

# AQUAFIL AND SUSTAINABILITY

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2020



# Letter from the President

*It is said that hard times create strong men, and strong men create good times. I like to think that the same principle applies to sustainability: initial difficulties always serve as a stimulus for growth, forging a path that is self-sustaining thanks to solid principles.*

*2020 was a challenging year in many ways. The whole world found itself facing a situation unprecedented in modern times, to which we have had to react with promptness, responsibility and a sense of community.*

*Aquafil implemented best practices to ensure the safety of those who work in our production sites and supported local communities severely affected by an unexpected and aggressive pandemic. Thanks to timely and targeted actions, we have been able to keep all of our facilities open, even in the darkest moments.*

*I wish to underline that we have tried to make the most of these strange times: continuing to carry out ambitious projects to make our supply chains - as well as products - increasingly circular and environmentally friendly.*

*Recycling copper extracted from fishing nets, studying how to produce nylon from plant-based materials, numerous projects launched upstream and downstream of our supply chain in collaboration with suppliers and customers, are just some of the tangible examples of a commitment that endures and which, even in the most difficult moments, continues to bear wonderful fruits.*

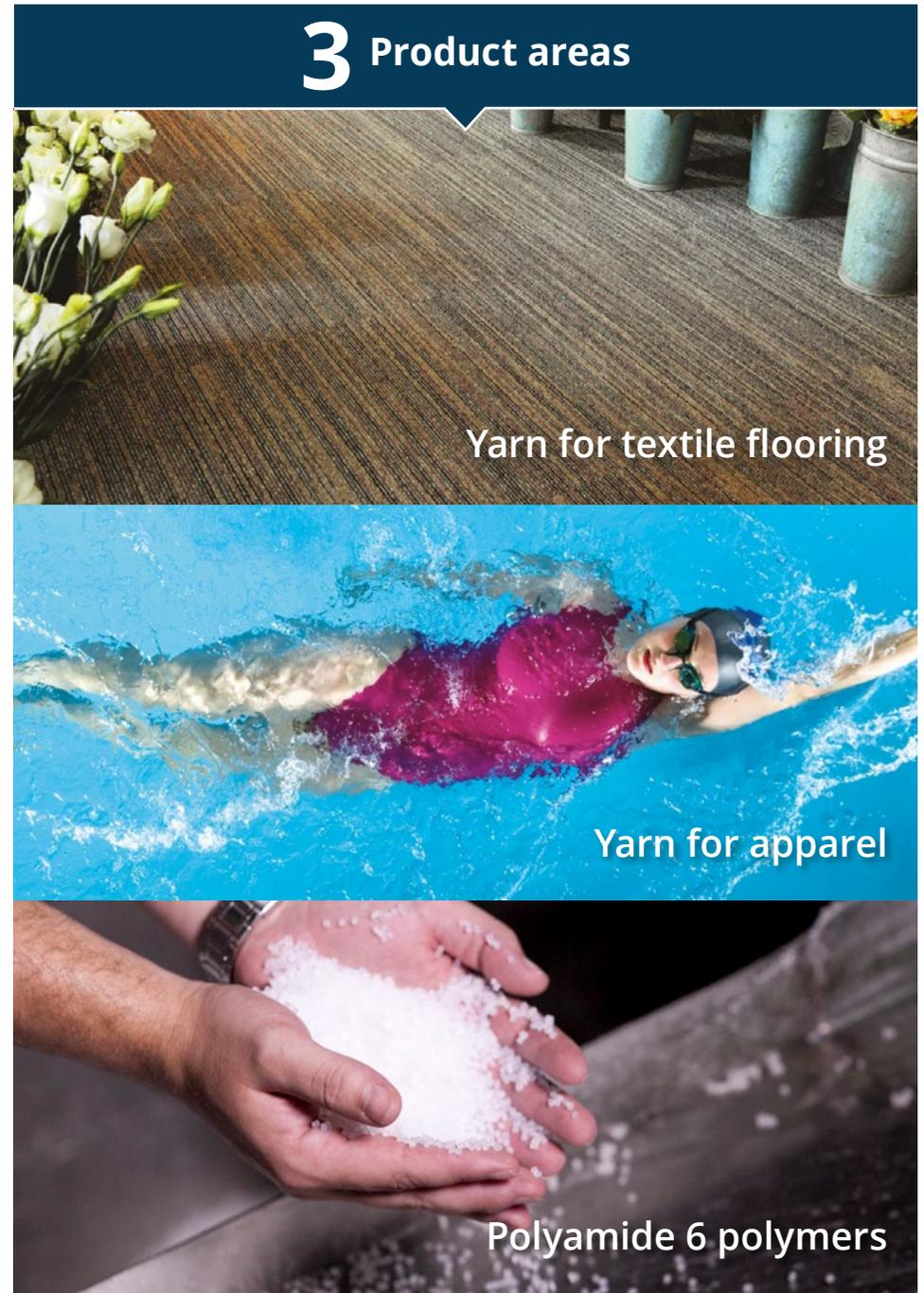


Giulio Bonazzi



# 2020 the numbers

Founded in Arco in 1965, Aquafil Group has become a north star in Italy and worldwide for the production of synthetic fibers, and Nylon 6 in particular. The Group's uniqueness lies in the ability to develop highly innovative products with a low environmental impact, forging a path of sustainability for the entire industry.



