

ENVRONMENTAL STATEMENT 2024



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SENOPLAST

1. FOREWORD MANAGEMENT



Foreword Mangement

Foreword Management

SENOPLAST has decades of research experience and state-ofthe-art production facilities for the development and production of coextruded films and sheets. These consist primarily of the plastics ABS, PC/ABS, PC, ASA, PMMA and PS as well as their composites.

The integrated environmental management system is designed to ensure that all activities that have an impact on product quality, the environment and safety are planned, controlled, monitored and sustainable.

Every employee is encouraged to constantly contribute to the improvement of processes. Through market-oriented action and the promotion of innovation, we want to secure our lead in the face of growing international competition.

The qualification, motivation and identification of our employees throughout the company is an important success factor for this. Open and honest communication as well as socially responsible and ethically correct behavior are a matter of course for the company. We are doing our part to ensure that the SENOPLAST Group remains an independent, internationally oriented and successful family business.

The environmental statement is valid for all companies located at the Piesendorf site and their respective production processes.

SENOPLAST SENOSON SENCO



Günter Klepsch CEO



2. COMPANY SENOPLAST AT A GLANCE

Our locations worldwide Vision. Mission. Values. The SENOPLAST Piesendorf site Strategy pyramid Products Product overview Product overview Input-Output balance of the company



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Since the company was founded in 1956, SENOPLAST has established itself as a technology leader in the highly complex production process of coextrusion, which is impressively underpinned by numerous patent applications.

As the largest company in the internationally active Klepsch Group, the company manufactures high-quality plastic sheets and films for a wide range of applications: over 50,000 tons of senosan[®] products per year, which are supplied from the main site in Piesendorf, Austria, and the production facilities in Querétaro, Mexico, and Suzhou, China, to around 60 countries worldwide.

Today, SENOPLAST is internationally successful with innovative and high-quality plastic sheets and films made from the raw materials ABS, ABS/PC, PC, ASA, PMMA and PS.

This global success of the family-owned company is based on the following cornerstones of the current company philosophy:

"Quality and innovation combined with environmental awareness and the knowledge that people are at the heart of our corporate culture!"



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VISION

We want to be the world's number 1 in the field of coextruded and finished plastic sheets and films for high-quality applications.



MISSION

SENOPLAST is the innovation and quality leader in the coextrusion of plastic sheets and films. We support our customers with comprehensive know-how from the selection to the processing of our products. As a family business, we attach great importance to respect, fairness and long-term relationships with our employees and all our business partners. We are committed to a sustainable approach to nature and resources and to careful production processes.



VALUES

- ✓ Assume responsibility and realize common goals
- ✓ Respect, trust and honesty
- ✓ Fairness and acceptance
- ✓ Anxiety-free, collegial cooperation
- ✓ Recognition and appreciation





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SENOPLAST's headquarter is located in Piesendorf in the heart of Salzburg's Pinzgau region, on the edge of the Hohe Tauern National Park. Located on the outskirt of the village Piesendorf, the factory premises border to the local train network and the B168 main road to the north. There is a mixture of grassland and residential areas along the main road. To the east and south are the commercial zone and agricultural green spaces. A residential area to the west is bordered by a planted noise barrier and an access road. The traffic connection is via a factory access road in the northwest.

The establishment of a plant for the production of coextruded semi-finished plastic products has given this purely agricultural and small business community a modern plant with a global network. Starting from the Piesendorf site, SENOPLAST achieves an export quota of up to 90%, which gives it a very strong market position, especially in Europe. With currently 540 employees, SENOPLAST Klepsch & Co. GmbH is one of the largest employers in the town, which has a population of around 3,700.

All production facilities are extremely low-noise and low-emission, which means that there is no negative impact on nature and the environment. For a long time, there has been an excellent neighborly climate with all neighbors, which is promoted by the successful symbiosis between people, nature and industry.



| Total number of employees: Office employees: | 535 120 | | |
|---|--|--|------------------|
| Total apprentices: | 23 | | |
| Branch | Manufacture of plastic sheets and films | ÖNACE 2008:22.21-0 | |
| Turnover: Reporting period: Balance sheet area: | 212.3 million € from January 1, 2023 Location Piesendorf plant | W year 2023 until December 31, 2023 | |
| Number of locations: Of which production plants: | 1 (Province of Salzburg / Pinzgau) 1 | | |
| management systems: | | | |
| EN ISO 9001 | Certified | EN ISO 14001 | Certified |
| | REG.NO.: 00050/0 | | REG.NO.: 00144/0 |
| КВА | REG.NO.: 00050/0 | | |
| EMAS assessed (Eco Management and Audit Scheme) | Verified REG.NO.: AT-000521 | | |



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Fig. 1: Strategy pyramid

Strategy pyramid



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Products

Coextrusion of multilayer sheets and films

SENOPLAST is the quality leader in the production of plastic sheets and films using the coextrusion process. The coextrusion process enables the combination of different materials in the production of multilayer composite sheets and films with the great advantage that the finished product has the positive properties of the raw materials used. ABS/PMMA composites, for example, have the very good impact strength of ABS

ABS/PMMA

Coextruded multilayer sheets for high-quality thermoformed parts for interior and exterior applications.

ABS+ABS/ASA

Special monolayer and multilayer panels meet the highest market demands in terms of design, technology and optical requirements.

PC sheets and films

Coextruded and colored multilayer sheets and films for the case industry and automotive applications.



Fig. 2: Fan color sample

(acrylonitrile butadiene styrene) and the excellent chemical resistance of PMMA (polymethyl methacrylate), which is essential for many applications of senosan products. Thanks to the many possible combinations and different structures of the semi-finished products, SENOPLAST can respond very specifically to special customer requirements.

PS sheets and films

Coextruded sheets and films made of high-impact PS.

Special films

High-gloss films for the automotive industry as a substitute for paint.

Special films

Scratch-resistant acrylic and PET films in high gloss and super matt for the furniture industry.



Fig. 3: Example of a 5-layer structure - senosan® AM50C SOLAR EG



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Product overview

Bath & Wellness





Automotive Industry



Commercial Vehicle



Thermoforming applications



Furniture Industry



Refrigerator Industry



Caravan





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The production process

SENOPLAST obtains the granules as raw materials from the plastic manufacturers. These are processed into sheets and films in Piesendorf using flat-die extrusion.

Extrusion is the name for a process, also known for the production of profiles, sheets, films etc. from thermoplastics such as polyethylene, polypropylene, polystyrene, ABS etc. This production process takes place in extruders, which are usually designed as screw extruders. They are fed with thermoplastics in the form of powders or granules through feed hoppers. The material is heated and tempered, homogenized, plasticized, transported by the screw and pressed through the shaping die.

Extruders exist in different variants: for example, a distinction is made between single and multi-screw extruders depending on the number of screw conveyors. The wide die shapes used at SENOPLAST, as required for sheet and film production, lead to the process designation "Flat-die extrusion".

SENOPLAST's claim to technological leadership relates to the manufacture of sheets and films made of polystyrene (PS), ABS, PET, PC, special types of multilayer sheets and films in PS/PS, ABS/ABS, ABS/PMMA and other specific types requested by customers.



Fig. 4: Extrusion process



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The raw materials, auxiliary materials, operating materials and energy (input) relevant to the production process are recorded over the course of a financial year and compared with the resulting product quantities and inevitably associated waste and emissions (output). Figure 5 below shows the material flow balance of SENOPLAST. Details of the quantities can be found in the appendix in the Input-Output Balance table.



Fig. 5: Material flows at the Piesendorf plant



3. THE PILLARS OF OUR ENVIRONMENTAL MANAGEMENT SYSTEM

Environmental policy and environmental guidelines Sustainable Development Goals (SDGs) Factors influencing the environmental management system Organization of corporate environmental protection Tasks of the environmental officer Milestones of corporate environmental protection Milestones and awards Legal conformity



Environmental policy and environmental guidelines

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Environmental policy and environmental guidelines

At its Piesendorf plant, SENOPLAST manufactures thermoplastics from plastic granules that meet customer needs and improve consumers' quality of life. These products are environmentally friendly and we are constantly working to improve them. We continue to develop recycling concepts and optimize our material flow management in order to take responsibility for our products and production. The environment, safety and health protection are integral parts of our business policy.

Safety and environmental protection are a priority for SENOPLAST. Forward-looking action, personal responsibility, safety and environmental protection are of equal importance to our corporate goals.

In addition to complying with legal regulations, we formulate, pursue and review objectives for continuous improvement in environmental protection, safety and health protection at the Piesendorf site, such as

- ✓ Reduction in energy consumption
- ✓ Keeping the air clean
- ✓ Noise reduction
- ✓ Reduction of wastewater pollution
- \checkmark Reduction of resource consumption
- ✓ Reduction of waste
- ✓ Continuous search for waste & residual material recycling
- ✓ Increasing machine safety
- ✓ Improving occupational health and safety
- ✓ Prevention & monitoring in health protection

All employees are expected to behave in a committed and responsible manner. This includes

- ✓ Role model function of managers
- \checkmark Compliance with the regulations
- ✓ Diligence and sense of duty
- \checkmark Careful use of resources and funds

Communication with our public partners

SENOPLAST is in dialog with the local community. Beyond what is necessary, regular discussions are sought with authorities and municipalities. An environmental statement is published every 3 years.

Our environmental policy is reviewed in the course of annual audits with regard to suitability and the requirements of ISO 14001 and EMAS and amended if necessary.





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Sustainable Development Goals (SDGs)

The overarching global goal of responsible production and use provides us with a challenging framework for action. The "decarbonization" of the economy by closing cycles as far as possible means optimizing - or even rethinking - the manufacture of our products for our research and development:

- ✓ intensive and continuous research into the potential applications of bio-based, renewable raw materials plastics to produce equivalent high-quality plastic sheets with less waste, less energy and water consumption.
- customized application developments, to increase the longevity of our products, their improve recyclability and avoid waste.
- ✓ utilize all possibilities of internal and external cycles to recycle unavoidable production waste without degrading the quality and properties. This reduces the use of virgin materials that have to be produced from fossil sources and, as a result, further reduces the environmental impact.
- ✓ the delivery of our products to our globally distributed customers through climate-friendly logistics concepts with optimized transport sizes, -intervals and packaging systems with involvement our distribution partners

Decarbonization and the circular economy require companies and their stakeholders to be more willing to cooperate in order to find new solutions and still remain competitive. Our commitment to sustainable supply chains includes the responsibility to ensure fair business and working conditions and to work together with suppliers and customers in competence networks to find sustainable solutions. The Green Spirit (symbolic figurehead for environmental thinking at SENOPLAST) is also active beyond the Senocircle circular system. SENOPLAST also sees its role as a flagship company in actively contributing to the development of a sustainable regional economy, as set out, for example, in the national and international initiatives jointly adopted by many countries around the world in Paris in 2015 on the basis of the Sustainable Development Goals SDG is expressed.

We are therefore engaged in open discussions with all interest groups to support regional concepts for sustainability, the circular economy and decarbonization in order to keep the region attractive and vibrant as a natural living and recreational space - a region that lives with nature and can also provide good conditions for young people.

The focus is on the opportunities offered by digitalization and the networking of social and economic processes in order to fully exploit regional potential. Decentralization can succeed with the help of digitalization.

