibility includes the selection and application of appropriate methods to prepare the Report and the use of assumptions and estimates for individual qualitative and quantitative sustainability disclosures which are reasonable under the circumstances. Furthermore, this responsibility includes designing, implementing and maintaining systems and processes relevant for the preparation of the Report in a way that is free of – intended or unintended – material misstatements.

Practitioner's Responsibility

It is our responsibility to express a conclusion based on our work performed within a limited assurance engagement on the selected qualitative and quantitative disclosures within the scope of our engagement.

We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information" published by IAASB. Accordingly, we have to plan and perform the assurance engagement in such a way that we obtain limited assurance as to whether any matters have come to our attention that cause us to believe that the above mentioned sustainability information of INEOS Styrolution for the period from January 1 to December 31, 2020 has not been prepared, in all material respects, in accordance with the aforementioned Reporting Criteria. We do not, however, issue a separate conclusion for each disclosure. As the assurance procedures performed in a limited assurance engagement are less comprehensive than in a reasonable assurance engagement, the level of assurance obtained is substantially lower. The choice of audit activities is subject to the auditor's own judgement.

Within the scope of our engagement, we performed, amongst others, the following procedures:
– An evaluation of the process for determining material aspects and respective boundaries, including results of INEOS Styrolution's stakeholder engagement.
– Carrying out a risk assessment, inclusive of a media analysis, on relevant information on the sustainability performance of INEOS Styrolution in the reporting period.
– Assessing the design and implementation of systems and processes for identifying, handling and monitoring information on sustainability, including the consolidation of data.
– Interviewing management at corporate level responsible for sustainability performance goal setting and monitoring processes.
– Reviewing the suitability of the internally developed reporting criteria.
– Analytically assessing the data and trends of the quantitative information, which is reported for consolidation on group level of all locations.
– Inspecting selected internal and external documents.
– Evaluating the local data collection, validation and reporting processes as well as the reliability of the reported data by means of a sampling survey at the sites Altamira (Mexico),

Cologne (Germany) and Ningbo (China).
– Assessing the overall presentation of the disclosures.
– Reviewing the consistency of GRI standards in accordance with option 'Core' as declared by INEOS Styrolution with sustainability information presented in the report.

In our opinion, we obtained sufficient and appropriate evidence for reaching a conclusion for the assurance engagement.

Independence and Quality Assurance on Part of the Auditing Firm

In performing this engagement, we applied the legal provisions and professional pronouncements regarding independence and quality assurance, in particular the Professional Code for German Public Auditors and Chartered Accountants (in Germany) and the quality assurance standard of the German Institute of Public Auditors (Institut der Wirtschaftsprüfer, IDW) regarding quality assurance requirements in audit practice (IDW QS 1).

Conclusion

Based on the procedures performed and the evidence obtained for the limited assurance, nothing has come to our attention that causes us to believe that the selected qualitative and quantitative disclosures for the period from January 1 to December 31, 2020 included in the scope of this engagement and published in the Report, are not prepared, in all material respects, in accordance with the Reporting Criteria.

Restriction of Use/Clause on General Engagement Terms

This assurance report is issued for purposes of the Management Board of INEOS Styrolution Group GmbH, Frankfurt, only. We assume no responsibility with regard to any third parties.

Our assignment for the Management Board of INEOS Styrolution Group GmbH, Frankfurt, and professional liability as described above is governed by the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (Allgemeine Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften) in the version dated January 1, 2017 (https://www.kpmg.de/bescheinigungen/lib/aab_english.pdf). By reading and using the information contained in this assurance report, each recipient confirms notice of the provisions contained therein including the limitation of our liability as stipulated in No. 9 and accepts the validity of the General Engagement Terms with respect to us.

Frankfurt am Main, September 8, 2021

KPMG AG
Wirtschaftsprüfungsgesellschaft

Glöckner ppa. **Dollhofer**
Wirtschaftsprüfer

INEOS Styrolution Group GmbH
Global Headquarters
Mainzer Landstrasse 50
60325 Frankfurt am Main, Germany
ineos-styrolution.com

INEOS STYROLUTION

Driving Success. Together.