**17** Facilities  
**7** Countries  
**3** Continents

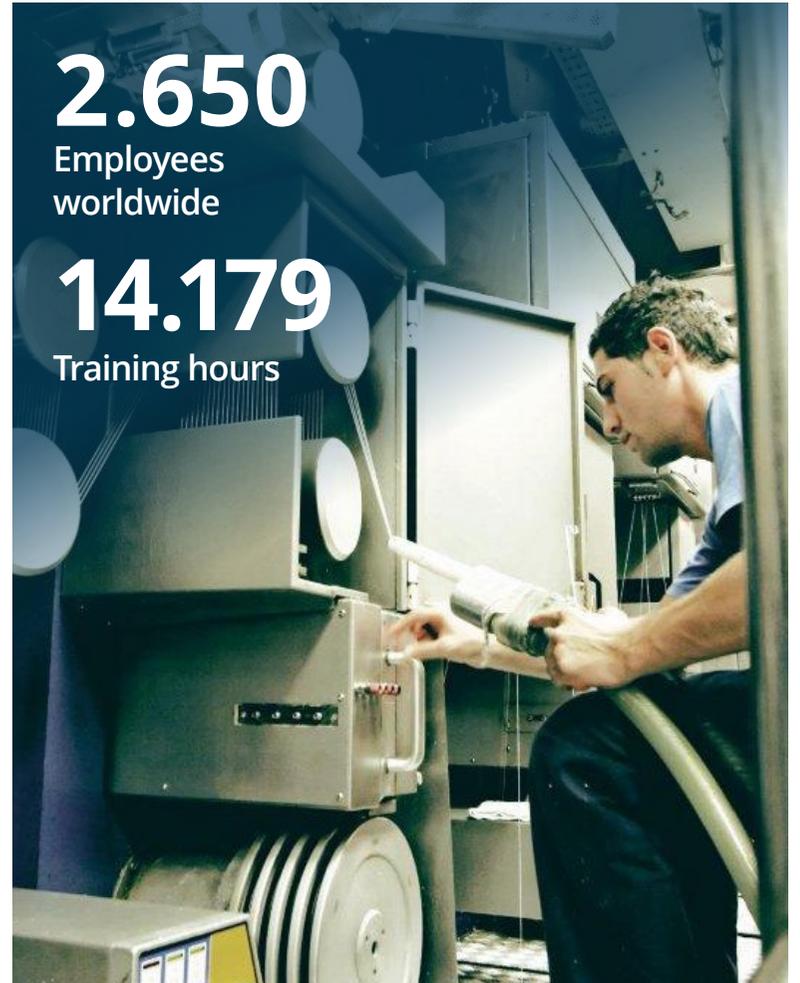


**95%**  
Electricity from  
renewable sources out  
of the Group's total  
consumption



**2.650**  
Employees  
worldwide

**14.179**  
Training hours



**438,9**  
€ million  
direct economic  
value generated



**-59%**  
Total greenhouse gas  
emissions compared to 2016



# Sustainability: a challenge for growth

Aquafil has a very specific idea of sustainability: it is not a result to achieve but a way of thinking and being, a guiding principle to be followed constantly.

In fact, for many years the Group has integrated the concepts of sustainability and circular economy into its values and business strategy, developing and promoting projects, technologies and skills that reflect them. Key aspects of the Group's sustainability policy are valuing waste, improving process efficiency, collaborating with suppliers and supporting the development of local communities.



## 2008

Birth of the **"Energy & Recycling"** operating unit which develops and promotes projects, technologies and skills to improve the environmental performance of products and processes

## 1990

## 2000

## 2010

*Much has been done, much still needs to be done.*

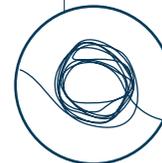
### 1990

Recovery of the **"lactamic waters"** produced during the polymerization process



### 1998

Recovery of waste to make technopolymers



### 2011

Birth of the **ECONYL®** **Regeneration System**, a production model that allows Aquafil to obtain raw materials regenerated from recycled nylon waste

**ECONYL®**

## 2013

Founded “**The Healthy Seas - A Journey from Waste to Wear**” initiative aimed at reducing solid waste (fishing nets) abandoned at sea by recovering and recycling them



Published the first EPD of the ECONYL® polymer

## 2018

Launch of the European research project **EFFECTIVE**, which aims to develop nylon, starting from renewable raw materials



## 2019

Aquafi S.p.A. obtains the **SA 8000 certification**, which guarantees respect for the rights of the Group's workers and those who operate in the supply chain

## 2015

Launch of the **ECONYL® Qualified** initiative for the development of an environmental qualification protocol for suppliers. The Group works with its suppliers to make the ECONYL® supply chain even more sustainable



Inauguration of the USA **Aquafil Carpet Recycling** (ACR#1) plant, dedicated to the recovery of old carpets and rugs. The recovered materials have different destinations: the nylon part is regenerated into ECONYL® while the others are used in various industrial sectors



## 2020

The new company Aquafil Carpet Recycling LLC is founded in the United States, dedicated to the recovery of post-consumer rugs and carpets. These products are then sent to the subsequent processing stages for the production of new ECONYL® yarn.