Finding sustainable symbioses between industry, commerce and cities are the buzzwords of the future, as they are being implemented by UN organizations worldwide. We at SENOPLAST also see our role as a leading company in this area and are setting the tone for a future worth living within the scope of our possibilities.



Fig. 6: Sustainable Development Goals



Environmental policy and environmental guidelines

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Factors influencing the environmental management system

In order to maintain and sustainably develop our environmental management system, it is important to know the organizational context of SENOPLAST in the area of the environment, which is clearly illustrated in Figure 7 below. It is intended to show the influence of external and internal issues, as well as the interaction between the two, and provides a basis for dealing with environmentally relevant issues.

Other environmentally relevant topics that are constantly being worked on and additional contextual topics that arise in the course of the year are determined together with the management and dealt with accordingly.



Fig. 7: Context of the organization Environment



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Organization of corporate environmental protection

Due to the commitment to quality and the long-term quality objectives as well as the commitment to comprehensive and precautionary environmental protection, the management has defined the corporate policy for environmental protection as a normative framework.

An Environmental Officer (EO) is appointed by the top management. The tasks of the Environmental Officer are:

- ✓ It draws up environmental programs and, following approval by the management, is responsible for their implementation and documentation.
- ✓ He is responsible for creating and updating the environmental management handbook and is responsible for carrying out environmental audits and internal audits.
- ✓ It has a comprehensive duty to provide information to the management and the employees involved in environmental The company's employees working in these areas.

- ✓ It is obliged to keep itself informed of current developments in the environmental protection.
- ✓ It is the point of contact for the authorities on environmentally relevant issues and is involved in the processing of environmental, water- and building law approval procedures.

The EO's activities cover the identification, analysis and evaluation of all environmental impacts caused by the company's facilities, processes and activities, whether in the form of air pollution, water and wastewater pollution or similar environmental aspects.





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Tasks of the environmental officer

The raw materials used (granulated plastics) have a very low hazard potential. Heavy metal-free color concentrates have been used for the color mixtures for years.

The overriding aim of color development is to further reduce the proportion of hazardous chemicals as far as the quality requirements for the product allows it. In the case of operating materials with hazardous properties (oils, adhesives, cleaning agents, paints, etc.) in particular, an evaluation of the working materials is carried out in order to identify and assess the risks to people and the environment.

This ensures that all employees in the company are informed in good time and are encouraged to handle carefully, and that alternative, less hazardous operating materials are seeked for the future. Due to the environmental awareness of the employees, the analysis of hazardous substances at SENOPLAST contains hardly any operating materials with a high environmental hazard potential.

The overarching global goal of responsible production and responsible use provides us with a challenging framework for action. The "decarbonization" of the economy by closing the loop as far as possible means for our research and development and production:

- ✓ utilize all opportunities for internal and external cycles to further increase the use of recyclate, without minimizing product quality and properties. This reduces the use of virgin material, which has to be produced from fossil sources.
- ✓ intensive, ongoing research into the possibilities of using bio-based, renewable plastics in order to to produce equally high-quality plastic sheets.
- customer-specific application developments in order to increase the longevity of our products, and their increase recyclability.





Environmental policy and environmental guidelines

Sustainable Development Goals (SDGs)

Factors influencing the environmental management system

Organization of corporate environmental protection

Tasks of the environmental officer

Milestones of corporate environmental protection

Milestones and awards

Legal conformity

Milestones of corporate environmental protection

Active environmental protection is a declared corporate goal at SENOPLAST. As early as 1978, more was done than necessary to harmonize the integration of the company into the surrounding landscape through planting, the generous creation of green areas and a biotope.

We developed an ecology concept back in 1982 and have been gradually putting it into practice ever since. All relevant operational areas are constantly scrutinized for improvements from both an ecological and economic perspective.

For the harmonious integration of the plant into the surrounding nature, the creation of a biotope and the creation of a park landscape on the factory premises, we were awarded the prize for environmental protection in industry in 1985.

After a short period of preparation, quality assurance was introduced in October 1992 with certification to DIN ISO 9001. The system has become an indispensable tool in our operational processes.

It was particularly pleasing to note that the first edition of the environmental report, "Environmental Report 2000", was awarded the "Mother Earth" prize at the Austria-wide AERA (Austrian Environmental Reporting Award), making it one of the three best environmental reports in Austria.

This was followed in December 2001 by another award at the AERA 2000, where the company took 2nd place in Category I (Sustainability). One year later, in December 2002, the much longed-for 1st place was achieved at the AERA 2001. This meant participation in the European competition.

Conformity with the environmental standard EN ISO 14001 was confirmed by a certificate in November 2000, which can be seen as a very good addition to the already implemented quality standard EN ISO 9001. Since December 1999, we have been a "climate alliance company", which means that special attention is paid to climate-relevant improvements; among other things, this means voluntarily paying attention to reducing CO_2 emissions.

We are convinced that we are making a contribution to building trust in our environment by increasing dialog with our employees and the public.

Projects are constantly being developed and implemented. Our successes in environmental protection strengthen our desire to have these preventative and exemplary measures officially recognized. It is our concern to maintain the healthy condition and beauty of our land with its recreational value for us and our guests





Environmental policy and environmental guidelines

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Legal conformity

Milestones and awards



Construction of a 1700m² biotope and creation of green spaces

- ✓ 1982 Ecology concept
- ✓ 1985 Environmental protection award
- ✓ 1999
 Climate alliance voluntary reduction of the CO₂ cause
- ✓ 2000
 First environmental report receives award ,Mother Earth'
- ✓ 2000 Certified to ISO 14001 –environmental management
- ✓ 2007 EMAS – environmental management
- ✓ 2010 Special prize for energy efficiency from Fraunhofer Austria
- ✓ 2018 Award ,umwelt blatt salzburg' for special Environmental commitment
- ✓ 2019 Awarded with seal of quality for sustainability by Kurier
- ✓ 2020 Export award – Silver in the category Industry

- ✓ 2020 Most innovative company in Salzburg
- ✓ 2021 Nomination – Austrian State Prize for Innovation
- ✓ 2021
 Energy Globe Award
- ✓ 2022 ISCC PLUS certification
- ✓ 2022 Wikarus Award
- ✓ 2023 Award of prize for environmental management
- ✓ 2023 Growin 3.0





🜌 Fraunhofer

WIKARUS





ISO 14001



EXPORT PREIS 2020 SILBER









Environmental policy and environmental guidelines

Sustainable Development Goals (SDGs)

Factors influencing the environmental management system

Organization of corporate environmental protection

Tasks of the environmental officer

Milestones of corporate environmental protection

Milestones and awards

Legal conformity

Legal conformity

Another important foundation of our environmental management system is compliance with all rights and obligations that affect us. All legal regulations and other obligations relevant to SENOPLAST are kept in a legal register and decision management system. These are essential:

- ✓ Trade law
- ✓ Building law
- ✓ Water law
- ✓ Occupational safety law
- ✓ Waste law

Legal register / Decision management

This framework is supplemented by a register of decisions deset up for the Piesendorf site, in which all decisions and the associated conditions issued are recorded.

The Environmental Officer is responsible for identifying environmentally relevant regulations. Following his pre-selection, he informs the relevant department heads in the company. They are responsible for implementing measures to ensure compliance with legal requirements and official approvals. The originals of the official approval are available in the plant management department, which is responsible for most inspections.

The recurring inspections resulting from the various binding obligations (e.g. § 82b GewO, StrSchG, § 134 WRG, § 19a Eisenbahngesetz, ASchG, etc.) are systematically monitored and their implementation documented. Compliance with official requirements and legal obligations is checked at regular intervals in the course of internal audits and environmental audits as well as through operational monitoring. No deviations from legal regulations were identified during these reviews and compliance assessments. Since mid-2023, the entire decision management concept has been revised and integrated as an add-on in the existing document management software.

New requirements

Between 2021 and 2023, a total of nine decisions with around 300 requirements were issued, focusing in particular on the topics of worker protection, fire protection, electrical engineering, industrial engineering and environmental protection.





4. IN A CYCLE WITH THE ENVIRONMENT

Environmental impact of the production of our products Environmental focus on raw materials Environmental focus on energy Environmental focus on waste Environmental focus on water Environmental focus on air and noise Environmental focus on occupational safety Environmental focus on people - social responsibility Environmental focus on mobility

Biotope - amphibians - guidance system and renaturation of the Rossbach stream

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Environmental impact of the production of our products

Environmental focus on raw materials

Environmental focus on energy

Environmental focus on waste

Environmental focus on water

Environmental focus on air and noise

Environmental focus on occupational safety

Environmental focus on people - social responsibility

Environmental focus on mobility

Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental impact of the production of our products

In order to determine the environmental impact of SENOPLAST at the Piesendorf site, direct and indirect environmental aspects are defined and their effects evaluated. Material flows are measured and key figures are developed in order to define environmental strategies/targets with concrete measures. The aim of implementation is to reduce the environmental impact while taking economic aspects into account. While maintaining the use of 100% renewable energy (market-based approach), the main focus is on further reducing specific energy consumption, closing material cycles and reducing unavoidable waste volumes or emissions. The achievement of the defined environmental targets is implemented through corresponding projects, target achievement is evaluated in the annual management review and any further corrective measures are derived. This Plan-Do-Check-Act (PDCA) principle is already practiced at all levels of the company.



Environmental relevance profile of the entire site

We use the environmental relevance profile to analyze those environmental aspects that lead or could lead to significant environmental impacts. For us, environmental aspects are the components of processes, activities, products or services that have or could have an impact on the environment. The relevant aspects are thus identified and their environmental impact determined. By assessing their materiality, the environmental aspects are prioritized and consistent measures are taken to reduce negative impacts. The criteria were defined taking into account the following points:

The general state of the environment (local - regional - global)

- ✓ Potential harm or benefit to the environment related to the environmental focus areas described
- ✓ Definition of process-related criteria
- ✓ Requirements of environmental regulations
- \checkmark The opinions of the employees and the interested circles

The criteria were evaluated taking into account the following points:

- ✓ Existing internal process data and flows
- ✓ In-house know-how of the different processes
- ✓ Activities of the company
- ✓ Knowledge of external spheres of influence and stakeholder
- Expectations (e.g. climate change, Paris Agreement, supply-
- ✓ Chain requirements, Enhanced Producer Responsibility EPR, etc.)

In preparation for extended product life cycle analyses, we differentiate our own realization, management and support processes from those of our production upstream and downstream at the site.

The weighting factor was determined internally on the basis of the relevance of the environmental aspect (local-regional-global). The influenceability of the process and its optimization potential were defined internally by analyzing the respective processes.



Environmental impact of the production of our products

Environmental focus on raw materials

Environmental focus on energy

- Environmental focus on waste
- Environmental focus on water

Environmental focus on air and noise

Environmental focus on occupational safety

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Environmental focus on mobility

Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental impact of the production of our products

Environmental materiality profile

The environmental priorities of the main and peripheral processes are continuously addressed internally and effective measures are implemented. Projects to reduce and increase efficiency are currently being pursued, particularly in the area of raw material and resource consumption, in order to improve the coloristics and extrusion processes, which have a high environmental performance indicator. Due to the relatively poor ability to influence upstream and downstream processes, no effective measures can be taken in the short term. These environmental priorities are therefore relevant for a future-oriented environmental perspective. They should serve as a basis for improving cooperation in the environmental field between suppliers and SENOPLAST and between customers and SENOPLAST. In addition, they should serve as a basis for the evaluation of suppliers and customers.



