Innovating for Balance

People – Planet – Profit

Sustainability Report 2016
Lenzing Group

lenzing.com

LENZING
LEADING FIBER INNOVATION

Innovating for Balance

People – Planet – Profit

About this report

The contents of this report reflect the relevant and material challenges of sustainable development at the Lenzing Group. The material topics have been determined by considering perspectives of different stakeholders and are described in the relevant chapters.

This report covers all the entities where the Lenzing Group has an operational control, as shown in the map on pages 8-9.

This sustainability report covers sustainability management, responsible sourcing, efficient production with environmental key performance indicators, Lenzing's innovations, key ecological and social developments as well as economic factors in the 2016 financial year.

The structure of the report follows a value chain perspective and provides an insight into specific data and performance in the corresponding chapters. The report is addressed to the following target groups: company employees, customers, suppliers, NGOs, shareholders, and the general public.

The Lenzing sustainability report is the first follow-up report to the sustainability report published in 2012 containing data from 2011. No restatements of information provided in previous reports have been made. **G4-22, G4-29**

This report mainly covers data from 2016, wherever possible though presenting series of data over three years (2014, 2015 and 2016) to make the information transparent, relevant, and comparable. **G4-28**

Indicators are calculated using data from all production sites of the Lenzing Group. These account for 100 percent of the company's worldwide production volume. There have been no changes in the reporting scope compared to the previous report. **G4-23**

Regional as well as group-wide data is reported according to Global Reporting Initiative (GRI 4 core and additional) guidelines. A detailed GRI index can be found in the appendix for cross-reference (pages 80-84). In line with GRI 4 requirements, the reporting cycle of Lenzing's sustainability performance will be annual.
G4-18, G4-30

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Letter from the CEO G4-1

Dear stakeholders!

Lenzing is in the unique position of running a truly circular business model. Lenzing converts CO_2 and sunlight into functional, aesthetic and emotional products that are compostable and biodegradable at the end of their use. Consequently, the concept of a circular economy is deeply embedded in Lenzing.

Lenzing has also been a trailblazer in the sustainable production of wood-based cellulosic fibers. Thanks to our biorefineries in Lenzing and Paskov, we are able to use almost 100 percent of the various wood components to produce pulp, fibers, biobased materials, and bioenergy.

In our corporate strategy, sustainability has been positioned as a core value. Lenzing is committed to a "Triple P concept" (People – Planet – Profit), balancing our desire to make a sustainable profit with the desire to contribute to leaving a small ecological footprint on our planet and to interact with all the people we touch in a responsible and sustainable way.

In addition, sustainability is our most important innovation driver. Our very strong Research & Development team screens for those ideas that have a positive impact on the environment and society as well as on Lenzing's long-term profitability.

In 2016 we significantly advanced our strategy implementation. We invested in debottlenecking in our pulp facilities as a first step to increase our pulp backward integration to around 75 percent of our pulp needs by 2020. A further investment decision was made in 2016 to increase TENCEL® branded lyocell fiber production over the next three years. TENCEL® fiber is currently the most sustainable fiber on the market. In this way, we can help our partners along the value chain to improve the sustainability scorecard of their finished products.

In collaboration with forward-minded industry partners, we presented Refibra™, a new fiber using cotton scraps from textile production. In doing so, for the very first time we managed to create a new closed loop for cellulose on an industrial scale in the textile industry based on textile recycling. This pioneering fiber will further build Lenzing's reputation as a leader in the field of environmental fiber technology. As we are committed to launching more products in the coming years we have been significantly increasing our innovation power in Research & Development.

Several organizations have already recognized the efforts of the Lenzing Group when it comes to responsible sourcing, energy-efficient production, sustainable innovation, and our responsibility for people. Lenzing was rated number one globally with respect to its responsible wood sourcing practices by the Canadian non-profit organization Canopy.

The non-profit organization Fairtrade listed Lenzing™ fibers as responsible fibers to be used under the newly established Fairtrade Textile Standard. And only recently, the U.S. Department of Agriculture (USDA) granted the Biobased Product Label to all standard types of fiber produced by Lenzing. This officially certifies that they are derived 100 percent from natural materials.

To enhance the visibility of our long-term efforts, we have decided to publish this sustainability report in line with the G4 guideline of the Global Reporting Initiative (GRI), an international standard. I am convinced that this level of transparency will help to demonstrate the net benefits of Lenzing™ fibers to the environment and to society. It will also help us here at the Lenzing Group to continuously improve our core business of producing sustainable fibers.

Yours,

Stefan Doboczky

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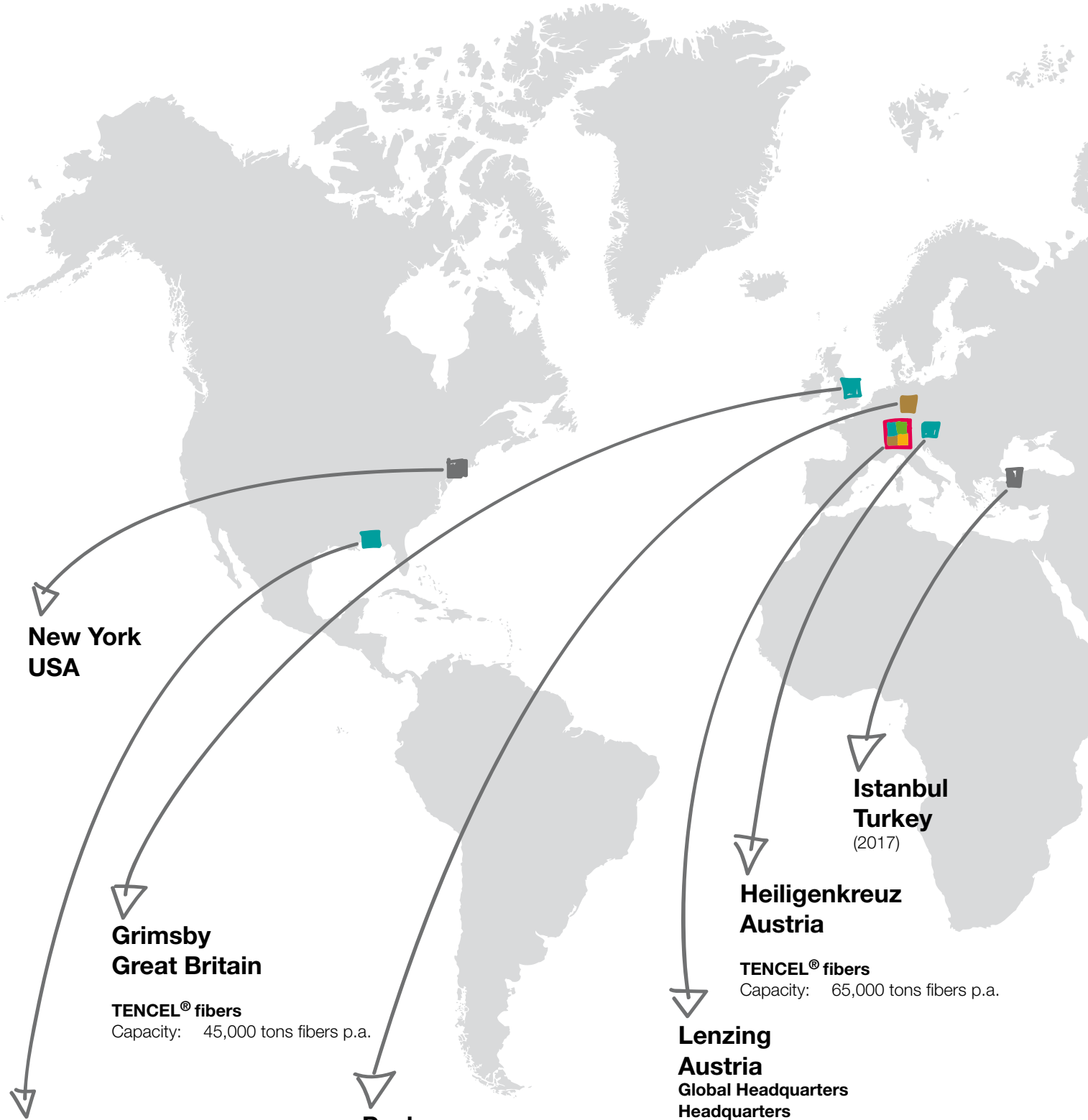
Lenzing Group & Sustainability Management

Sustainability is a core value of the Lenzing Group and a fundamental aspect in our strategy sCoreTEN. It covers the three dimensions of PEOPLE, PLANET and PROFIT, balancing the needs of society, the environment and shareholders.