# THE PILLARS OF SUSTAINABILITY: **THE ECO PLEDGE®**

## **Rethinking products in a circular perspective**

Innovating products to make them increasingly circular, giving new life to waste materials, in an infinite cycle



## **Protecting the environment**

Producing consciously and responsibly, pursuing continuous improvement and excellence in every aspect



## **Attention to the well-being of people**

People who, with commitment and passion, are the foundation of the Group



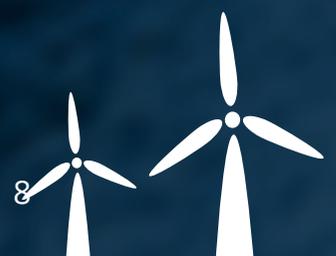
## **Shared responsibility along the supply chain**

Collaborate with suppliers and customers to bring environmental change and sustainability in the entire sector



## **Support local communities**

Grow in harmony with local communities, promoting a prosperous and respectful development of their territory



# AQUAFIL'S VISION

## An increasingly sustainable future

The basis of Aquafil's daily commitment to excellence and responsible growth are the guidelines of THE ECO PLEDGE® - Aquafil's path towards full sustainability, which summarizes the Group's sustainability policy in five "pillars" and identifies areas for improvement.

The desire to set up a transparent, effective and lasting path of development has prompted the Group to align its pillars with the Sustainable Development Goals (SDGs) defined by the United Nations, identifying 12 SDGs through which it can make a significant contribution.

SUSTAINABILITY PILLARS	IMPROVEMENT AREAS	PROJECTS	SUPPORTED SDGs
 <b>RETHINKING PRODUCTS IN A CIRCULAR PERSPECTIVE</b>	<ul style="list-style-type: none"> <li>Create new sustainable value chains</li> <li>Explore other sustainable value chains</li> </ul>	<ul style="list-style-type: none"> <li>Creation of new recycled materials starting from secondary raw materials obtained from the recycling of aquaculture nets and carpets</li> <li>Biopolymers (Project H2020 Effective)</li> </ul>	  
 <b>PROTECTING THE ENVIRONMENT</b>	<ul style="list-style-type: none"> <li>Invest in energy from renewable sources</li> <li>Improve the impacts of production processes</li> </ul>	<ul style="list-style-type: none"> <li>Purchase of electricity from renewable sources for the entire Aquafil group</li> <li>Increase the energy efficiency of production lines</li> <li>Reduce water consumption and discharges</li> <li>ISO 50001 and 14001 certifications</li> </ul>	     
 <b>ATTENTION TO THE WELL-BEING OF PEOPLE</b>	<ul style="list-style-type: none"> <li>Minimize accidents</li> <li>Support employee growth</li> </ul>	<ul style="list-style-type: none"> <li>ISO 45001 certification</li> <li>Education projects to foster increased awareness of sustainability among all employees of the Group</li> </ul>	    
 <b>SHARED RESPONSIBILITY ALONG THE SUPPLY CHAIN</b>	<ul style="list-style-type: none"> <li>Integrate sustainability in purchasing procedures</li> <li>Spread the culture of sustainability</li> </ul>	<ul style="list-style-type: none"> <li>SA 8000 certification</li> <li>ECONYL® project qualified</li> <li>Integrated supplier qualification procedure</li> <li>Healthy Seas project</li> </ul>	    
 <b>SUPPORT TO LOCAL COMMUNITIES</b>		<ul style="list-style-type: none"> <li>Educate on environmental protection</li> <li>Support for local cultural and sports clubs</li> <li>Contribution to youth training</li> <li>Support for vulnerable categories</li> </ul>	    

## OUR COMMITMENT

# Rethinking products from a circular perspective

Give new life to waste materials, enhance them with cutting-edge technologies and search for solutions that prevent waste production. These are the solutions that Aquafil has undertaken to increase the circularity of its production processes. To achieve this, redesigning products while taking into account their entire life cycle becomes necessary, which is why investments in Research and Development and collaborations with external players are fundamental for the Group.

*For more information, please refer to the 2020 Group Consolidated Financial Statements, p. 94*