Fig. 10: Bar chart of environmental materiality

Definition of environmental targets to reduce the environmental impact

Environmental targets are defined according to various criteria. They are categorized according to their relevance to the company and divided into short, medium and long-term goals. The targets are prioritized according to our corporate principles and medium-term strategic orientation and pursued as long-term environmental targets.

Medium-term goals are mainly defined by assessing environmental aspects and have an influence on the achievement of long-term goals.

Short-term goals are defined within a department and have an impact on the relevant environmental aspects.

Long-term goals:

✓ Reduction of Scope 1+2 emissions* at the Piesendorf site Medium-term goals:

✓ Reducing the environmental impact of our environmental aspects

Short-term goals:

- ✓ Achievement of the annual divisional targets
- ✓ Reduction in the volume of commercial and residual waste
- ✓ Reduction in disposal costs for plastic waste
- ✓ Commissioning and installation of new PV systems
- ✓ Renovation/renewal of infrastructure (cooling water, compressed air)
- ✓ Data collection Scope 3 emissions

* Market-based approach

Potential and necessary measures are recorded using the following instruments:

- a. Internal audits
- b. Environmental audit
- c. Management assessment
- d. Strategy workshops
- e. Ongoing discussions with employees



Environmental impact of the production of our products

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Environmental focus on people - social responsibility

Environmental focus on mobility

Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental focus on raw materials

The raw materials used (plastic granules) have a very low hazard potential. Heavy metal-free color concentrates have been used for the color mixtures for years.

The overriding aim of color development is to further reduce the proportion of hazardous chemicals as far as the quality requirements for the product allow. A substance assessment is carried out in particular for operating materials with hazardous properties (oils, adhesives, cleaning agents, paints, etc.) in order to identify and evaluate the risks to people and the environment. This ensures that all employees in the company are informed in good time and encouraged to handle them carefully, and that alternative, less hazardous operating materials are sought for the future. Thanks to the environmental awareness of our employees, SENOPLAST's "hazardous substance analysis" contains hardly any operating materials with a high environmental hazard potential.

- ✓ Utilize all possibilities of internal and external cycles to further increase the use of recyclates, without minimizing product quality and properties. This reduces the use of virgin material that has to be produced from fossil sources.
- Intensive and continuous research into the potential applications of bio-based, renewable raw materials plastics to produce equally high-quality plastic sheets.
- ✓ Customized application developments to increase the longevity of our products and improve their improve recyclability.

Year (2021-2022-2023) in to

| | | 2021 | 2022 | 2023 | Changes 2023 / 2022 |
|-------|--|----------|----------|----------|------------------------|
| | | Quantity | Quantity | Quantity | % |
| 1.1 | Total raw materials | 57,322 | 48,892 | 46,359 | -5.18% |
| 1.1.1 | Virgin plastic granules | 41,052 | 34,271 | 31,655 | -7.63% |
| I.1.2 | Own regenerate (regrind) | 5,555 | 5,236 | 6,120 | 16.88% |
| 1.1.3 | Customer regenerate (regrind) | 6,535 | 6,211 | 6,091 | -1.93% |
| 1.1.4 | Color concentrate (granules and powder) | 4,180 | 3,174 | 2,494 | -21.44% |

Table 1: Annual trend (2021-2022-2023) in to



Environmental impact of the production of our products

Environmental focus on raw materials

Environmental focus on energy

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- Environmental focus on people social responsibility
- Environmental focus on mobility
- Biotope amphibians guidance system and renaturation of the Rossbach stream

Environmental focus on raw materials



Our recycling concept is based on an agreement with our customers. The offcuts from production (post-industrial plastic waste) are delivered to us in the form of regrind (recyclate) and reintegrated into the existing production process after various treatment processes.



Fig. 11: Senocircle plant in Piesendorf

The following figures show the difference in quality between inhomogeneous recyclate mixed with foreign matter and the homogeneous secondary raw material refined from it after processing via the individual process stages. The separated dust particles and foreign materials are to be reused in production as secondary raw materials in the future (point 5: "Overview of measures between 2021-2023").



Fig. 12: Recycled material delivered



Fig. 13: Separated foreign matter and dust particles



Fig. 14: End products



Environmental impact of the production of our products

Environmental focus on raw materials

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Environmental focus on waste

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Environmental focus on occupational safety

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Environmental focus on mobility

Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental focus on raw materials



ISCC PLUS (International Sustainability & Carbon Certification) is a global certification program for the circular economy and bioeconomy. The certification enables the traceability of raw materials along the entire supply chain.

In cooperation with our suppliers, SENOPLAST can track and confirm the supply chain of bio-based and recycled plastics. The ISCC Plus certification confirms that the company carries out mass balancing in accordance with specified and transparent rules.

On this basis, SENOPLAST also offers products that ISCC Plus certified raw materials.

Further information at: https://www.iscc-system.org/certification/iscc-certification-schemes/iscc-plus/



Fig. 15: ISCC certification

Research & Development



In close cooperation with our customers and suppliers, we develop and improve sheets and films that meet the requirements of our environmental stakeholder.

One example of this is the commissioning of a new production line for processing PET and rPET into high-quality films specifically for the furniture industry. The focus here is on the use of recycled PET and its sustainable reuse in durable end products.



Fig. 16: PET system



Environmental impact of the production of our products

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Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental focus on energy

The electrical energy required to operate the extrusion systems is provided by the service provider Salzburg AG.

It is important to us as a company that only electricity from renewable energy sources (market-based) is used.

The following figure shows the composition of renewable energy sources used to generate green electricity



Fig. 17: Energy sources for the generation of green electricity

The first photovoltaic system was installed in 2023 to further strengthen the sustainability concept at the Piesendorf site.

verified by E-control

Energy consumption / key figures **Piesendorf plant**

The following tables show the energy consumption and key figures for the last three years. In principle, the consumption of the individual energy sources has remained constant over the last three years. The consumption of electrical energy is to be reduced over the next few years through process optimization on the extrusion lines and through infrastructure measures. In addition, the proportion of in-house electricity generation is to be increased through the construction of further PV systems.

The reduction or phase-out of fossil fuels is being accelerated via a climate strategy plan up to 2030.

| Energy Input | Unit | 2021 | 2022 | 2023 |
|--|------|--------|--------|--------|
| Total energy | MWh | 43,457 | 38,085 | 38,315 |
| Green electricity Salzburg AG | MWh | 42,473 | 37,057 | 37,192 |
| Generation of own electricity (PV system) | MWh | - | - | 219 |
| Natural gas | MWh | 249 | 236 | 220 |
| Diesel | MWh | 482 | 483 | 457 |
| Propan gas | MWh | 252 | 279 | 227 |

Table 2: Energy consumption at the Piesendorf plant

The key figures determined show that total energy consumption increased in 2023 compared to 2022. One of the reasons for this is the installation of a PET plant in the second half of 2023, which could not yet be used for production purposes but was already in operation for test purposes.

| Energy key figures | Unit | 2021 | 2022 | 2023 |
|--|------------------|-------|-------|-------|
| Total energy | MWh/t product | 0.937 | 0.999 | 1.055 |
| Green electricity Salzburg AG | MWh/t product | 0.880 | 0.933 | 0.984 |
| Generation of own electricity (PV system) | MWh/t product | - | - | 0.006 |
| Fossile energy | MWh/t product | 0.020 | 0.025 | 0.024 |
| Energy for internal transport | MWh/t product | 0.015 | 0.019 | 0.018 |

Table 3: Key energy figures for the Piesendorf plant



Environmental impact of the production of our products

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Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental focus on energy

Thermal energy consumption / coefficient 🐱

The waste heat from the extrusion systems is used to heat the office and recreation rooms. This measure makes it possible to cover the heating requirements in the transition months in spring and fall exclusively with the waste heat generated.

The heating requirements in winter are covered by purchasing climate-neutral district heating from the nearby Piesendorf heating plant.

Every year, around 45% of the total heat requirement is covered by the waste heat from the production facilities. The remaining 55% is provided by the nearby heating plant.

| Thermal energy demand | Unit | 2021 | 2022 | 2023 |
|---|------|-------|-------|-------|
| Total thermal energy requirement | MWh | 3,311 | 2,936 | 2,870 |
| Heat energy Piesendorf heating plant | MWh | 1,766 | 1,631 | 1,561 |
| Thermal energy from the waste heat system | MWh | 1,550 | 1,305 | 1,309 |

Table 4: Thermal energy demand at the Piesendorf plant

In relation to the annual quantity produced, a usable energy of **0.041 MWh/t of product** was generated per ton of product.



Fig. 18: District heating plant

Measures to optimize energy consumption

Various projects were implemented in the years 2021 to 2023 in order to further reduce the energy consumption of the various energy sources:

Construction of a two-stage adiabatic hall air conditioning





Fig. 19: Hall air conditioning

In collaboration with INFRANORM[®] Technologie GmbH, a modern and efficient air conditioning system was installed for the new production hall. The new approach of two-stage adiabatic cooling makes it possible to significantly reduce energy costs. In addition, climate-damaging refrigerants can be completely dispensed with and a pleasant indoor climate can be created for our employees. In combination with heat recovery from the system's waste heat, the new production hall can be operated in an energy-efficient manner in both summer and winter.



Environmental impact of the production of our products

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Environmental focus on energy

Construction of the first PV system

13 📰



Fig. 20: PV systems

In 2023, the first photovoltaic system with a maximum output of 250 kWp was installed on the roof of the new production hall. This meant that **219,000 kWh** of in-house electricity could be produced in 2023.

Treatment of well water 📅 😹

In April 2022, a deferrization and manganese removal system was put into operation to improve the cooling water quality. By filtering out iron and manganese, targeted and efficient control of the cooling water cycle is now possible.

This allows the cooling water circuit to be operated efficiently and the consumption of electrical energy can be reduced.





Fig. 21: Pressure fliter system for iron and manganese removal

Further projects to reduce energy consumption are to be implemented in the coming years. The focus will be on optimizing the infrastructure and modernizing and automating the extrusion systems.



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Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental focus on waste

Appropriate waste collection points have been set up on paved surfaces (asphalt, concrete, soil) at the Piesendorf site. The waste generated is disposed of by authorized waste collectors, recyclers and disposal companies. Table 5 below shows the relevant hazardous and non-hazardous waste according to the Austria waste code numbers. The total waste generated at the site is listed in the appendix.

The amount of hazardous waste increased by around 17% in 2023. This is mainly due to oily waste generated during the maintenance of machine components and electronic waste generated during rework activities on various system components.

The amount of non-hazardous waste will increase by approx. 10% by 2023. This is mainly due to the increase in wood waste disposed of (+ 45%). The volume is comparable to 2021.

The amount of plastic waste generated during the production of plastic sheets and films has increased by approx. 10%. This is due to the commissioning of a new production plant in summer 2023. During the commissioning phase, all plastic waste was either reused as regrind or had to be disposed of (e.g. start-up lumps). From 2024, the new production plant will be in regular operation and the amount of plastic waste will therefore decrease in relation to the amount produced.