The sites of the Lenzing Group G4-9, G4-5, G4-6 fig. 2/1



New York
USA

Grimsby
Great Britain

TENCEL® fibers
Capacity: 45,000 tons fibers p.a.

Mobile
USA

TENCEL® fibers
Capacity: 51,000 tons fibers p.a.

Paskov
Czech Republic

Dissolving wood pulp
Capacity: 270,000 tons dissolving wood pulp p.a.

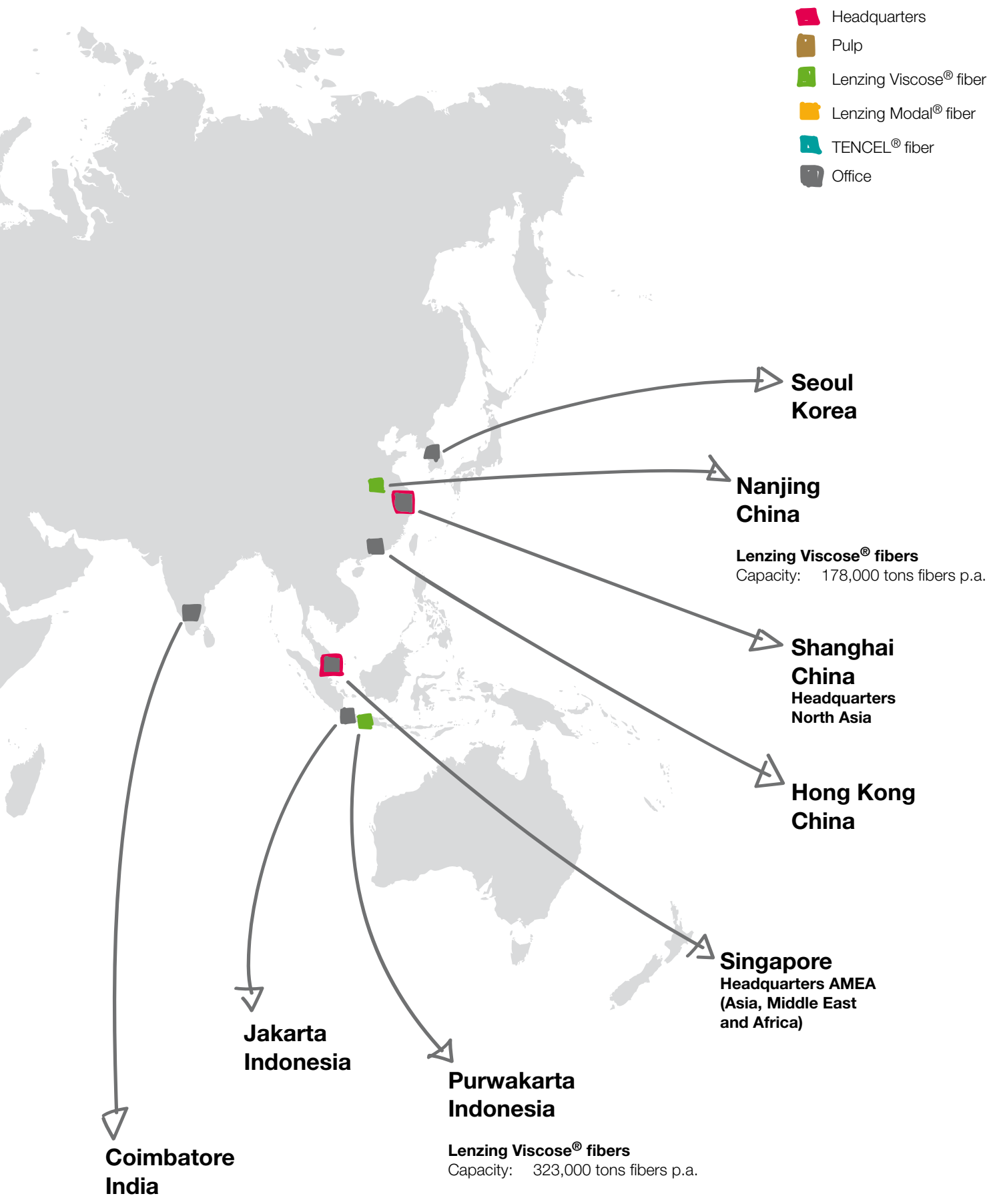
Lenzing
Austria
Global Headquarters
Headquarters
Europe & Americas

Dissolving wood pulp
Capacity: 300,000 tons dissolving wood pulp p.a.
Lenzing Viscose® and Lenzing Modal® fibers
Capacity: 276,000 tons fibers p.a.
TENCEL® fibers
Capacity: 71,000 tons fibers p.a.

Heiligenkreuz
Austria

TENCEL® fibers
Capacity: 65,000 tons fibers p.a.

Istanbul
Turkey
(2017)


Headquarters
Pulp
Lenzing Viscose® fiber
Lenzing Modal® fiber
TENCEL® fiber
Office
Seoul
Korea
Nanjing
China
Lenzing Viscose® fibers
Capacity: 178,000 tons fibers p.a.
Shanghai
China
Headquarters
North Asia
Hong Kong
China
Singapore
Headquarters AMEA
(Asia, Middle East
and Africa)
Jakarta
Indonesia
Purwakarta
Indonesia
Lenzing Viscose® fibers
Capacity: 323,000 tons fibers p.a.
Coimbatore
India

Lenzing Group: brief portrait

Based in Austria, the Lenzing Group (Lenzing Aktiengesellschaft and its subsidiaries) is one of the world's leading producers of environmentally compatible, wood-based cellulose fibers with production sites in major markets and a global network of sales and marketing offices.

The company produces high-quality fibers for the textile and nonwovens industry as well as for technical applications. Its product portfolio extends from dissolving wood pulp as the basic raw material to standard fibers and innovative specialty fibers as well as biobased chemicals.

No production sites were closed during the reporting period. **G4-13**

With close to 80 years of experience in fiber production, the Lenzing Group is the only company worldwide combining the manufacturing of all three cellulose fiber generations on a large industrial scale under one roof – from classic Lenzing Viscose® branded fiber to Lenzing Modal® branded fiber and TENCEL® lyocell fiber.

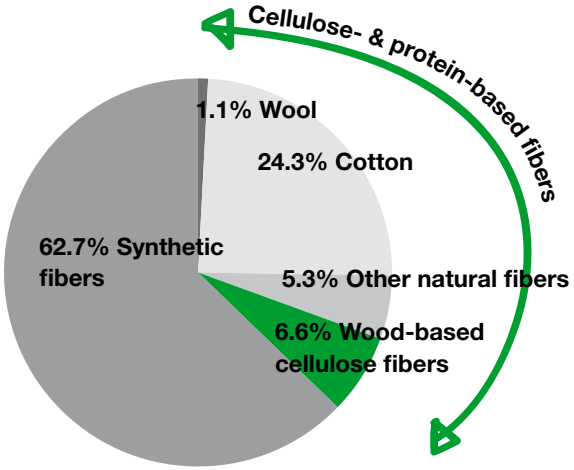
Lenzing is committed to the principles of sustainable management and very high environmental standards.