## The recycling of aquaculture nets

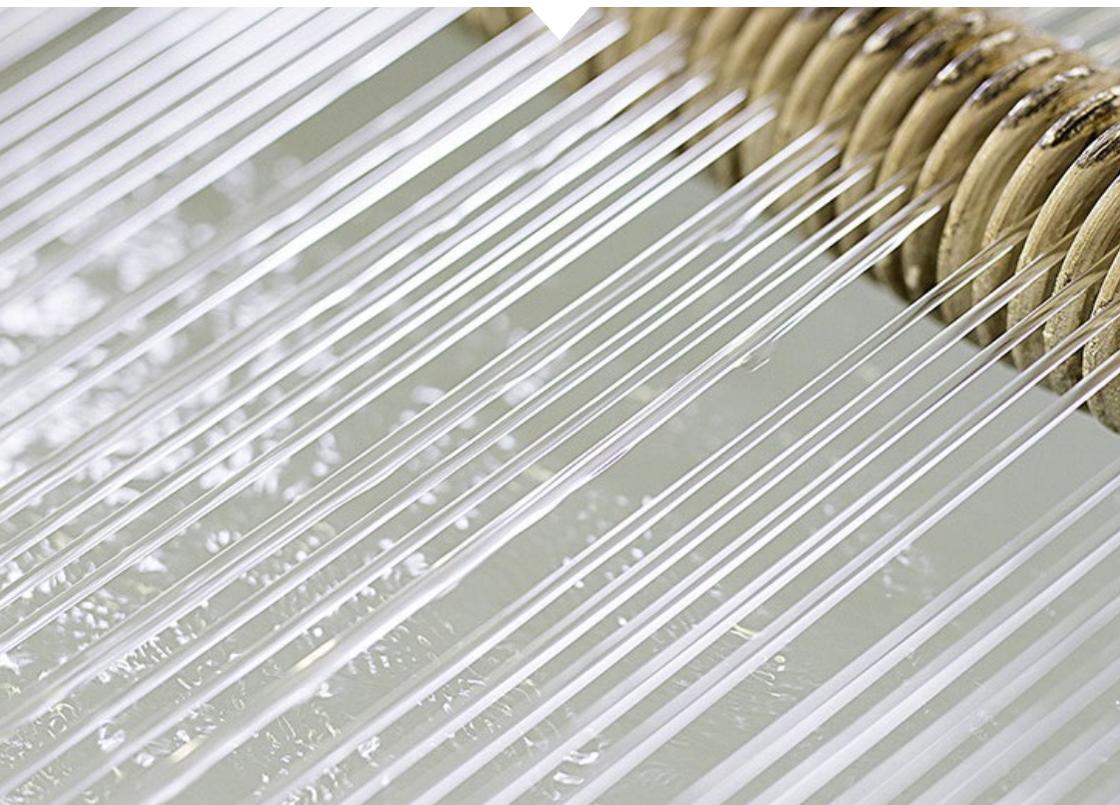
Aquaculture nets, made from Nylon 6, have an antifouling coating in resin and copper oxide which prevents the proliferation of algae and allows them to withstand extreme weather conditions.

Aquafil has developed a dual technology that allows the separation of copper oxide from the nets, allowing the recovery of both Nylon 6 and metallic copper.

## Polypropylene enhancement

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The Group has patented a new technology which allows the separation of multi-material products such as carpets and rugs, usually composed of Nylon 6, polypropylene, calcium carbonate and glues, in order to obtain a Nylon 6 fraction suitable for the ECONYL® Regeneration system while recovering the polypropylene to give it new life (i.e. the production of outdoor/garden furniture and furnishings).



## Bio-caprolactam and bio-based nylon

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The Group has invested in the development of an innovative technology which enables the production of caprolactam starting from renewable raw materials of plant-based origin instead of petroleum. To develop the production process, a strategic partnership was sealed with Genomatica, a leading American company in the bio-engineering sector.

This collaboration was then extended to all players in the supply chain through H2020 EFFECTIVE, the European project which sees the participation of 12 organizations from 7 countries and aims to demonstrate, on a pre-industrial scale, the production of fibers and film starting from renewable raw materials. To date, around 300kg of bio-caprolactam have been produced which will allow the production of the first batch of bio-based Nylon 6, while developments for other polymers remain ongoing.

# Waste: a resource to be valued

The ECONYL® Regeneration system allows Aquafil to produce high quality products from pre- and post-consumer waste, which would otherwise be sent to landfills or discarded in the environment.

ECONYL® Nylon has a lower environmental impact, while maintaining the same qualitative characteristics of primary source nylon.

**FOR EVERY 10,000 TONS OF RAW MATERIAL,  
WITH ECONYL® WE CAN:**

Save

70,000

Barrels  
of crude oil

Avoid

65,100

Tons  
of CO<sub>2</sub>eq emissions

*For more information visit the website [www.econyl.com](http://www.econyl.com)*



# WHERE DOES THE WASTE USED TO PRODUCE ECONYL® YARN COME FROM?



## Old carpets destined to landfills

Aquafil has two carpet recycling plants in the United States, which can each process more than 16 million kg of carpet per year.

The treatment allows all of the different components to be separated and sent for recovery, including Nylon 6, which will be used to produce ECONYL®. Furthermore, the collaboration with Tarkett allows the use of Nylon obtained from the treatment of end-of-use carpet tiles to produce new ECONYL®.



## Pre-consumer waste from industrial processes

Pre-consumer waste comes from industrial processes which consist of plastic components, industrial waste and fabric scraps.

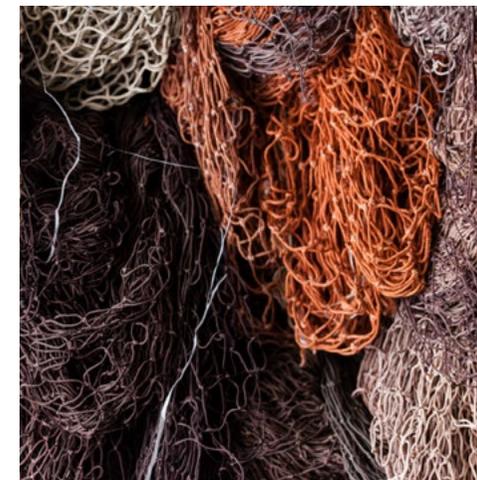
Collecting these materials allows the reduction of waste destined for disposal and provides raw material that can be used to produce ECONYL®.