For the recycling of the secondary raw material "plastic waste", appropriate corresponding environmental targetsare pursued, which under "Definition of the environmental goals to reduction the Environmental impact".

Course of the year (2021-2022-2023)

| | Unit | 2021 | 2022 | 2023 |
|--|------|----------|----------|----------|
| Hazardous waste | t | 88.75 | 72.41 | 85.03 |
| Construction site waste | t | 0.11 | 0.39 | 0.00 |
| Electronic waste, electrical appliances, batteries, cables | t | 1.38 | 0.82 | 1.46 |
| Waste oil, oily waste | t | 75.12 | 55.77 | 67.75 |
| Old varnishes, paints, solvents | t | 7.05 | 11.47 | 11.49 |
| Plastic containers and containers | t | 5.00 | 3.42 | 4.14 |
| Chemicals (laboratory waste), spray cans | t | 0.09 | 0.54 | 0.19 |
| Non-hazardous waste | t | 1,942.36 | 1,427.41 | 1,713.65 |
| Wood waste | t | 469.88 | 291.66 | 423.91 |
| Waste paper | t | 0.00 | 0.00 | 0.00 |
| Waste glass | t | 5.00 | 3.50 | 5.50 |
| Commercial, residual waste | t | 237.30 | 212.17 | 128.29 |
| Green waste | t | 49.50 | 27.98 | 18.46 |
| Cardboard boxes | t | 62.87 | 75.92 | 87.39 |
| Packaging composites | t | 21.60 | 10.69 | 16.63 |
| Plastic waste | t | 1,096.21 | 805.49 | 1,033.47 |

Table 5: Annual development of hazardous and non-hazardous waste



Environmental impact of the production of our products

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Environmental focus on waste

Action strategies:

Material recycling of the start-up lumps 🐻 🧓

In cooperation with an Upper Austrian waste disposal company, the start-up chunks produced during the start-up of the production plant were collected separately by color and plastic and sent for material recycling.

The collection of the various bumpers was developed by the SENOPLAST apprentices as part of the Growin' apprentice initiative (https://www.keepgrowin.at/Keepgrowin-Growin-3.0 pid,76814,type,pel. html). This project made it to the final, where the results of this project were presented by our apprentices.

In 2023, over 510 tons of plastic start-up lumps were collected and sent for recycling.



Fig. 22: Start-up chunks & Growin's apprentice initiative



Growin

Alternative cleaning agents



The long-term goal is to reduce the use of potentially hazardous cleaning agents and replace them with environmentally friendly cleaning agents.

In summer 2023, the use of an alternative cleaning agent that is more environmentally friendly and non-flammable was tested. Due to the good test results, larger quantities of the alternative cleaning agent were ordered and are now being used more frequently throughout the production site. The results are evaluated on an ongoing basis.

Optimization of waste separation



A recycling area for waste containers was set up to improve and simplify waste separation, as there was no orderly arrangement of containers for waste. The construction of the new hall site extension in 2017 allowed the existing area to be divided up differently and space to be created for an orderly arrangement of the containers. The degree of separation of the various types of industrial waste often depends on the waste disposal company itself. Simple and ongoing communication between both parties is therefore essential and crucial for the guality of the separation.





🗇 SENOPLAST

Environmental impact of the production of our products

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🖉 Environmental focus on water

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Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental focus on water

Water consumption at the Piesendorf plant 📅 🎇



The cooling capacity required to operate the extrusion systems is provided by the company's own well.

The water is cooled by means of heat exchangers without contaminating the groundwater, but only by increasing the temperature.

The required cooling water volume and maximum discharge temperatures were approved under water law in the decision, number 20701- 1/30908/283-2017

The specified limit values can be seen in Figure 23 as monthly averages. When discharging into the infiltration system, the discharge temperature was exceeded at certain points in September/October. These exceedances were communicated to the authorities.

An application to increase the discharge temperature had already been submitted to the authorities in advance and was assessed and approved by the Salzburg Water Protection Authority. The amendment to the decision is expected in 2024.





Fig. 23: Discharge temperatures & flows 2023



Environmental impact of the production of our products

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🚏 Environmental focus on water

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Biotope - amphibians - guidance system and renaturation of the Rossbach stream

Environmental focus on water

Only sanitary wastewater that is similar to household waste is discharged into the sewer system. Drinking and industrial water is provided by the drinking water facilities of the Piesendorf water cooperative.

Table 6 shows the total consumption over the last 3 years. The implementation of the southern production hall cooling water supply has increased total consumption.

The installation of a deferrization and demanganization system has significantly increased cooling water efficiency. As a result, drinking and service water consumption could be significantly reduced again in 2023, as drinking and industrial water had to be used for cooling purposes in some peripheral processes in 2022 due to the inefficient cooling capacity of the well system.

| Water | | 2021 | 2022 | 2023 |
|-------------------------------|----|-----------|-----------|-----------|
| Total consumption | m³ | 1,114,071 | 1,440,725 | 1,561,028 |
| Drinking and industrial water | m³ | 15,742 | 33,640 | 17,840 |
| Cooling water | m³ | 1,098,329 | 1,407,085 | 1,543,188 |

Table 6: Water balance at the Piesendorf plant



Industrial waste water

There are two mineral oil separators at the Piesendorf site, through which contaminated wastewater is pre-cleaned and discharged into the RHV Zellebecken sewage treatment plant via the sewer system. The discharge of pre-cleaned wastewater was approved with indirect discharger contract ZE 037/06.02.2019. The specified parameters of the pre-treated wastewater are analyzed at two-year intervals by an accredited laboratory and transmitted to the Reinhalteverband.

The \$134 inspection required by the Water Act every five years is carried out by an engineering consultant.

Tables 7 and 8 show the specified consensus quantities and the parameters measured in the last study in 2023. The specified limit values are not exceeded.

| Mineral oil separator oil chamber SENOPLAST | | Max. | Min. | Review 2023 |
|--|------|------|------|----------------|
| Freight | m³/d | 7.2 | - | - |
| Max. Flow rate | l/s | 2 | - | - |
| Settable substances | ml/l | 10 | - | <0.1 |
| pH value | | 9.5 | 6.5 | 7.42 |
| Hydrocarbon buzzer | mg/l | 10 | - | 4.6 |
| Temperature | °C | 35 | - | 18.1 |

Table 7: Mineral oil separator oil chamber SENOPLAST

| Mineral oil separator vehicle workshop | | Max. | Min. | Review 2023 |
|--|------|------|------|----------------|
| Freight | m/d³ | 6 | - | - |
| Max. Flow rate | l/s | 1.7 | - | - |
| Settable substances | ml/l | 10 | - | 0.2 |
| pH value | | 9.5 | 6.5 | 7.57 |
| Buzzer of hydrocarbons | mg/l | 10 | - | 5.9 |
| Temperature | °C | 35 | - | 16 |

Table 8: Mineral oil separator vehicle workshop



Environmental impact of the production of our products

Environmental focus on raw materials

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Environmental focus on waste

🚏 Environmental focus on water

Environmental focus on air and noise

Environmental focus on occupational safety

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Environmental focus on mobility

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Environmental focus on water

Measures - Strategy

The implementation of the cooling water supply in the southern production hall and the deferrization and demanganization of the cooling water using pressure filters has increased overall consumption.

Due to the increased iron and manganese content in the cooling water, the cleaning and maintenance costs have been very high in recent years (e.g. cleaning the heat exchangers). In addition, the submersible pumps were always running at full load in the systems due to the high pressure loss. The various cooling water components were heavily contaminated, meaning that the water could only be pumped through the pipes with increased effort.

Thanks to the new cooling water supply system in the south hall and the pressure filter, the submersible pumps have to use less power to transport the water to the system. The cleaning intervals have been reduced or are no longer necessary in some cases and the machine components can be kept at the right temperature.

Future water consumption has fallen due to the renovation of the cooling water pipes.

Due to the good cooling water quality since the installation of the treatment plant, the construction of new cooling water pipes and the decommissioning of old cooling water pipes began in 2023 and should be completed in the next few years.

In addition, an application was submitted to the authority in 2023 to increase the temperature spread of the cooling water seepage in order to reduce consumption volumes and make better use of the specified consensus volumes.



On 12 March 2015, 21 companies in the plastics industry committed to minimizing losses of plastic raw materials through optimization processes and broad-based information campaigns. This commitment, which comprises 10 measures, was sealed with the Ministry of the Environment in the "Zero Pellet Loss" pact.

The ambitious goal of the "Zero Pellet Loss" pact was to reduce the plastics industry's input to less than one kilogram per day. Many of the measures, such as sieves, sweeping up and training, have already been part of everyday operations for years. The increased awareness, the consistent implementation of the individual measures and their more precise internal controls, which are carried out as part of the pact, have significantly increased efficiency. As a result, the target set has already been achieved within a year.



Fig. 24: "Zero Pellet Loss" pact



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Environmental focus on air and noise

Air circuit

The hall is ventilated by an air conditioning system whose hot air is generated from the waste heat from production. In addition, air is required for the compressed air supply (DL) to convey the plastic granulate and to control the machines. This air is released into the atmosphere virtually uncontaminated. Polluted exhaust air is mainly generated by the extraction system at the extruders and in the die construction. The odor emissions generated during plastics extrusion have no negative impact due to the sufficient distance from the neighboring residents. Nevertheless, we are working to further reduce emissions and thus also odor emissions. The flow diagram of the supply and exhaust air at the Piesendorf plant is shown in the following illustration. Of the fresh air used, 99.5% is used for hall ventilation. Only 0.1% of the total amount of air used is used as combustion air and leads to exhaust air emissions. Approximately 0.4% of the air is used in the compressed air system.