The biorefinery
Lenzing's own pulp production at the sites in Lenzing (Austria) and in Paskov (Czech Republic) is based on a biorefinery concept, completely utilizing the raw material wood. With this, CO_2 and sunlight are converted into high-performance materials for the global market.

Throughout the transformation process from wood to dissolving wood pulp, high-quality biorefinery products such as xylitol, acetic acid, furfural, magnesium lignosulfonate and sodium carbonate are generated along with process energy. All these products are sold to customers in the food, animal feed, pharmaceutical, detergent, and construction industries. The bioenergy derived from the wood is used as process energy at the Lenzing site, making the facility partly self-sufficient in terms of energy. In Paskov the excess energy is fed into the public grid.

Global fiber market
Lenzing supplies the global textile and nonwovens industry with high-quality, wood-based cellulose fibers. With a share of 6.6 percent of global consumption, this fiber category occupies a niche position on the global fiber market and it is continually exhibiting high growth rates. Synthetic fibers (62.7 percent) account for the lion's share of demand on the world's fiber market and are growing fastest in actual volume (2.2 percent increase, a plus of 1.3 mn tons compared to 2015).

Global fiber consumption in 2016 by type of fiber in percent* (basis = 99 mn tons) fig. 2/2



*Sources: ICAC, CIRFS, TFY, FEB, Lenzing estimates

Nature of ownership
Lenzing is a publicly traded company and its shares are quoted on the Vienna Stock Exchange. In 2016, there was a shift in the ownership structure. Major shareholder B&C Privatstiftung reduced its share from 67.6 percent to 62.6 percent and Oberbank reduced its share from 5 percent to 4.2 percent. The free float increased to 33.2 percent on 22 September 2016. **G4-7, G4-13**

Risk management
The globally operating Lenzing Group is exposed to a multitude of risks and consequently operates with a dedicated risk management system. Lenzing's approach here consists of risk analysis in accordance with the COSO® framework.

For further information see the Annual Report 2016: http://www.lenzing.com/en/press/publications/financial-reports/annual-reports.html **(G4-2, G4-14)**

Value chain G4-4,G4-8, G4-12

Lenzing lies at the beginning of a long value creation chain in the textile industry with several processing steps. This value chain is much shorter in the nonwovens segment.

The Lenzing Group's business model is based on intensive collaboration across all stages of the value chain.

Lenzing supports its partners along the textile and nonwoven value chain in optimizing their production processes. For this purpose, Lenzing operates its own testing facilities and collaborates with a network of external laboratories in order to provide an optimum service for its customers. Any potential problems or improvement opportunities with the fibers arising at the customers' premises can be quickly analyzed, solved and implemented. Lenzing also works closely with manufacturers and retailers, keeping the end user in mind throughout the entire value creation process.

Steps in the value chain

Cellulose is the most common organic compound in nature and the main component of plant cell walls. It is therefore the most important construction material in nature. As Lenzing's cellulosic fibers are derived from the basic raw material wood and are biodegradable at the end of their life, all Lenzing fibers are part of this natural cycle.

Supply & sourcing
The principle raw materials for producing Lenzing fibers are wood, pulp and chemicals. Lenzing uses pulp from its own production as well as from external suppliers.

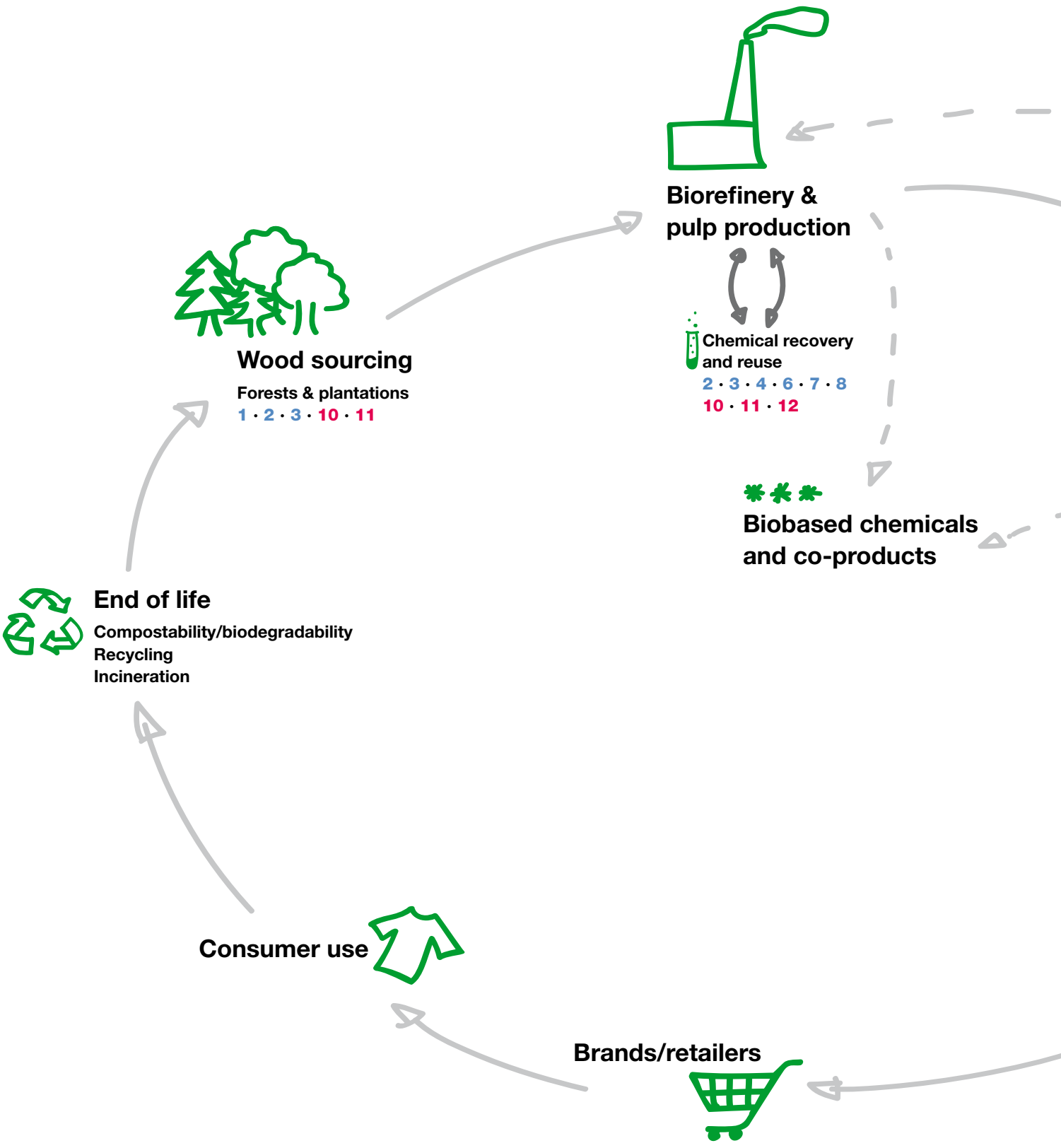
Pulp and fiber production
Production takes place in two steps: firstly the pre-production of pulp, and secondly the production of fibers. By the end of 2016, 56 percent of all the pulp required for fiber production originated from the company's own production. Pulp is produced at two biorefineries at the sites in Lenzing (Austria) and Paskov (Czech Republic), along with energy and other biorefinery products that are extracted, utilized, or sold. During subsequent fiber production, some chemicals are also recovered.