## End-of-life products, collected through Take Back programs

Aquafil has structured an international network dedicated to the recovery of end-of-use materials, based on partnerships with institutions, organizations, associations, private and public companies. This system allows the collection of waste for regeneration into ECONYL® yarn.

Examples of this commitment are represented by special projects in collaboration with different brands such as Napapijri, Speedo and Gucci.



## Aquaculture and fishing nets and ghost nets

Aquafil collaborates with the fishing industry to recover end-of-use nets from fish farms to obtain Nylon 6 necessary for the production of Econyl®.

In addition, to help clean the oceans, Aquafil promotes the recovery of ghost nets abandoned along the seabed - responsible for the deaths of numerous animals.



## OUR COMMITMENT

# Protecting the environment

Aquafil has decided to act on several fronts in order to transform its environmental protection commitments into tangible actions: investing in energy from renewable sources, improving the energy efficiency of production processes, reducing water consumption and discharges.

Furthermore the undertaken certification process of ISO 14001 allows the Group to guarantee a reliable management of corporate aspects relating to both the environment and energy.

## Constant commitment, concrete results



**-59%**

TOTAL GREENHOUSE GAS EMISSIONS COMPARED TO 2016



**95%**

ELECTRICITY FROM RENEWABLE SOURCES OUT OF THE GROUP'S TOTAL CONSUMPTION

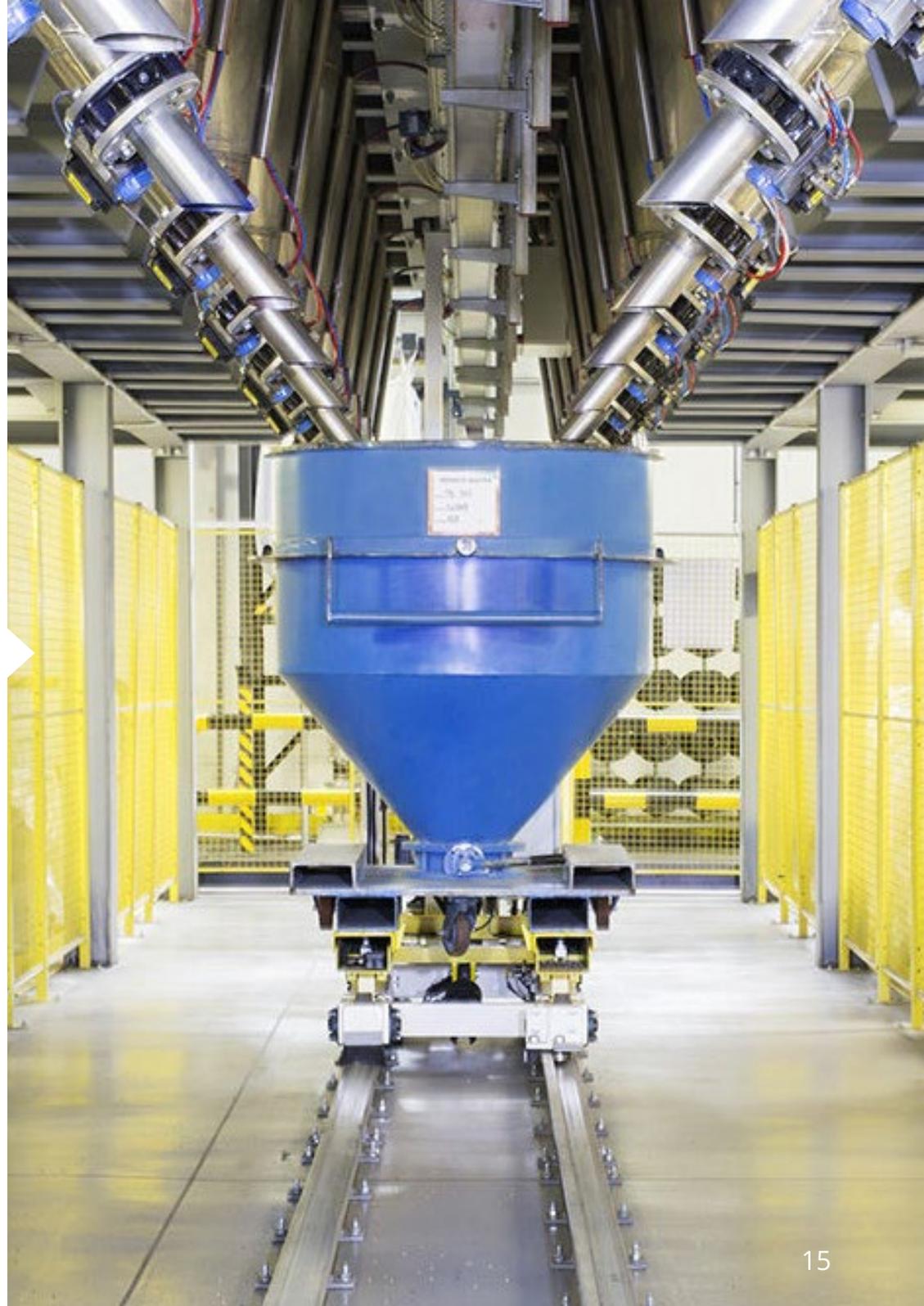
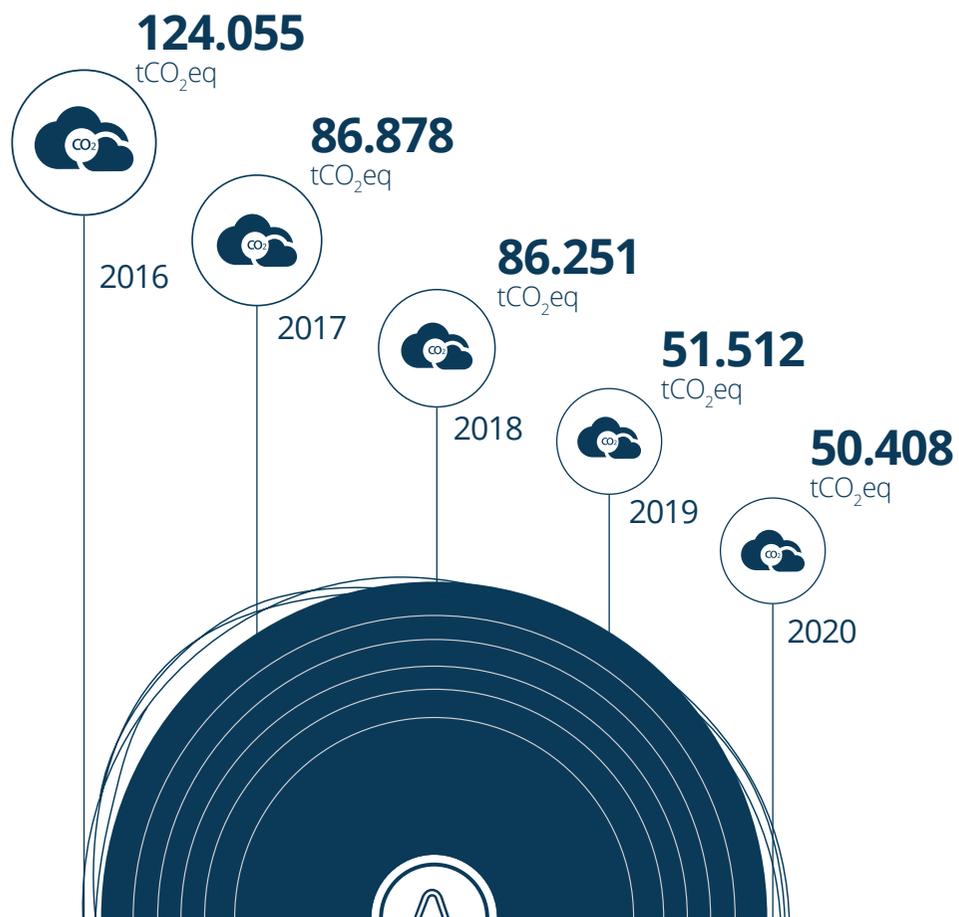
For more information, see the Group Consolidated Financial Statements 2020, p. 80