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Emissions into the atmosphere

The calculated emission loads from the combustion air are shown in the following table. From 2023, emissions from the combustion of extra-light heating oil within the system boundary were no longer taken into account. Heating oil is used exclusively to heat the company apartments outside the production site. The values in the table have therefore been revised and updated retrospectively for 2021 and 2022.

| Emission loads | Unit | 2021 | 2022 | 2023 |
|--------------------|------|-------|-------|-------|
| СО | kg | 491 | 445 | 400 |
| NO _x | kg | 5,157 | 4,677 | 4,208 |
| SO ₂ | kg | 5 | 5 | 4 |
| C _{total} | kg | 389 | 353 | 317 |
| Dust | kg | 3 | 3 | 2 |

Table 9: Emission loads at the Piesendorf plant

Emission measurements: Compliance with legislation

The concentrations of gaseous organic carbon compounds (org. C) and their limit values are listed in the following table. It can be seen that the limit values specified in the ordinance and notification have not been reached in recent years.

| Exhaust air measurements | Measured values | Limit value according to authorities | Limit value according to VOC plant regulation | | |
|--------------------------------------|-----------------------------|--|--|--|--|
| | (mg org. C/m ^o) | (mg org. C/m ^o) | (mg org. C/m°) | | |
| Extraction calender A9/PS-Prod. | 2.4 ± 0.5 | 100 | 150 | | |
| Extraction calender A11/ABS-Prod. | 7.2 ± 0.7 | 100 | 150 | | |
| Exhaust air production hall | 2.8 ± 0.5 | 100 | 150 | | |
| Exhaust air calender A21/ABS-Prod | 9 ± 3 | 50 | 150 | | |

Table 10: Calender exhaust air

The concentration or mass flow of ozone due to the use of a new surface treatment system (plasma system) is listed in the following table. It can be seen that the limit values or target values specified in the notification or by law were not achieved.

| Exhaust air measurements | Measured values | Limit values according to the authorities | Target value (from IG-L and Ozone Act) | | | | |
|-----------------------------|--------------------|--|--|--|--|--|--|
| Exhaust air ozone | 0.001 g/h | 20 g/h | 120 μg/m³ | | | | |
| A21 plasma system | 0.6 µg/m³ | | as 8h average value | | | | |

Table 11: Plasma treatment system

The emissions resulting from the use of a thermal cleaning system were determined (see Table 12). It can be seen that the limit values specified in the decision were not reached.

| Exhaust air measurements | Measured values (mean values) | Limit value according to authorities | | |
|--------------------------------|----------------------------------|---|--|--|
| Thermal cleaning system | | | | |
| CO (mg/m ³) | < 5.0 | 100 | | |
| NO _x (mg/m³) | 6.08 | 100 | | |
| Org. g. C (mg/m ³) | < 5.0 | 20 | | |
| Dust (mg/m³) | 2.98 | 20 | | |

Table 12: Thermal cleaning bath

Dust emissions

A limit value of < 10mg/m³ dust has been set by the authorities for individual, newly constructed systems (e.g. mill dust extraction filters). As these plants are not yet in regular operation, the dust emissions will be determined during the course of the year.



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CO₂-balance

 $\mathrm{CO}_{\rm 2}$ emissions are divided into three different scopes according to the GHG Protocol:

Further information at: https://www.climatepartner.com/de/knowledge/insights/scope-1-2-3-complete-guide

- Scope 1: Direct emissions of a company(specifically the Piesendorf site, e.g. vehicle fleet)
- Scope 2: Emissionsfrom suppliers, indirect emissions generated as a consequence of a supplier's activities. arise from business activities but occur elsewhere (e.g. generation of electricity)
- Scope 3: Emissionsresulting from activities outside the company (e.g. production of raw materials, transportation and distribution)

The following table lists the site-related and indirect CO_2 emissions (Scope 1+2). The CO_2 calculation is based on the GHG Protocol.

According to Salzburg AG, the electricity used comes from 100% renewable energies (market-based approach). From the perspective of the electricity supplier, this results in 0.00 g $CO_{2.eq}$ /kWh. In future, CO_{2} emissions will also be calculated with compared with the location-based approach and in the explanation indicated.

From 2023, emissions from the combustion of extra-light heating oil within the scope were no longer taken into account. Heating oil is used exclusively for heating the company apartments, which are located outside the production site. The values in the table have therefore been retrospectively processed and updated for 2021 and 2022.

| | Unit | 2021 | 2022 | 2023 |
|-----------------------------------|-----------------------|---------|---------|---------|
| Total | kg CO _{2,eq} | 290,466 | 305,065 | 276,547 |
| Diesel | kg CO _{2,eq} | 155,662 | 154,966 | 146,682 |
| Propan gas | kg CO _{2,eq} | 67,998 | 86,905 | 70,874 |
| Natural gas | kg CO _{2,eq} | 66,806 | 63,194 | 58,991 |
| Electric current | kg CO _{2,eq} | 0.00 | 0.00 | 0.00 |
| g CO _{2,eq} / kg product | | 6.02 | 7.68 | 7.32 |

Table 13: CO_{2.eq} - emissions 2021, 2022, 2023

The following values are used as a basis for CO_2 emissions. This was checked again in February 2024, and no change in the values was apparent.

| Electric current** | 0.000 | kg CO _{2,eq} / kWh | 12/2022 |
|--------------------|-------|-----------------------------|---------|
| Propan gas* | 0.312 | kg CO _{2,eq} / kWh | 2020 |
| Heating oil* | 0.332 | kg CO _{2,eq} / kWh | 2020 |
| Natural gas* | 0.249 | kg CO _{2,eq} / kWh | 2020 |
| Diesel* | 0.321 | kg CO _{2,eq} / kWh | 2020 |

Table 14: Basic data CO_{2.eq} - calculation

* Austrian Air Pollution Inventory OLI 2022 (1990-2019), GEMIS 5.0 (Austria)
** Salzburg AG (12/2022)



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Waste heat recovery saves heating oil (CO₂)

Through the additional use of waste heat from production for heating the company (approx. 50%) and the purchase of district heating from wood chips, we save the environment the emissions of approx. 200,000 liters of heating oil. This corresponds to 952 tons of CO_2 per year.



*1 kg of heating oil corresponds to 0.01177 MWh. 1 kg of heating oil corresponds to 0.84 I of heating oil.

Low CO₂ load

The production of 1 kg of senosan[®] causes CO_2 emissions of 7.32 g $CO_{2,eq}$ (Scope 1+2) during production in Piesendorf. An economical mid-range car produces around 120 g/km



Electricity from renewable energy

Our electricity comes from 100% renewable energy (market-based approach).



The electricity labeling is carried out in accordance with §78 I, II ElWOG 2010, Electricity Labeling Ordinance 2022.



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Reduction of Scope 1+2 emissions* at the site in Piesendorf

In 2022, SENOPLAST has set itself the ambitious goal of reducing Scope 1+2 emissions (market-based approach) to at least -55% net by 2030 at the latest as part of the Austrian climate protection strategy (base year is the 2014/2015 financial year, as 100% of the electricity purchased from this point onwards comes from renewable energy, market-based approach).

Direct Scope 1 CO_2 emissions are caused by the combustion of diesel, propane gas and natural gas. An action plan to achieve this target was drawn up in 2023. The main emission factors are prioritized top-down and the measures are implemented step by step.

Diesel

| Application: | internal transport (forklift trucks), |
|--------------|---|
| Suggestions: | Washroom (high-pressure cleaner) Use of HVO 100, forklift replacement (e-forklift) |
| | |

Propan gas

| Application: | internal transport (forklift trucks), |
|--------------|---|
| | Scarfing device (shrink film) |
| Suggestions: | Use of bio-propane gas, forklift replacement |
| | (electric forklift), replace scarfing equipment |

Natural gas

| Use: | Thermal cleaning bath |
|--------------|--|
| Suggestions: | Use of green natural gas, use of bio-propane |
| | gas |

*Market-based approach

Noise 🐼 🖆

In cooperation with the accident prevention service of the employers' liability insurance association, we regularly and carefully carry out noise measurements in the company. Improvement measures are continuously implemented in production to keep noise pollution at workplaces as low as possible.

Noise protection cladding was installed on the main extruders and noise protection cabins in the area of the plastic mills, and investments were made in low-noise material feed pumps. Exposed noise areas are soundproofed wherever possible.

Nevertheless, the entire production area is classified as a noisy area and may only be entered by employees wearing hearing protection. Employees are informed about working in noisy areas and the possible health consequences of not observing the safety measures. The use of suitable hearing protection is prescribed and continuously monitored by the management. In addition, employees are regularly asked to undergo hearing tests. When entering and leaving the hall

-Great care is taken to ensure that the gates remain closed at night and that forklift traffic in the outdoor area is kept to a minimum. No loading work is carried out at night either.

Weekly noise measurements were carried out in critical areas in 2022/2023. Measures to reduce noise were taken in consultation with local residents (e.g. insulation of the material conveyor line, sound-insulating repositioning of shelves, consultation with freight forwarders).



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Environmental focus on occupational safety

Occupational safety is a major concern for SENOPLAST. For this reason, we are constantly working on the implementation of infrastructural and safety-related measures. Before starting work, new employees are instructed in all topics relevant to their work with the help of health and safety documents (instruction documents, safety instructions, operating instructions, etc.) and a subsequent inspection of the company premises.





Instructing and training new employees who are not sufficiently proficient in German poses a challenge. Instruction in their native language is necessary, as this is the only way to ensure that the instruction is understood. We are supported in this by long-standing, multilingual employees who help with the translation. Instruction with image support offers additional help to visually link what has been heard. In future, documents will also be available in different languages. Employees who are not sufficiently proficient in German attend in-house German courses to learn or improve their language skills, and more employee training courses and workshops are planned for 2024 in collaboration with AUVA.

Accident days

In the 2023 financial year, there was a reduction of - 23.75% in total accident-related downtime, taking into account the number of employees. In the 2023 financial year, there were a total of 796 accident days (working days).

Total number of working days lost due to accidents (workers)



Fig. 26: Lost time due to accidents

AUVA seal of quality



SENOPLAST has been on the way to achieving the AUVA "safe and healthy working" seal of approval since the beginning of 2024. The AUVA seal of approval confirms that safe and healthy working conditions are demonstrably implemented in the company. These are factors that play a key role in determining the attractiveness of workplaces and employers.



Fig. 27: State of affairs - AUVA seal of quality



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New employees - Employee folder - Corporate culture

The employee folder gives all new employees the same level of knowledge about information, rules and rights in our company. A tour of the company, an introduction in all departments and a circular email to everyone at the site with a photo and brief information about the new employee joining the respective department are organized. This information is also distributed via the employee app.

Social integration into the corporate culture is also reflected in the fact that almost all new employees are active members of the Seno leisure club or the support service and take part in sporting events or have anonymous access to the services offered by the Seno support service, in particular the psychological support provided by our company psychologist.

In the blue-collar sector, new employees are informed by the Works Council as part of the recruitment process before they start work in order to ensure that they start work in as orderly a manner as possible and in consultation with the employees.

Among other things, employees are given work clothing, safety shoes/safety equipment and any work equipment. Employees are also informed about labor law issues (collective bargaining agreement, vacation usage, time off in lieu, shift schedule, company canteen, company discount list, etc.).



SENOPLAST employees have numerous training and further education opportunities at their disposal, whether in production or administration. Examples of this are

- ✓ First aid course
- ✓ Forklift courses
- ✓ Security officers refresher course
- ✓ ATEX training
- ✓ Specialist training courses
- ✓ Weekly English course
- ✓ Various workshops

Values and principles

The charter of values has been an integral part of our corporate culture for many years. Display boards were produced to illustrate this and posted in several highly frequented places in the company. The illustrations were humorously interpreted by the well-known caricaturist Thomas Wizany.

The values and principles of our collaboration have also been incorporated into the Code of Conduct.



Fig. 28: Catalog of values



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When our Code of Conduct came into force, a compliance officer was appointed as the first point of contact to channel issues and initiate discussions between the employees/superiors/external bodies involved as a neutral point of contact. In general, a climate is promoted in which employees can openly address complaints and conflicts with managers.

Formalized employee appraisals take place on an annual rhythm.

If necessary, negative situations and their triggers are discussed openly with all those involved - in the blue-collar sector with the involvement of the works council - and solutions to the conflicts are sought together, sometimes with external support (company psychologist, occupational physician, mediators).