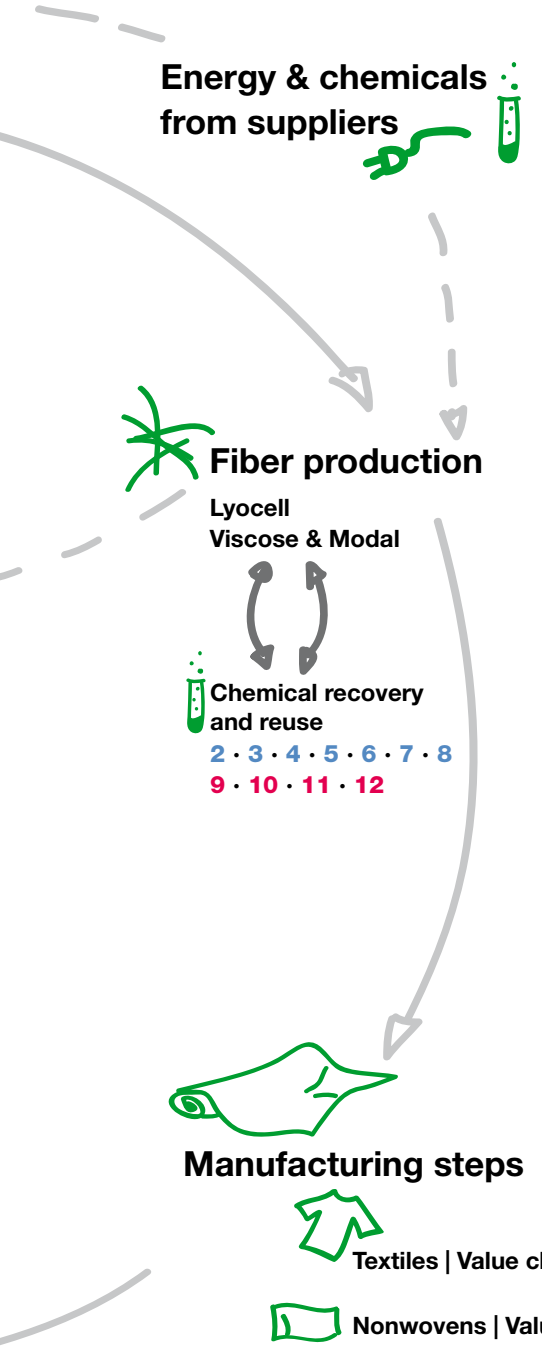
Fiber processing
The customers in Lenzing's downstream value chain use the fibers to manufacture textiles and nonwovens for numerous applications. The textile value chain starts with yarn making and ends with garment manufacturing. Alternatively fibers can enter the nonwovens value chain for making products such as wipes.

Distribution and use phase
After manufacturing, finished products are distributed and the consumer use phase begins.

End of life
All Lenzing™ fibers are compostable and biodegradable in marine and soil conditions. However, the compostability of final products depends on the material composition (fiber blend) and processing in the value chain steps.

Value chain for Lenzing products fig. 2/3





Influence of Lenzing on sustainability

Environmental aspects

1. Forest protection & biodiversity
2. Climate protection
3. Water use & pollution
4. Chemicals
5. Sustainable innovations
6. Energy use & conservation
7. Air emissions
8. Waste

Socio-economic aspects

9. Product responsibility
10. Compliance
11. Labor and human rights
12. Community well-being

Lenzing Group sCore TEN strategy

In 2016 the Lenzing Group developed a new corporate strategy: sCore TEN. The name stands for a consistent performance orientation (scoring), the strengthening of the core business (core) and the company's long-term growth with specialty fibers like those branded with Lenzing Modal® and TENCEL®. The heart in the logo represents the corporate values and culture which were developed as part of the strategy process. They represent the fertile ground for the success of the Lenzing Group.

sCore TEN is based on five strategic measures:

- Strengthen the core: A greater share of Lenzing's pulp requirements – roughly 75 percent – will be secured by backward integration through an increase in the Group's own pulp production volumes and/or strategic cooperations. Quality and technology leadership will also be expanded. A program to strengthen commercial processes has been generating a positive contribution of EUR 50 mn to EBITDA. The restructuring of Lenzing's technical business areas was completed in 2016.

- Customer intimacy: Lenzing establishes regional competence centers for product innovation in China and Indonesia, thereby increasing its proximity to customers.

- Specialization: By 2020 Lenzing plans to generate 50 percent of revenue with eco-friendly specialty fibers like those branded with TENCEL® and Lenzing Modal® as well as viscose specialty fibers. Following the decision in favor of a further plant in Mobile (USA), Lenzing plans to expand production of lyocell fiber production capacity in line with the market requirements.

- Forward solutions: Lenzing will expand its research and development activities in selected areas along the value chain by utilizing new pioneering technologies.

- New business areas: Lenzing will use its core expertise to develop new attractive business areas over the medium- to long-term.

In 2016, the management of the Lenzing Group took three major investment decisions underpinning the new strategic focus:

In August, Lenzing announced investments of more than EUR 100 mn to expand capacities for specialty fibers by 35,000 tons in Austria by mid-2018. Approx. EUR 70 mn of these investments will be located in Heiligenkreuz and EUR 30 mn at the Lenzing site, a smaller amount is allocated to Grimsby (Great Britain).

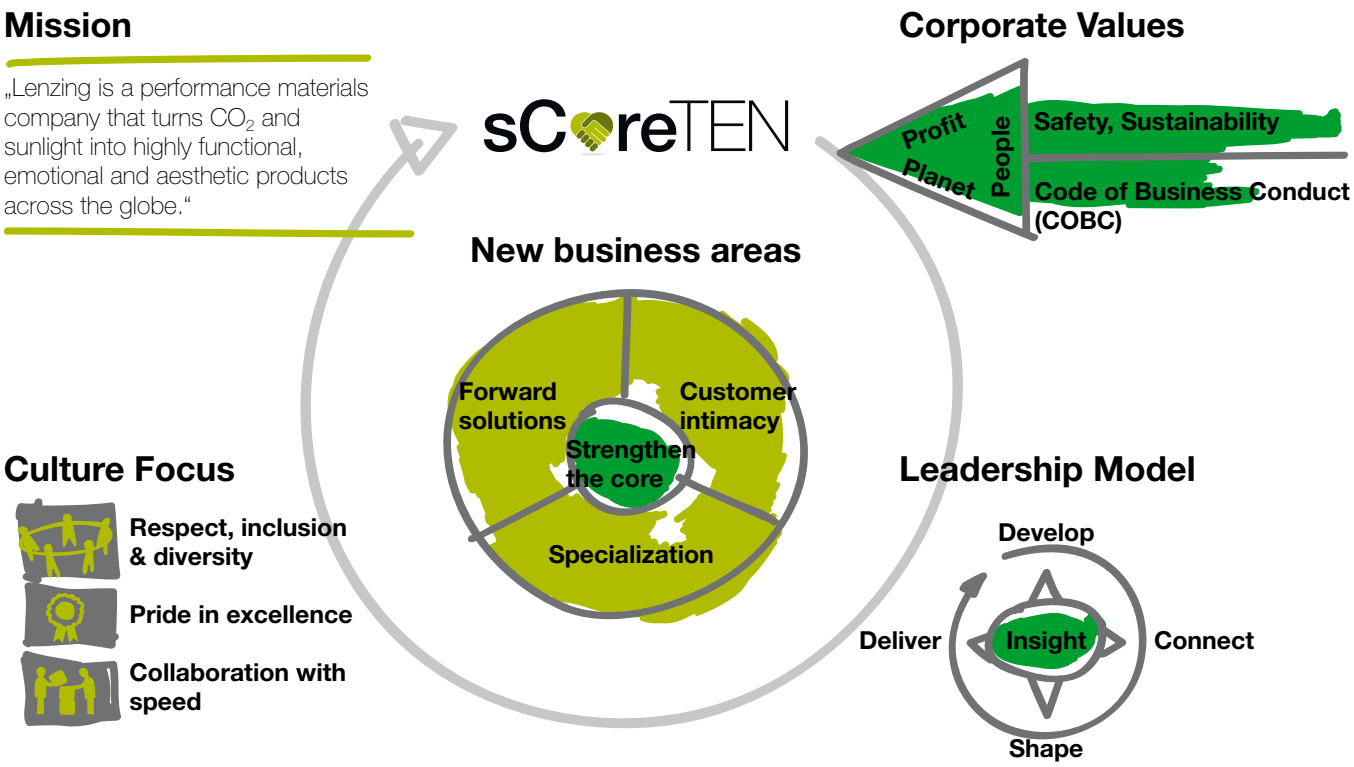
In October 2016, Lenzing announced a further EUR 100 mn investment to expand and modernize its pulp production in Lenzing (Austria) and Paskov (Czech Republic). The aim of these investments is to increase the Group's dissolving wood pulp production from 56 percent in 2016 to 75 percent by 2020 of the Group's requirements for producing wood-based cellulose fibers.