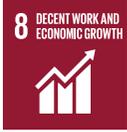


## A virtuous path

The Group has managed to reduce its greenhouse gas emissions year after year thanks to a careful strategy aimed at reducing consumption, improving production processes and supporting renewable energy sources.

### GROUP GREENHOUSE GAS EMISSIONS TREND 2016-2020





## OUR COMMITMENT

# Attention to the well-being of people

## 2020, a pandemic year

Never before has every available resource been required to overcome a crisis which has affected employee safety above all. Aquafil Group has demonstrated its ability to respond to the occasion, not only by ensuring all the necessary measures to reduce health risks, but by taking advantage of the opportunity to strategically invest in the future.

## A timely response

The global emergency did not catch the Group unprepared: the presence of factories in China meant learning the best strategies to combat infections, and when the pandemic spread to the rest of the world, this made it possible to intervene promptly, protecting employee health and safety.

The speed and effectiveness of the measures adopted has made Aquafil a point of reference for many other Italian companies, which have benefitted from the Group's experience to improve their response to the health crisis.

*For more information, please refer to the 2020 Group Consolidated Financial Statements, p. 58*

## COVID 19

# THE ADOPTED MEASURES

The Group has kept all facilities operational and thanks to the adoption of adequate measures has minimized infections among employees, preventing the onset of outbreaks.



Employee health protection through the distribution of masks, gels and other individual devices, measurement of temperature and sanitized environments.



Reorganization of production activities with well-defined work shifts, specific rules for environments of aggregation, differentiated routes and accesses, shifts for access to the canteen, closure of changing rooms, interruption of business trips.



Definition of control measures aimed at subjects external to the company for which specific communications and provisions have been provided.



Securing more than 80% of clerical staff, both in Italy and internationally, by introducing remote work. A choice which required having to equip them with all the appropriate tools in a short timeframe.



Monitoring the progress of the emergency through voluntary updates of the Group's biological risk assessment.