Promoting the physical and mental health of employees

- ✓ Regular organization of seminars, e.g. "Working in a physically fit way experienced" and fit@work
- ✓ Discounted gym membership
- ✓ "An apple a day keeps the doctor away" fruit baskets in several places in administration and production for free withdrawal by the employees.
- ✓ Evaluation of mental stress in the workplace by occupational physician Dr. Ingrid Novotna. The factors of mental stress in the workplace were worked out in several group meetings in all administrative departments and in production. Workplacerelated action sheets were used to identify hazards and stresses and derive improvement measures.
- ✓ Measures have already been taken in the technical, organizational and personal areas. implemented or will be continuously implemented in the future.

Examples:

- ✓ New meeting rooms were set up in the technical area to improve communication.
- ✓ In the organizational area, the regular team meetings/ In particular, the group of participants has been expanded to include all divisions to ensure a continuous flow of information throughout the company.
- ✓ All employees have free access to our company psychologist
- ✓ In the personal area, external consultants are Mediation and coaching for conflict resolution.
- ✓ Our "Seno Park" is unique a biotope with rare regional amphibians on the company premises with adjoining barbecue area, which can be used by employees. On the one hand for short-term recreation, e.g. walks during the lunch break, or for small communal barbecues to promote social interaction.
- ✓ We are also continuously working on the ergonomic design of our offices. We are converting new investments to heightadjustable desks.
- \checkmark We offer older employees the option of partial retirement.



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One of the leading companies in the Pinzgau

SENOPLAST is aware of its special position as a leading company in the region and beyond. As a family business, SENOPLAST is committed to its responsibility towards society, nature, the environment and the people who work here.

A set of values based on respect, trust and honesty as well as fairness and acceptance paired with recognition and appreciation, together with this Code of Conduct, form the basis of our daily actions and the foundation of our joint corporate success.

However, the endeavor to create a pleasant working environment for employees through a family-like corporate culture goes beyond this. This is demonstrated by the SENO assistance service, which takes on social tasks for active and retired employees and their families, as well as the active leisure club, which promotes community and good relations within the workforce through joint leisure activities.

Responsibility towards young people is a particular concern for SENOPLAST. The training of apprentices in various professions is of the utmost importance to the company and is often the springboard for an international career for the locally trained apprentices, which SENOPLAST makes possible as a global player with locations in Mexico and China.

The company's social commitment primarily benefits associations and activities in the Pinzgau region. This is evidenced not only by financial support, but also by the concrete involvement of social organizations such as the Lebenshilfe Piesendorf specialist workshop through orders placed.

The Klepsch family is particularly keen to support specific projects in Africa. For example, the Rwenzori association receives financial support for its project to build the Holy Dove vocational secondary school in Uganda.



lebenshilfe Österreich





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Environmental focus on mobility

Plant traffic

The following pie chart shows that the proportion of electric forklift trucks has increased from 32% to 44% in the last 3 years. In the future, the conversion to electric forklift trucks will be further accelerated.



Fig. 29: Breakdown of forklift trucks by drive type from 2020-2024

Delivery of raw materials and dispatch of products

In general, the delivery of raw materials and the transportation of products are considered indirect environmental aspects. Due to the locations of suppliers and customers, the choice of means of transportation is very limited.

Our raw materials are mainly delivered by truck. When procuring raw materials, however, care is taken to ensure that delivery routes by truck are kept short. Container transports are initially carried out by rail. Transhipment to trucks takes place at nearby main railway stations. Overseas deliveries are made by ship or air freight. Onward transportation is also carried out by rail and truck.

Our products are transported from the Piesendorf plant by truck. Due to the decentralized location of many customers, a direct rail connection is often not available and therefore further loading onto the train is not possible. Products that can be delivered by rail and ship are transported to the railroad stations by truck and then transported onwards.

Employee traffic

The use of electric vehicles is to be promoted by installing charging stations for employees. In addition, the purchase of electrically powered shift buses is being promoted





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Biotope - amphibian - guidance system and renaturation of the Rossbach stream

Already during the construction of the plant in 1978, a "Extinguishing pond biotope network" integrated.

In recent years, the biotope has developed into one of the most important ponds in the region, providing a safe habitat for up to 500,000 amphibians.

Due to the expansion of the Piesendorf industrial estate, the biotope is now moving to the center of heavily frequented traffic and work areas. Enclosing the pond and installing a guidance system in the direction of the adjacent amphibian underpass will ensure safe and undisturbed migration between the habitats.

As the existing guidance systems and catch fences are not an optimal solution, SENOPLAST has developed a new type of amphibian guidance system in the form of an ABS/ASA*) multilayer composite.

*ABS/ASA = acrylonitrile-butadiene-styrene copolymer/styrene-acrylonitrile-acrylic ester rubber copolymer)

In a series of tests, an optimized surface structure was developed that makes it impossible for amphibians to climb over the catch fence

Advantages of the system:

- ✓ Cost-effective (up to 80% savings)
- ✓ Weatherproof
- \checkmark Modular expansion option
- ✓ Low maintenance effort
- ✓ Simple assembly
- ✓ Environmentally friendly production
- ✓ 100% recyclable





5. APPENDIX

Input-Output table Environmental aspects 2023 Key figures & measures List of tables and figures Glossary



Input-output table

| | | | | 2021 | 2022 | 2023 | Changes 2023 / 2022 | | | | | | | | 2021 | 2022 | 2023 | Changes | | | | |
|--------|---|-----------------|---|------------------|---------------|---------------|------------------------|---------------------------|--|------------------|----------------------------|--|-------------------------|----------------|---------------|----------------------|-------------|-------------|--------|-------|-------|--------|
| | INPUT | | | Quantity | Quantity | Quantity | 202372022 | % Relevant material flows | | | OUTPUT | | | | Quantity | Quantity | Quantity | 2023 / 2022 | | | | |
| 1.1 | Total raw materials | ton | 1 | 57,322 | 48,892 | 46,359 | -5.18% | | Г | - | 0.1 | Products excluding packaging | 1 | 1 | 48,254 | 39,728 | 37,788 | -4.88% | | | | |
| l.1.1 | Plastic granulate (raw materials) minus sales | ton | 1 | 41,052 | 34,271 | 31,655 | -7.63% | | Company | ľ | 0.1.1 | Plastic products excluding packaging material | | ton | 48,254 | 39,728 | 37,788 | -4.88% | | | | |
| 1.1.2 | Self-regenerated material (minus sales) | ton | 1 | 5,555 | 5,236 | 6,120 | 16.88% | 1 | - Sales | ľ | 0.1.2 | By-products | | ton | 0.00 | 0.00 | 0.00 | | | | | |
| l.1.3 | Customer-regenerated material (minus sales) | ton | 1 | 6,535 | 6,211 | 6,091 | -1.93% | 1.5, 1.6 | - Logistics | - | | · | | | | | | | | | | |
| l.1.4 | Color concentrate (minus sales) | ton |] | 4,180 | 3,174 | 2,494 | -21.44% | | - Purchasing - Goods receipt | ſ | Α | Waste (Waste management concept) | ASN | | 2,031 | 1,500 | 1,799 | 19.93% | | | | |
| | | | _ | | | | | 1.2, 1.3.3 | - Personnel | | A.1 | Hazardous waste | Group-SN | ton | 88.75 | 72.41 | 85.03 | 17.43% | | | | |
| 1.2 | Auxiliary and operational materials | ton |] | 5,099 | 3,966 | 4,031 | 1.64% | 1.4, 1.5 | - Legal | | A.1.1 | Construction site waste, hazardous | 31.xxx | ton | 0.11 | 0.39 | 0.00 | -100.00% | | | | |
| 1.2.1 | Solid and liquid auxiliaries, cleaning cloths, cleaners | ton | | 12.139 | 14.639 | 17.522 | 19.70% | | | | A.1.2 | Electronic waste, electrical appliances, batteries, cables | 35.xxx | ton | 1.38 | 0.82 | 1.46 | 77.62% | | | | |
| 1.2.2 | Oils, greases, lubricants | ton | | 10.409 | 11.727 | 9.336 | -20.39% | | Relevant material flows Company 5.1.6 - Sales - Logistics - Purchasing - Qoods receipt - Personnel 2, 3, 4, 1.5 - Porduction 1, 1.2, 3, 1.4, 5 - Production 1, 1.2, 3, 1.4, 5 - Production 1, 1.2, 3, 1.4, 5 - Production 1, 1.2, 3, 1.4, 5 - Recyclate stocks 1, 1.2, 4.1, 5 - Recyclate stocks 1, 1.2, 5 - Recyclate stocks 1, 1.2, 5 - Recyclate stocks 1, 1.2, 5 - Production 2, 1.3, 4, 1.5 - Process heating/ steam 2, 1.3, 4, 1.5 - Supporting processes 2, 1.3, 4, 1.5 - Maintenance 2, 1.3, 5 - Mointenance 2, 1.3, 4, 1.5 - Maintenance | | A.1.3 | Waste oil, oily waste | 54.xxx | ton | 75.12 | 55.77 | 67.75 | 21.48% | | | | |
| 1.2.3 | Antifreeze and AdBlue | ton | | 1.275 | 1.110 | 0.881 | -20.63% | | | | A.1.4 | Old varnishes, paints, solvents | 55.xxx | ton | 7.05 | 11.47 | 11.49 | 0.22% | | | | |
| 1.2.4 | Gases (synthetic gases, shrinkage gas or engine gas) | ton | | 3.330 | 3.135 | 3.343 | 6.65% | | Production - Raw material stocks | | A.1.5 | Plastic packaging and containers with hazardous residues | 57.xxx | ton | 5.00 | 3.42 | 4.14 | 20.98% | | | | |
| 1.2.5 | Fluorescent lamps | ton | | 0.007 | 0.004 | 0.001 | -73.81% | 1.1, 1.2, | - Recyclate stocks - Recyclate processing | | A.1.6 | Chemicals (laboratory waste), spray cans | 59.xxx | ton | 0.09 | 0.54 | 0.19 | -64.81% | | | | |
| 1.2.6 | Varnishes, paints, varnish sprays, thinners | ton | | 1.010 | 0.999 | 1.112 | 11.29% | 1.3, 1.4, | - Sheet production | | A.2 | Non hazardous waste | Group-SN | ton | 1,942.36 | 1,427.41 | 1,713.65 | 20.05% | | | | |
| 1.2.7 | Other sprays | ton | | 0.187 | 0.197 | 0.220 | 11.99% | 1.0 | - Coating - Finishing | | A.2.1 | Wood waste | 17.xxx | ton | 469.88 | 291.66 | 423.91 | 45.34% | | | | |
| 1.2.8 | Packaging materials (wood, carton, plastic films,) | ton | | 5,071 | 3,935 | 3,999 | 1.64% | | - Packing & shipping A.2 Energy - Cooling system - Process heating/ A.2 4.1 | | A.2.2 | Waste paper | 18718 | ton | 0.00 | 0.00 | 0.00 | 0.00% | | | | |
| 1.2.9 | Coolant | kg | | 23 | - | - | 0.00% | | | A.2.3 | Waste glass | 31468, 31469 | ton | 5.00 | 3.50 | 5.50 | 57.14% | | | | | |
| I.2.10 | SF6 | | | 3.11 | 3.11 | | -100.00% | 1.3,2, | | A.2.4 | Commercial, residual waste | 91101, 91401 | ton | 237.30 | 212.17 | 128.29 | -39.53% | | | | | |
| | 7 | | | | | | | 1.4.1, 1.5 | - Building heating | | A.2.5 | Green waste | 91701 | ton | 49.50 | 27.98 | 18.46 | -34.02% | | | | |
| 1.3 | Water | m ³ | | 1,114,071 | 1,440,725 | 1,561,028 | 8.35% | | Process heating/ steam - Building heating - Electrical system 1.3, 5 Product shipping | Product shipping | A.2.6 | Cartons | 91201 | ton | 62.87 | 75.92 | 87.39 | 15.11% | | | | |
| 1.3.1 | Wellwater closed system | m ³ | | 660,738 | 961,529 | 948,722 | -1.33% | 1.2, 1.3, 1.4, 1.5 | | | Product shipping | 4, I.5 Product shipping | , 1.3, Product shipping | | A.2.7 | Packaging composites | 91207 | ton | 21.60 | 10.69 | 16.63 | 55.56% |
| 1.3.2 | Wellwater open system | m ³ | | 437,591 | 445,556 | 594,466 | 33.42% | | | | Ļ | A.2.8 | Plastic waste | 57.xxx | ton | 1,096.21 | 805.49 | 1,033.47 | 28.30% | | | |
| 1.3.3 | Municipal water (Community) | m³ | | 15,742 | 33,640 | 17,840 | -46.97% | | | | A.2.8.1 | of which thermally recycled | 57.xxx | ton | 296.46 | 181.22 | 302.34 | 66.84% | | | | |
| | | | - | | | | | 1 | Supporting | ľ | A.2.8.2 | of which recycled | 57.xxx | ton | 799.76 | 624.27 | 731.13 | 17.12% | | | | |
| 1.4 | Air | Nm ³ | 1 | 1'944,718,968 | 1'945,252,761 | 1'947,228,743 | 0.10% | 1 | processes | | | , | | | | | | | | | | |
| 1.4.1 | Total air for combustion | Nm ³ | 1 | 1,036.231 | 990,941 | 904,800 | -8.69% | 1 | - Maintenance - Nozzle cleaning | ſ | A.3 | Waste water | | m ³ | 1,114,071 | 1,440,725 | 1,561,028 | 8.35% | | | | |
| 1.4.2 | Compressed air (8 compressors) | Nm ³ | 1 | 6,486,737 | 7,065,820 | 9,127,943 | 29.18% | 1.2, 1.3, | - Building | Ī | A.3.1 | Waste water (sewage system) | | m ³ | 15,742 | 6,694 | 17,840 | 166.51% | | | | |
| 1.4.3 | Hall air supply | m³ | | 1 '937, 196, 000 | 1′937,196,000 | 1′937,196,000 | 0.00% | 1.4, 1.5 | - Works traffic | | A.3.2 | Waste water - cooling water | | m ³ | 1,098,329 | 1,434,031 | 1,543,188 | 7.61% | | | | |
| | | | - | | | | | 1 | Quality control | | | | | | | | | - | | | | |
| 1.5 | Energy | | | 43,457 | 38,054 | 38,315 | 0.69% | 1.2, 1.3, | - Laboratory | | A.4 | Exhaust air | | m ³ | 1'944,718,968 | 833,543,141 | 833,457,000 | -0.01% | | | | |
| 1.5.1 | Electricity (Salzburg AG) | MWh | | 42,473 | 37,057 | 37,192 | 0.36% | 1.4, 1.5 | analysis | | A.4.1 | Total combustion air: | | m ³ | 1,036.231 | 990,941 | 904,800 | -8.69% | | | | |
| 1.5.2 | Generation of own electricity (PV-system) | MWh | | | - | 219 | 0.00% | II.3.3, | - Order processing | | A.4.2 | Hall exhaust air (incl. compressed air): | | m ³ | 1,943,682,737 | 839,618,020 | 841,680,143 | 0.25% | | | | |
| 1.5.3 | Natural gas (SalzburgAG) | MWh | | 249 | 236 | 220 | -6.65% | | development | - | | | | | | | | - | | | | |
| 1.5.4 | Diesel | MWh | | 482 | 483 | 457 | -5.35% | | | | A.5 | Waste heat usage | | | 1,766.30 | 1,630.84 | 1,561.77 | -4.23% | | | | |
| 1.5.5 | Propane (vehicle gas and scarfing gas) | MWh | J | 252 | 279 | 227 | -18.45% | 4 | | | 1.5.1 | District heating from biomass | | MWh | 1,766.30 | 1,630.84 | 1,561.77 | -4.23% | | | | |
| | ï | | 7 | | | | | 4 | | | | | | | | | | | | | | |
| | Land usage | m² | 4 | 108,877 | 105,652 | 108,877 | 3.05% | - | | | | | | | | | | | | | | |
| | of which sealed area | m² | 4 | 30,022 | 30,340 | 34,426 | 13.46% | - | | | | | | | | | | | | | | |
| | of which near-natural area on site | m² | 4 | 53,289 | 51,328 | 49,256 | -4.04% | - | | | | | | | | | | | | | | |
| 1 | of which semi-natural area away from the site | m² | 1 | 25,565 | 23,983 | 25,195 | 5.06% | 1 | | | | | | | | | | | | | | |