In December 2016, Lenzing announced plans to construct a state-of-the-art plant with a production capacity of 90,000 tons per year at its site in Mobile, Alabama (USA). The new facility will be the largest lyocell fiber plant in the world and will set a new milestone in the history of lyocell fibers. The total investment is expected to amount to USD 293 mn. The new plant will utilize the latest technological standards and is scheduled to start production in the first quarter of 2019.

This investment will bring Lenzing a big step further towards reaching its target of 50 percent of revenue from specialty fibers by 2020 (2016: 42 percent). These investments in pulp and TENCEL® fiber, one of the cleanest in the industry, demonstrate the commitment to sustainability as a core value of the Lenzing Group and its strategy sCore TEN.

The strategic operational topics for continuous improvement are implemented through the Enterprise Excellence Program (EPEX) in all the Lenzing Group's production sites.

Lenzing Group sCore TEN strategy fig. 2/4



“

Sustainability is a core value and the guiding light for innovation in the Lenzing Group. The raw material wood and the manufacturing processes applied in Lenzing are the basis for the low water consumption of our fibers. In addition, Lenzing™ fibers consume less energy, and, as a result, emit significantly less CO_2 than comparable products in the market. Expanding the sales of our most ecological fibers is a core driver for our business and a benefit for the planet.

”

Stefan Doboczky
Chief Executive Officer

Lenzing's sustainability strategy

NATURALLY POSITIVE

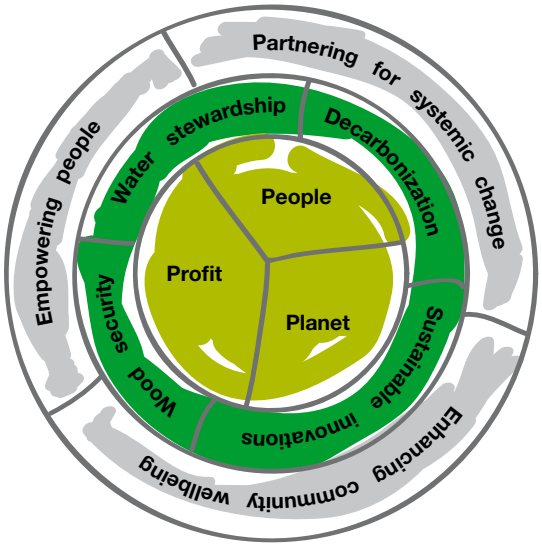
Our vision

Our passion is to make sustainable fibers available to the growing world. This creates more positive impacts and benefits for people and the planet. It also ensures our economic success.

Our mission

The Lenzing Group balances the needs of society, the environment and shareholders and is a sustainability leader in its industry. As a leader, we are change agents and collaborate with our suppliers and value chain partners to catalyze change for the better. We actively contribute towards improving the environmental performance throughout value chains and, thus, final products. We promote social wellbeing. Creation of more positive impacts and benefits is the guiding light for our innovation and business practices.

Naturally positive for People – Planet – Profit fig. 2/5



Within the dimensions People – Planet – Profit, Lenzing's sustainability strategy defines four main challenges where the Lenzing Group substantially contributes to creating more positive impacts and benefits. This is the essence of our naturally positive thinking.

- Wood security
- Water stewardship
- Decarbonization
- Sustainable innovations

A successful implementation of this thinking requires supporting areas to reinforce our spheres of influence.
These include:

- Empowering people
- Partnering for systemic change
- Enhancing community wellbeing

Our focus areas

Wood security
Growing global demand for wood-based biomass and alternative land use put pressure on the world's forests which provide fresh water, oxygen, climate regulation, flood resilience, biodiversity, recreation, and valuable raw materials to society.

Wood is the most important natural resource for the Lenzing Group. Therefore our focus is on sustainable sourcing through certifications, responsible consumption and highly efficient use of wood through biorefinery, supported by internal and external expertise. We promote conservation solutions to protect ancient and endangered forests. Innovation of alternative cellulose sources is a strategic priority for the Lenzing Group, for example textile recycling.

Water stewardship
Water is a precious resource and its increasing scarcity in many parts of the world constitutes a threat to people as well as to economic development. Some natural fibers, e.g. cotton, and textile supply chains create water impacts through high water consumption and pollution.

Lenzing's wood-based cellulose fibers consume on average much less water than irrigated cotton, so Lenzing encourages its partners to blend TENCEL® fibers into their products, which improves their water footprint.

Due to their biodegradability, Lenzing™ fibers do not contribute to the marine litter problem caused by synthetic materials. Innovations that omit steps in the textile value chain can substantially reduce water consumption and pollution. Lenzing provides fibers with a low water impact for the growing world and innovates products that avoid water impacts in the downstream value chain.

Decarbonization
Climate change is one of the most pressing challenges of our generation, calling for collaborative solutions all along the value chain.

Pulp and fiber production are energy-intensive processes and consequently we are committed to reducing specific CO_2 emissions of the Lenzing Group, as well as its energy providers, pulp suppliers, and the downstream value chain through sustainable innovations. In fact, Lenzing™ fibers consume less energy and, as a consequence, emit less CO_2 than comparable products in the market. In this way, Lenzing provides a choice for the customers to opt for products that protect the climate.

We support forest conservation solutions as a means of storing carbon.

Sustainable innovations
The current rate of population growth and consumption will substantially increase the environmental and social impact of our industry. Sustainable innovations are those that improve the prosperity of our society within the limits of our planet. Therefore the Lenzing Group goes beyond efficiency improvements, driving systemic change through forward solutions and business models on a large scale.

Lenzing's net benefit products and offerings assist our customers in replacing resource-intensive and polluting alternatives, in improving their product footprint, and in reducing their supply chain risks.

The supporting areas

Empowering people
People are at the core of our business success. People who take ownership and feel able to take positive action drive a successful transformation to a more sustainable society and economy. The Lenzing Group therefore empowers its employees and motivates partners along the value chain to be change-makers and drivers of sustainability.

Partnering for systemic change
Complex global sustainability challenges call for a collaborative approach to designing systemic solutions, involving many stakeholder groups. Transparency is a prerequisite for fostering trust and long-term relationships.

Consequently, the Lenzing Group regularly engages a wide range of stakeholders and business partners in order to integrate different perspectives, understand global trends and mitigate risks. Lenzing takes leadership in multi-stakeholder initiatives such as the Sustainable Apparel Coalition (SAC), to support the creation and implementation of systemic solutions. The Lenzing Group periodically informs about its sustainability performance and the progress being made.

Enhancing community wellbeing
The Lenzing Group's various production sites operate in their respective ecological, social and economic environments. The Lenzing operations and their regional partners are mutually dependent, sharing opportunities, but also challenges. Community wellbeing is therefore a prerequisite for the company's license to operate.

As a good corporate citizen, the Lenzing Group promotes beneficial development of the communities and regions where it operates. This is achieved through safe and eco-friendly operations, fair employment practices and contribution to local economic development and community life.