## Social Intranet

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In 2020, the Group launched the corporate Social Intranet as a pilot project for the Italian facilities, thus taking an important step towards an increasingly open and participatory corporate culture. The objectives of this initiative are twofold: to simplify and speed up internal communications, and foster sharing and sense of belonging of the Group's employees. Above all, the Social Intranet has played a fundamental role in maintaining opportunities for employees to socialize despite the physical distancing made necessary by the pandemic. Socializing or entertainment events were organized online, allowing the solidity of relationships to continue despite prolonged distancing.

## Communication networks

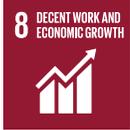
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Aquafil has shared all available knowledge about the virus with its employees from the start, opening dedicated communication channels to request information and offering specific training on the subject. A commitment that has allowed the whole Group to feel safe.

## From the crisis to a new beginning

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Actions in response to the pandemic, but also thanks to the pandemic. In fact, Aquafil took advantage of the situation to concentrate investments in areas less affected by the restrictions, such as Research and Development. Finding new ways to increase the circularity of products, extending the range of recoverable waste and stimulating collaborations with new partners are, in fact, essential to maintaining and strengthening the position reached by Aquafil and its ability to always offer new sustainable products.



## OUR COMMITMENT

# Shared responsibility along the supply chain

Aquafil strongly believes in the benefits that increasingly circular and virtuous supply chains can bring. For this reason, over the years, the Group has constantly invested in strengthening the collaboration with its customers, recognized as key players in achieving significant results in the various areas linked to sustainability.

*For more information, please refer to the 2020 Group Consolidated Financial Statements, p. 74*



## Napapijri and the Circular Series collection

In 2020, Napapijri extended its offer of circular products, creating the Circular Series collection - products that are recyclable thanks to the mono-material composition of each component (ECONYL® yarn and Nylon 6).

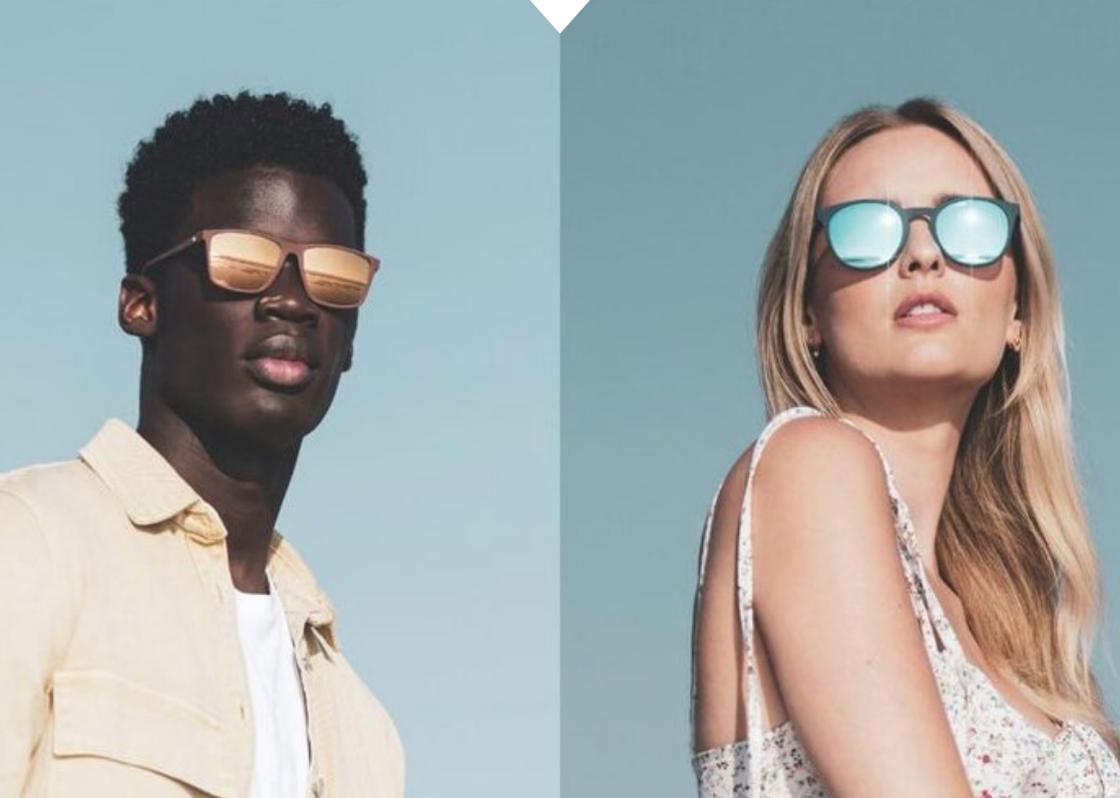
In addition, the company has launched a take back program which allows consumers to return their jacket to the store for regeneration after two years.

## Coral Eyewear

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Coral Eyewear is the first British brand to launch a collection of eyewear made of ECONYL® polymer. The frames are made of ECONYL® and the cases are made of recycled plastic, all shipped in recyclable packaging.

Consumers will be able to return frames to be regenerated thanks to a take-back system currently being studied.