Environmental aspects 2023

| Environmental relevance of the process | | | | | | | | | |
|--|--------------------------------|--|--|--|--|--|--|--|--|
| 3 | High environmental relevance | | | | | | | | |
| 2 | Medium environmental relevance | | | | | | | | |
| 1 | Low environmental relevance | | | | | | | | |
| 0 | not relevant/data unavailable | | | | | | | | |

| Regional relevance (local-regional-global | | | | | | | | | |
|---|------------------|--|--|--|--|--|--|--|--|
| 1 | Low relevance | | | | | | | | |
| 2 | Medium relevance | | | | | | | | |
| 3 | High relevance | | | | | | | | |
| n.r. | not relevant | | | | | | | | |

| Relevance of the environmental aspe | ect - local | | | n.r | 3 | 3 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 3 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | | | | |
|---|-------------------|--------------------------------|--------|------------------|---------------------|-----------------|---|-------------------|-------------------------------|-----------------|----------------------|-----------------|--|-------------------------|------|-----------------------|-------------|-------------------------|--------------------------------|---|---|---|--|----------------------|-----------------------------------|------------------------|------------------------|
| Relevance of the environmental aspect | - regional | | | n.r | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Relevance of the environmental aspec | t – global | | | n.r | 3 | 3 | 3 | 2 | 2 | n.r. | n.r. | n.r. | 3 | 3 | n.r. | n.r. | n.r. | 1 | n.r. | 1 | 1 | 1 | 1 | | | | |
| Weighting factor according to relev | ance | | | 1 | 3,0 | 3,0 | 2,0 | 2,0 | 2,3 | 2,0 | 1,5 | 1,5 | 3,0 | 3,0 | 1,0 | 1,5 | 1,5 | 1,7 | 2,5 | 2,0 | 1,7 | 1,7 | 1,7 | | | | |
| Weighting: 1 = low; 2 = medium; 3 = high Empty field: corresponds to "not relevant/not available" | lle cycle phase | sitect environmental spects | spects | inergy (thermal) | inergy (electrical) | uel consumption | Consumption of raw naterials and resources | Vater consumption | lse of hazardous ubstances | lazardous waste | ion-haz ardous waste | lois e emission | missions into the air - reenhouse gases | imission to air - other | bdor | missions into the sol | Vaste water | mpact on todiversity | andscape - visual rgairment | lompliance with reformental aguilations | imissions due to extreme teather events/natural lisasters | imissions from fires ind explosions (ind. xfinguishing water) | ther impact due to bnormal operating onditions | Environmental impact | nfluenceability of the process | Optimization potential | Environmental priority |
| Processes | | | - 1 | | ш | u. | 02 | > | 0 | - | 2 | 2 | | w | | | > | = 0 | 7.5 | 082 | | | 0 8 0 | | | | |
| Upstream processes | | | | | | | | | | | | | | | | - | | | | | | | | | | | |
| Basic raw material extraction for the production of plastic granulate | Procurement | | х | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 99 | 1 | 2 | 198 |
| Procurement of plastic granulate (incl. transportation) | Procurement | | х | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 1 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 97 | 1 | 2 | 194 |
| Procurement of recyclate (incl. transportation) | Procurement | | х | | 1 | 1 | 1 | 2 | | | 1 | 2 | 1 | 1 | 2 | 1 | 1 | | 1 | 2 | | 1 | | 36 | 2 | 3 | 216 |
| Procurement of colorant or color concentrate (incl. transportation) | Procurement | | х | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 62 | 1 | 3 | 186 |
| Procurement of consumables and supplies | Procurement | | х | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 2 | 2 | 78 | 1 | 2 | 156 |
| Procurement of wood (production of pallets) | Procurement | | х | | 1 | 1 | 1 | | 1 | | | 1 | 1 | 1 | | | | | 1 | 1 | | 1 | 1 | 26 | 1 | 2 | 52 |
| Procurement of packaging material | Procurement | | х | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 80 | 1 | 2 | 160 |
| Procurement of electrical energy (electricity) | Procurement | | х | 1 | 1 | | | | | | <u> </u> | | 1 | | | | | | 2 | 1 | 1 | 1 | 1 | 19 | 1 | 2 | 38 |
| Procurement of heating energy (heating oil) | Procurement | | х | 2 | 2 | 1 | 2 | 2 | 2 | 1 | | | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 62 | 1 | 2 | 124 |
| Procurement of heating energy (district heating) | Procurement | | х | 2 | 2 | | 1 | 1 | | | 1 | 1 | 2 | 1 | | | 1 | | 1 | 1 | | | | 30 | 1 | 2 | 60 |
| (propane and flame gas) | Procurement | | х | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 2 | 2 | 78 | 1 | 2 | 156 |
| Procurement of technical equipment | Procurement | | х | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 78 | 1 | 1 | 78 |
| Research & Development | Procurement | | х | | | | 2 | | 3 | 2 | 1 | | 1 | 1 | 1 | 2 | | 2 | 2 | 2 | | 2 | | 42 | 3 | 1 | 126 |
| Main and peripheral processes | | - | | | | | _ | | - | | | - | | | | - | | | 1 | 1 | | | - | | | | |
| Incoming goods | Production | х | | | 1 | 1 | | | | | | 2 | 1 | 1 | 1 | | | | | | 1 | | | 18 | 3 | 1 | 54 |
| Raw material storage | Production | х | | | 2 | | 2 | | | | | | 1 | | | 2 | | | 3 | 1 | 1 | 2 | | 31 | 3 | 2 | 186 |
| Coloristics | Production | х | | | | | 3 | | 2 | 1 | 1 | | | 1 | 1 | 2 | 1 | 2 | | 1 | 1 | 2 | | 33 | 3 | 3 | 297 |
| Compounding | Production | х | | 1 | 1 | | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | | 1 | | 2 | | 41 | 3 | 2 | 246 |
| Recyclate processing | Production | х | | 2 | 1 | | | 1 | | | 1 | 1 | | | | 1 | 1 | | | 1 | | 2 | | 18 | 3 | 2 | 108 |
| Drying | Production | х | | 1 | 2 | | 1 | | | | | | 1 | 1 | 1 | | | | | | | | | 16 | 3 | 2 | 96 |
| Extrusion | Production | х | | 2 | 3 | | 3 | 2 | 2 | | 3 | | 2 | 2 | 3 | | 2 | 2 | | 1 | 2 | 1 | 2 | 62 | 3 | 2 | 372 |
| Straightener | Production | х | | 2 | 2 | | | 3 | | | | 1 | | | | | 1 | | | | | | | 17 | 3 | 1 | 51 |
| Paintwork | Production | х | | | 1 | | 2 | | 2 | 3 | | | 2 | 2 | 2 | 1 | 1 | 2 | | 2 | 2 | 2 | | 49 | 3 | 1 | 147 |
| Lamination | Production | x | | | 1 | | 2 | | | | 1 | 1 | | | | | | | | | | | | 10 | 3 | 2 | 60 |
| Panel cutting | Production | x | | | 1 | | 2 | | | | 1 | 2 | | | | | | | | | | | | 12 | 3 | 1 | 36 |
| Stacking | Production | х | | | | | 1 | | | | 1 | | | | | | | | | | | | | 4 | 3 | 2 | 24 |
| Packaging | Production | x | | | 1 | | 2 | | | | 2 | | | | | | | | | | | 1 | | 12 | 3 | 1 | 36 |
| Shipping storage | Production | x | | 1 | 1 | 1 | | | | | 1 | | | | | | | | 2 | | 1 | 2 | | 19 | 3 | 1 | 57 |
| Factory traffic (forklift trucks) | Auxiliary process | x | | 1 | 1 | 1 | 1 | | 1 | | | 1 | 2 | 1 | 1 | | | | | 1 | | | | 25 | 3 | 2 | 150 |
| Compressed air supply | Auxiliary process | x | | | 1 | | | | | | 0 | 2 | | | | | | | | | | 0 | | 6 | 3 | 1 | 18 |
| Material conveying | Auxiliary process | X | | | 2 | | 1 | | 1 | | 2 | 3 | | | | 1 | 1 | 0 | | 1 | 1 | 2 | 1 | 30 | 3 | 1 | 90 |
| Cooling water suppry | Automaty process | ~ | | | 2 | | 2 | | | | 2 | 1 | - 1 | 1 | 1 | 2 | 2 | 2 | | 2 | | | | 47 | 3 | 2 | 100 E1 |
| Maintenance | Autilian process | Ŷ | | 2 | 2 | 2 | 2 | | 2 | 2 | 4 | 4 | 2 | 2 | 4 | 4 | | | | 4 | | | 1 | 49 | 3 | - | 144 |
| Fire reflection an imment | Audimu process | ^ | Y | 2 | - 1 | 2 | - 1 | | 2 | 2 | | | 2 | 2 | | | | | | | | | | -10 | 2 | - | 10 |
| Explosion protection device | Audiary process | | × | | | | | | | | - | - | | | - | - | | | 1 | | - | | | 3 | - | 2 | 12 |
| Office operation | Auxiliary process | x | ~ | 1 | 1 | 2 | 2 | 1 | | | 2 | 1 | 2 | 1 | | 1 | 2 | 1 | | 1 | 1 | 1 | | 41 | 3 | - | 123 |
| Waste disposal from production | Audiary process | x | x | | 1 | 2 | 1 | | | 2 | 2 | 1 | 2 | 1 | 1 | 2 | - | 1 | 2 | 2 | 2 | 2 | 1 | 52 | 2 | 2 | 208 |
| Hall ventilation / air conditioning | Auxiliary process | x | ~ | - | 2 | ~ | 1 | | | ~ | - 1 | 2 | ~ | 2 | 2 | ~ | | | - 1 | 2 | - | ~ | 1 | 29 | 2 | 2 | 116 |
| - Waste storage | Auxiliary process | x | x | - | - | | 2 | | - | | | | 1 | 1 | 2 | 1 | | | 2 | 2 | 2 | 2 | 1 | 31 | 2 | 1 | 62 |
| Downstream processes | | | | | | 1 | | 1 | | I | | | | | _ | | 1 | I | | | | | | | · · | | |
| Transportation of the products | Transportation | | x | | 1 | 2 | 1 | | 1 | | | 2 | 2 | 2 | 1 | 1 | | 1 | | 2 | 1 | 1 | | 40 | 1 | 2 | 80 |
| Further product processing | Production | | х | | 1 | | 2 | | | | 2 | 1 | 1 | 1 | 2 | | | | | 1 | 1 | 1 | | 25 | 1 | 1 | 25 |
| Use of the product | Utilization | | х | | | | 1 | | | | 2 | | 1 | 1 | | | | 2 | | 2 | 1 | 1 | | 22 | 1 | 3 | 66 |
| Transportation for product disposal | Transportation | | х | 1 | 1 | 2 | 1 | | 1 | | 1 | 2 | 2 | 2 | 1 | 1 | | 1 | 2 | 2 | 1 | 1 | | 47 | 1 | 2 | 94 |
| Recycling | Waste disposal | x | х | | 2 | | 1 | 2 | | | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | | 49 | 2 | 3 | 294 |
| Thermal utilization | Waste disposal | x | х | 2 | 2 | 2 | 2 | 2 | 1 | 2 | | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 85 | 1 | 2 | 170 |
| μ | 1 | | | | | | | | | | 1 | | | | | | | | | | | | | | | | |