Info box 2/1

Net benefit products
Lenzing's net benefit products offer positive impacts and benefits to environment, society and value chain partners that are substantially better than most competing alternatives in the market. Net benefit products take a life cycle perspective and thus include both upstream and downstream value chain processes. Net benefit thinking describes the performance of our specialities and forward solutions that are part of the sCore TEN strategy.

Some examples:
- TENCEL® fibers show higher environmental performance than other cellulosic fibers, such as conventional cotton (see Info box 4/1, page 49)
- Lenzing Modal COLOR® fibers avoid conventional dyeing in the downstream value chain and offer superior environmental and human health benefits (see chapter 5, page 63)
- Refibra™ fibers address waste problems in the textile value chain and have better environmental performance than most virgin cellulosic fibers (see chapter 5, page 62)

How Lenzing *drives sustainability*

Chief Commercial Officer (CCO) Robert van de Kerkhof and Peter Bartsch, Sustainability Director, talking about the sustainability in Lenzing's DNA, new goals and innovative sustainable products.

Lenzing entered unchartered territory in 2016 by presenting Refibra™ branded lyocell fibers, innovative fibers produced from fabric waste. How did Lenzing end up developing this product?

Robert van de Kerkhof: In our discussions with key brands and retailers, it became obvious that there is a potential conflict between consumer trends such as "fast fashion" and sustainability. Since we need to preserve scarce resources, we developed a concept to add recycled materials to our process to produce high-quality fibers. Until now, the fabric waste arising from production of garments usually ended up in lower value products, such as insulation, or sometimes in landfills. In our new method, the cellulose fibers contained in this textile waste are not degraded, but used directly as a raw material for new, high-quality wood-based fibers.

Peter Bartsch: Our first thoughts about recycling textiles and using cellulose waste date back as far as early lyocell development 20 years ago when we considered alternative cellulose feedstock and how alternatives could be used for the new lyocell technology. In the spirit of our holistic approach, we help to save natural resources and solve a serious problem faced by the textile industry, namely what should be done with all the textiles no longer needed and with production waste. As a rule, such forward-looking ideas are not originated exclusively by Lenzing, they result from collaborations with partners along the value chain.

How important are partnerships for Lenzing?

Robert van de Kerkhof: We see ourselves as a dialogue partner, not only for our customers, but also for business partners further down the value chain. We also engage in an intensive dialogue with multiple stakeholders and NGOs and work together with them actively. Let me give two examples. One is the "Sustainable Apparel Coalition", an initiative of the largest globally operating brands and textile companies aiming to create a sustainable global textile industry. Here we have succeeded in contributing decisive ideas on how product developers could objectively

assess the impacts of fibers on the life cycles of their products. Another environmental initiative is Canopy[1], a nonprofit organization that focuses on the conservation and protection of ancient and endangered forests. In this case we are continually striving to improve all our processes as well as our procurement guidelines. We are determined to lead the entire industry towards sustainable sourcing of wood by committing to the highest standards.

How is it possible to put these ideas into practice? After all, the bottom line is that hard economic facts such as volume and profit growth are what ultimately count.

Robert van de Kerkhof: Indeed we have to be profitable because only then can we invest in new technologies for processes and products. For Lenzing to be economically successful, we not only have to understand and fulfill the requirements of our customers today, but also work simultaneously on solutions for customer needs of tomorrow and beyond. Certain investments in our production to protect the environment may not pay off in the short term; however it is the right thing to do.

How can Lenzing contribute to solving the contradiction between rising consumption and the ecological limits of our planet?

Peter Bartsch: It is not Lenzing alone, but the concept of the circular economy can ultimately resolve this apparent contradiction. We have defined the goal of putting this idea into practice as part of our sustainability strategy. All our stakeholders should be aware of the fact that the more Lenzing™ fibers are sold and the more other fibers are replaced by TENCEL® fibers, the better it is for all of us, for our environment and for consumers - thanks to the smaller footprint of TENCEL® fibers, its biobased origin and compostability. This is also why we invest in our trademarks. A consumer who buys a product bearing our trademark on the garment or packaging can be sure that he or she is contributing to a better world.

Is Lenzing's focus on sustainability the consequence of customer pressure?

Robert van de Kerkhof: No, thinking sustainably is in Lenzing's DNA. For decades, Lenzing has demonstrated its genuine commitment to the principles of sustainability with investments in high standard, environmental protection technology for our Lenzing Viscose® fiber and Lenzing Modal® fiber production assets, breakthrough technological innovations such as the development of closed cycles for our TENCEL® lyocell fibers, and expansion of the wood biorefinery concept. As a result, Lenzing has revolutionized our industry and set new global standards. Now, in the face of pressing global sustainability issues, such as climate change and resource scarcity, Lenzing is again at the forefront of developments. As an industry leader, we are contributing to the systemic change that is happening in our industry by collaboration and with innovative solutions.

What specific sustainability criteria drive decisions made by Lenzing today, for example with regard to investments and innovations? Which yardsticks are applied?

Robert van de Kerkhof: The net benefit product model we developed based on similar concepts, such as net positive thinking, is best suited to our long and closely interwoven value chain in the textile industry. We can demonstrate the holistic benefits derived from using our products with relative precision, for example integrating our TENCEL® fibers in hygiene products compared to using other fibers. We can also deploy this model optimally as an internal decision making matrix for the entire company. This will serve as a basis for steering future strategic decisions, for example when it comes to investments or the use of resources in research and development. We are pursuing the long-term objective of only carrying out activities which, from a holistic consideration of the value chain, will generate demonstrable positive impacts for our planet.

> "With TENCEL® fibers we offer the wood-based fiber which is shaping our industry in the 21st century."
>
> **Robert van de Kerkhof**
> **Chief Commercial Officer**

What other objectives do you have in implementing the sustainability strategy?

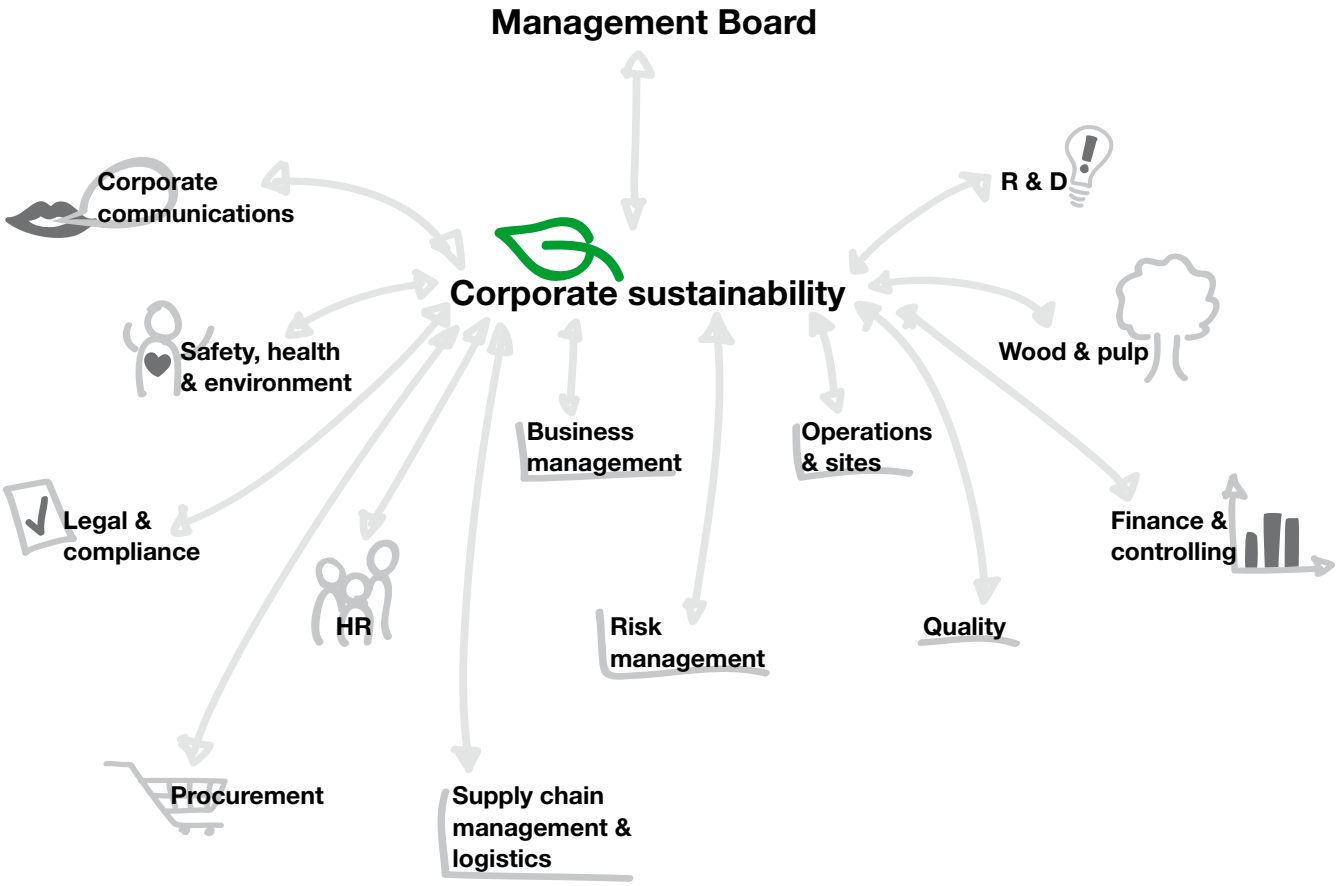
Peter Bartsch: Being capable of more effective measurement can be used to deduce further potential improvements and better define our goals. On an operational level, this will comprise detailed work to be carried out in the coming quarters. One important objective is to develop a common view on sustainable thinking within the company to encourage Lenzing team members to act as change makers. This requires us to strengthen our engagement and to collaborate with our value chain partners and suppliers, as the Lenzing net benefit product concept is based on an integral approach.