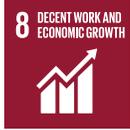


## Mammut: Close the Loopp

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This project was born in 2020 from the collaboration between Mammut, a company specializing in mountaineering equipment and clothing, Aquafil, and the NGO Protect Our Winters Switzerland.

The aim is to bring circular economy principles to mountain sports, giving a second life to mountaineering ropes that have reached end-of-use, which are sent to Aquafil and regenerated together with other pre- and post-consumer waste to produce ECONYL® yarn.

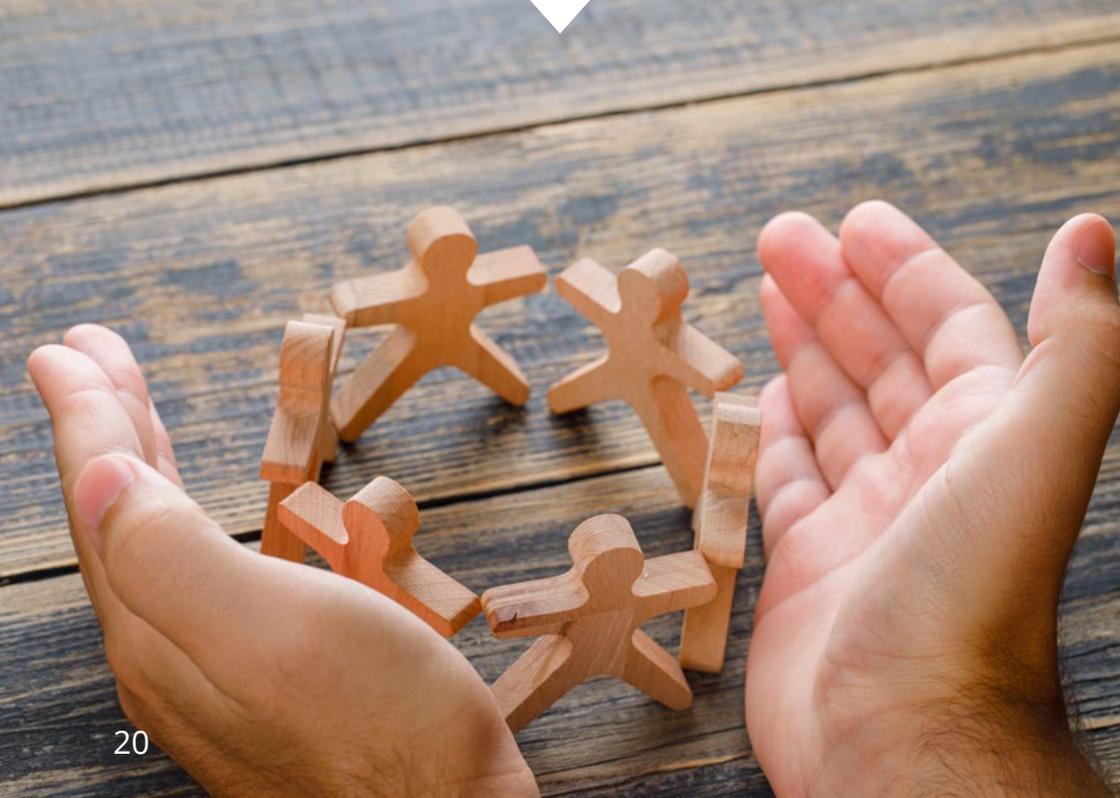


## OUR COMMITMENT

# Supporting local communities

The Group is committed to establish solid relationships with the communities of the territories which it operates in, respecting different cultures, traditions and specific needs. In order to favor their development, the activities undertaken by Aquafil seek to respond to the needs of local communities and civil society as a whole.

*For more information, please refer to the 2020 Group Consolidated Financial Statements, p. 76*



## Repopulating the Sarca River

The Arco facility is located near the Sarca River Park, which includes a UNESCO Biosphere Reserve. It is a protected area characterized by a great variety of environments and, for this reason, there is a particular attention to preserve it.

In the last two years, the fish population of the Sarca River has been severely reduced due to adverse weather events and predatory animals. In 2020, Aquafil decided to co-finance the river's repopulation plan, contributing to the restoration of biodiversity and in support of local activities.

## The bee garden

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Slovenia has a long tradition of beekeeping and was among the first countries to introduce legal tools to protect these precious pollinators.

Hence the AquafilSLO initiative: in 2020 the uncultivated area next to the facility was transformed into a large garden filled with pollinator plants that nourish two hives on site. AquafilSLO was able to collect the first honey obtained from its own “bee garden”.

AquafilSLO has also joined the Bee Path initiative which connects companies, beekeepers and institutions that deal with caring for bees in urban areas



## Youth training

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Among the various activities that Aquafil carries out, there are initiatives that aim to enrich the training of young people and bring them closer to the workforce.

With this in mind, the Group once again participated in the TU SEI Project, now in its twelfth edition, organized by Confindustria Trento and Intesa San Paolo. The project’s goal is to promote close collaboration between schools and businesses, in order to help young people acquire the necessary skills required by the industrial world. Aquafil was also among the winning projects for 2020.



*Editorial project and coordination*

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**HEALTHY SEAS**

www.healthyseas.org



**DRYARN**

www.dryarn.com



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