| Overall assessment of the environmental aspects | 37 | 61 | 31 | 65 | 33 | 36 | 29 | 40 | 46 | 50 | 47 | 46 | 41 | 35 | 35 | 43 | 58 | 40 | 50 | 25 |
|---|----|-----|----|-----|----|----|----|----|----|-----|-----|----|----|----|----|-----|-----|----|----|----|
| Materiality of the environmental aspects | 37 | 183 | 93 | 130 | 66 | 84 | 58 | 60 | 69 | 150 | 141 | 46 | 62 | 53 | 58 | 108 | 116 | 67 | 83 | 42 |

Appendix

Input-Output table

Environmental aspects 2023

🐐 Key figures & measures

List of tables & figures

Glossary

Key figures & measures

Summary of key figures

| Environmentally relevant | Remarks | | |
|--|---------|--------|--|
| General key figures: | 2022 | 2023 | |
| Packaging materials (kg/t) | 99.04 | 105.83 | |
| Water for production (m³/t) | 35.42 | 40.84 | By demanganizing and de-icing the water, the service life of the heat exchangers has been increased. This means that more water can flow through the heat exchangers and the specified temperatures in production can be maintained. The pump output thas also been reduced as the pumps do not have to "fight" against a dirty heat exchanger. |
| Municipal water (I/t) | 0.847 | 0.472 | |
| Land consumption (m²/t) | 0.764 | 0.911 | |
| prod. quantity product per employee (t/MA) | 74.40 | 70.63 | |
| Waste indicators: | | | |
| Total waste (kg/t) | 39.68 | 46.95 | Reorganization of the internal waste separation process |
| Hazardous waste (kg/t) | 1.83 | 2.26 | |
| Non-hazardous waste (kg/t) | 35.93 | 45.35 | |
| Prod. plastic waste (kg/t) | 14.97 | 21.25 | Reorganization of the internal waste separation process |
| Mixed commercial waste (kg/t) | 5.34 | 3.39 | |
| Key energy figures: | | | |
| Total energy (MWh/t) | 0.999 | 1.055 | |
| Electricity (MWh/t) | 0.933 | 0.984 | Despite system downtimes or lower production output, certain machine components must be constantly supplied with power |
| Fossil raw materials (MWh/t) | 0.024 | 0.024 | |
| District heating (MWh/t) | 0.041 | 0.041 | |
| Energy for ibl transport (MWh/t) | 0.019 | 0.018 | |
| CO _{2,eq} Causation (kg/t) | 7.68 | 7.32 | |

Overview of measures

| Focus | SDG | Measure |
|-------------------|--------|---|
| | 12 | Seno-Circle |
| Raw material | 12, 13 | ISCC-Plus |
| | 12 | Development of new products |
| Energy | 7, 13 | Construction of a two-stage adiabatic cooling system |
| 0, | 7, 13 | Construction of the first PV system |
| Energy & Water | 6, 9 | Well water treatment |
| Water | 6, 14 | Zero Pellets Loss Initiative |
| | 12, 13 | Material recycling of the start-up lumps |
| Waste | 12 | Alternative cleaning agents |
| | 12 | Optimization of waste separation |
| Air and noise | 13 | Climate neutrality 2030 (Scope 1+2) at the Piesendorf site |
| | 13, 15 | Noise emission measurements |
| Occupational | 8 | Instruction/training in native language |
| safety | 8 | AUVA seal of approval "Safe and healthy working" |
| | 4, 8 | Training courses |
| | 8 | Conflict resolution |
| People - social | 3 | Promoting the physical and mental health of employees |
| responsibility | 3 | Lebenshilfe |
| | 3 | Freizeitclub |
| | 3 | Seno-Hilfsdienst |



Appendix

Input-Output table

Environmental aspects 2023

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Glossary

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| A9 Appendix 9 | |
| | |
| ABS Acrylonitrile butadiene styrene | |
| ASchG Employee Protection Act | |
| AUVA General Accident Insurance Institution | 1 |
| C _{total} Total carbon | |
| CO Carbon monoxide | |
| CO ₂ Carbon dioxide | |
| DL Compressed air | |
| EMAS Eco Management and Audit Scheme | |
| EPR Enhanced Producer Responsibility | |
| E-forklift Electric forklift | |
| g Gram | |
| g CO _{2,eq} grams of carbon dioxide equivalent | |
| g CO _{2,ed} /kWh grams of carbon dioxide equivalent pe | er kilowatt-hour |
| g/h Gram per hour | |
| GEMIS Globales Emissions-Modell integrierte | er Systeme |
| GewO Global emissions model of integrated | systems |
| h Trade regulations | |
| HVO 100 100% Hydrotreated Vegetable Oil | |
| ISCC Plus International Sustainability & Carbon C | Certification Plus |
| kg Kilogram | |
| kg CO _{2,eq} Kilogram carbon dioxide equivalent | |

| km | Kilometers |
|--------------------------|---|
| kWh | Kilowatt-hour |
| kWp | Kilowatt peak |
| I | Liter |
| MA | Employees |
| mg org. C/m ³ | Milligrams of organic carbon per cubic meter |
| MWh | Megawatt-hour |
| NOX | Nitrogen oxides |
| OLI | Austrian Air Pollution Inventory |
| PC | Polycarbonate |
| PDCA | Plan-Do-Check-Act |
| PET | Polyethylene terephthalate |
| PMMA | Polymethyl methacrylate |
| PS | Polystyrene |
| PV-system | Photovoltaic system |
| rPET | Recycled polyethylene terephthalate |
| SO ₂ | Sulphur dioxide |
| StrSchG | Radiation Protection Act |
| SVP | Safety officers |
| t | Ton |
| to | Ton |
| VEXAT | Explosive Atmospheres Ordinance |
| VOC | Volatile Organic Compounds - Volatile organic compounds |
| WJ | Financial year |
| WRG | Water Rights Act |



6. DECLARATION OF THE EXPERT



Declaration of the expert

Declaration of the expert