Robert van de Kerkhof: Lenzing is the global leader of sustainability in the fiber industry. We are pleased that many competitors are following our example. This is very beneficial for the entire industry and our planet. With TENCEL® fibers, we offer the wood-based fiber which is shaping the 21st century. We are also the global innovation leader and we will further increase our R&D expenditure. We are working on several very exciting projects, which I cannot say much about at this time. However, I am convinced that Lenzing will succeed in further expanding its role as the leading innovator in coming years – for everyone's benefit.

[1] Canopy Planet Society

Sustainability team positioning fig. 2/6

Corporate Sustainability reports directly to the Chief Commercial Officer in the Management Board **G4-34**



Lenzing operates its productions facilities with a view to sustainable development at all its sites – in economic, ecological and social terms. Certifications provide important information about the status of an organization with regard to its systems and products. Accordingly, business partners and customers can be sure that the corresponding quality, environmental and safety standards are adhered to. All fiber and pulp production sites are certified in accordance with system certifications ISO 9001, ISO 14001 and OHSAS 18001. Responsible wood and pulp sourcing is certified by the Forest Stewardship Council® (FSC®) and the Programme for the Endorsement of Forest Certification™ (PEFC™).

Lenzing is rated by Oekom Research and Sustainalytics. For the last ten years, publicly traded companies that are leaders in social and ecological performance have been accepted once a year for listing in the VBV Austrian Sustainability Index VÖNIX of the Vienna Stock Exchange. Lenzing AG has been represented every year since VÖNIX was first launched. An “All Time Index Member” award was presented at an official ceremony on November 24, 2015 to commemorate the 10th anniversary of VÖNIX.

A comprehensive range of policies define behavioral standards for all employees. These include the Global Code of Business Conduct as guiding principle, the Policy on Human Rights and Labor Standards, the Policy for Safety, Health and Environment, Sustainability Policy and the Quality Policy.

Stakeholder dialogue

Lenzing maintains intensive and proactive contacts with all major stakeholders. This is of key importance in proving and maintaining the company's market leadership and preparing for changing environments. Engaging in a dialogue means respecting the stakeholders. Part of this exchange process is providing information, which helps stakeholders to form an educated opinion and helps to asess risks and to avoid misunderstandings by building trust. Furthermore, continuous stakeholder relationships help to solve existing tensions and avoid potential conflicts. The key stakeholders for the Lenzing Group are those who are potentially affected by its operations, how the company conducts its business and how Lenzing addresses strategic priorities. Key stakeholders are strategic partners who have significant interest in and impact on areas that are most material to Lenzing. The people working for Lenzing are a very special stakeholder group. Transparency, collaboration and sharing of information make them key testimonials for credible Lenzing Group sustainability performance. **G4-25**

Key stakeholder groups **G4-24** fig. 2/7

Stakeholder involvement in Lenzing's „Naturally positive" sustainability strategy

The main topics of stakeholder engagement are related - but not limited - to a broad range of topics:

- Business practices and business strategy
- Transparency
- Operating issues and business development
- Material security and responsible sourcing
- Supply chain management
- Safety and health
- Environmental issues such as climate change, waste, recycling, emissions, water consumption
- People and community
- Human rights
- Innovation
- Products and product quality
- Pricing
- Track & trace
- Consumer marketing products, such as hangtags or dedicated programs

The continuous stakeholder dialogue includes workshops and webinars with customers, one-on-one discussions, training sessions, interviews, surveys, education and marketing campaigns, web platforms, roadshows, regular media relations, trade shows and conferences, press interviews, risk assessments and audits.

An important part of the Group's sustainability activities is Lenzing's collaboration and proactive contribution to various multi-stakeholder initiatives, e.g. the Sustainable Apparel Coalition (SAC), the Textile Exchange, and EDANA, the nonwovens industry association. The different business functions are integrated into this process. Apart from the Lenzing sustainability team, the managers of the different business areas are important players who drive the company's proactive approach towards the ongoing stakeholder dialogues. **G4-15, G4-16**

Lenzing is committed to supporting the collection of environmental data and promoting its availability within the industry. The company uses accepted scientific methods to conduct life cycle analysis (LCA) of its products. Apart from collaboration with the Sustainable Apparel Coalition, Lenzing supports the World Apparel Lifecycle Database (WALDB) in driving a credible, metrics-based sustainability approach for wood-based fibers and materials used in the value chain. **G4-15**

Stakeholder engagement is based on partnership and relies on open and transparent communication between all partners to create positive changes all along the value chain. Lenzing is committed to bringing systemic change and therefore establishes partnerships with different stakeholder groups in order to further develop the industry.

The Sustainable Apparel Coalition

Lenzing is a founding member of the Sustainable Apparel Coalition- which is the apparel, footwear and home textile industry's foremost alliance for sustainable production. The Coalition's main focus is on building the Higg Index, a standardized supply chain measurement tool for all industry participants to understand the environmental, social, and labor impacts of producing and selling their products and services. By measuring sustainability performance, the industry can address inefficiencies, resolve damaging practices, and achieve the environmental and social transparency that consumers demand. The initiative is transforming the apparel, footwear, and home textiles industry through system-wide collaboration, supply chain transparency, and pioneering assessment tools.

Lenzing's main contributions to the Sustainable Apparel Coalition relate to circular economy challenges, such as recycling of textile waste, developing the Material Sustainability Index (MSI), the MSI data collection tool, the design and development tool and the environmental facility tool.

Lenzing's main focus has been on helping create MSI methodology, thereby contributing to developing a credible, scientifically sound tool. This includes a user-friendly data submission tool, certain modularization of the MSI tool to meet the needs of the entire value chain from raw materials such as fibers to the fabric level and taxonomy and scoring designed with end users in mind to cover important impacts of the textile and footwear industry. It was also important to ensure that MSI is compliant with recognized life cycle assessment guidelines and with other initiatives, such as EU product environmental footprinting (EU-PEF) or the World Apparel Life Cycle Data Base.

Textile Exchange
Textile Exchange (TE), founded in 2002, is a global nonprofit organization that works closely with all sectors of the textile supply chain to find the best ways to minimize and even reverse the negative impacts on water, soil, air, animals, and the human population created by this USD 1.7 trillion industry. TE accomplishes this by providing the knowledge and tools the industry needs to make significant improvements in three core areas: fiber and materials, integrity and standards, and supply chain. TE is based in the United States with staff and ambassadors located in 10 countries.

Lenzing has a seat in the Executive Board as Vice-Chair and participates in various regional working groups throughout the year, contributing as an industry leader to shaping the communication messages.

EDANA (Europe) – European Disposables and Nonwovens Association
Lenzing is a long-time member of EDANA, the international association serving the nonwovens and related industries. Lenzing participates in and actively engages with various working groups of EDANA. Today Edana is a modern industry association reflecting the changing dynamics of the nonwovens industry, mainly focusing on harmonization of global technical standards.

Lenzing engages in innovations and sustainability-related topics for wood-based cellulose fibers in the nonwovens supply chain and addresses circular economy topics, such as waste minimization and biodegradability.

"We see ourselves as a dialogue partner, not only for our customers, but also for business partners further down the value chain."

Robert van de Kerkhof
Chief Commercial Officer

Testimonials for Lenzing‘s stakeholder management

Félix Poza, Sustainability Director, Inditex
“Regarding innovation within the field of sustainability, we think this is a very successful collaboration and a key project for Inditex and the entire textile industry. The work and research undertaken by Lenzing in recent years mark huge strides in the circular economy model. Our collaboration towards a circular economy approach with Refibra™ lyocell fiber, a fiber based on cotton scraps, marks a step change for the industry which will reduce the demand for raw materials. From today on, Refibra™ fibers can be found in garments in Zara stores around the world under the Join Life label.”

Robert Julius, CEO of Nice-Pak Products, Inc.
“For 59 years, Nice-Pak has pioneered and led the development of the wet wipe industry internationally across the consumer, healthcare and food service markets. Our success and market leadership has been built on a foundation of innovation, quality, service and an unwavering commitment to social and environmental responsibility. Lenzing is a global leader in fibers, whose own values, principles and long-term vision mirror ours. Through their focus on innovation, they produce leading-edge products, utilizing renewable natural resources in environmentally sensitive, energy-efficient manufacturing processes. Incorporating TENCEL® fibers in our products enhances their performance and supports our commitment to preserving the planet. When viewed holistically, it is clear Lenzing is an ideal long-term partner for Nice-Pak.”

Helena Barbour, Senior director of Global Sportswear, Patagonia
“For many years Patagonia has been working with Lenzing, because our values have aligned on quality products with least impact on the environment. We have included TENCEL® fibers in our Footprint Chronicles™ and sustainable materials platform. We also work together on NGO groups, such as Textile Exchange and Sustainable Apparel Coalition, to drive the apparel industry forward. Most recently we have been pleased to bring Lenzing’s latest sustainability product, Refibra™ fibers, to market and move toward reducing landfill waste.”

Jason Kibbey, CEO of Sustainable Apparel Coalition (SAC)
“Lenzing is a founding member of SAC and has proved its sustainability leadership by its valuable contributions to numerous working groups over the last five years. In particular, they helped shape the product modules of SAC’s Higg tools, such as the Material Sustainability Index (MSI), and the Design and Development Module, which will assist designers and developers in choosing sustainable alternatives. Lenzing is a thought leader in the sustainability assessment of apparel and home textiles and a great partner for collaboration to improve the state of the industry.”

Best Practice box 2/2

Approval procedures for the lyocell production plant in Lenzing

In 2011, Lenzing decided to construct a new production facility to produce TENCEL® branded fibers at the Lenzing site. Lenzing subjected the project to a comprehensive environmental impact assessment. This comprised a structured, administrative procedure in which all technical parameters and impacts of a new production facility on the environment were officially evaluated by the relevant authorities. The procedure also stipulates the involvement of all surrounding communities and neighboring residents.

Lenzing pursued the policy of implementing accompanying communication measures even before the voluntary environmental impact assessment took place. The mayors of all surrounding communities were directly and continuously informed about the planned investments by Lenzing. In addition, the population was provided with all necessary information by means of ads in local newspapers, direct mailings, local television programs and a folder. At a subsequent information event open to the general public, the Lenzing project team plus environmental experts and specialists responded to questions posed by local residents. In this way, most of the issues were dealt with positively before the beginning of the formal public hearing, which took place within the scope of the environmental impact assessment.

As a result, the environmental impact assessment was concluded positively within the specified time frame. No objections were raised against the approval granted by public authorities to go ahead with the project. Accordingly, construction of the lyocell production plant in Lenzing began without any time delays and was completed on schedule in July 2014.

Materiality *analysis*

Development of the new Lenzing sustainability strategy is a process that began as long ago as 2014.The most important aspect of the new sustainability strategy is the involvement of relevant stakeholder groups. The new sustainability strategy presented in this report is a result of this process and the materiality analysis conducted for the first time in 2015. The materiality matrix of Lenzing Group was developed in four stages:

- Identification of relevant topics
  - » Global trends
  - » Stakeholder concerns
  - » Employee concerns
  - » Life-cycle considerations
- Prioritization
  - » Management survey
  - » Customer survey
  - » Regular customer queries
- Integration
  - » Lenzing management and stakeholder responses
  - » Materiality matrix (draft)
- Materiality Matrix
  - » Internal validation
  - » Finalization

In the first step, around 50 global trends, such as population growth, deforestation, climate change, economic inequality, etc., were gathered from an analysis by the sustainability team on Societal, Technological and Resources (STaR mapping) of global society for the present and future. In this stage, the sustainability team also held a Sustainability Day in October 2014 with employees from different management levels, business functions, the Lenzing Management Board and external experts. Lenzing periodically interacts with different stakeholders on various topics. All these efforts have helped in finding a list of relevant topics.

For each relevant topic, a brief description (in terms of risks, opportunities, expectations, current performance) was developed. A survey with these descriptions was sent to employees from different management levels, business functions, and various Lenzing sites around the world. A separate survey was also sent to key customers in order to understand key challenges and expectations. Lenzing receives up to 120 monthly queries from customers concerning various sustainability topics. These inputs were used to prioritize the relevant topics.

In a third step, the internal and external prioritizations were combined to create a materiality matrix in order to formulate the main aspects for the sustainability strategy. In a fourth step, the materiality procedure was reviewed by Denkstatt, a sustainability consultancy in Austria, in order to create the final materiality matrix, which sets the scope of the sustainability strategy as well as the scope of this report.

The material topics identified in the analysis were found to be significant for Lenzing and its stakeholders due to the following reasons: Sustainable wood sourcing is the most significant topic for Lenzing because wood is the main raw material for making

Lenzing™ fibers. Responsible wood sourcing is important for many of Lenzing's stakeholders, such as brands and retail customers and NGOs due to growing pressure on forests from increasing use of wood for energy and material needs.

Many of the sustainability challenges can only be addressed with innovation, which is the core strength of the Lenzing Group. For example, downstream value chain impacts, such as water pollution in conventional dyeing, can be avoided by innovative products like Lenzing Modal® COLOR fibers. Many of Lenzing's customers have emphasized the importance of sustainable innovations for improving their footprint.

Energy use and climate change are a priority for Lenzing and its customers due to its far-reaching impacts on society and ecosystems. Pulp and fiber production are energy-intensive processes. Therefore, for example the Lenzing site (Austria) takes part in the CO_2-Emissions-Trading-Scheme (ETS) in Europe.

Water use and pollution are highly relevant for the textile value chains, due to the issue of increasing water scarcity in many parts of the world.

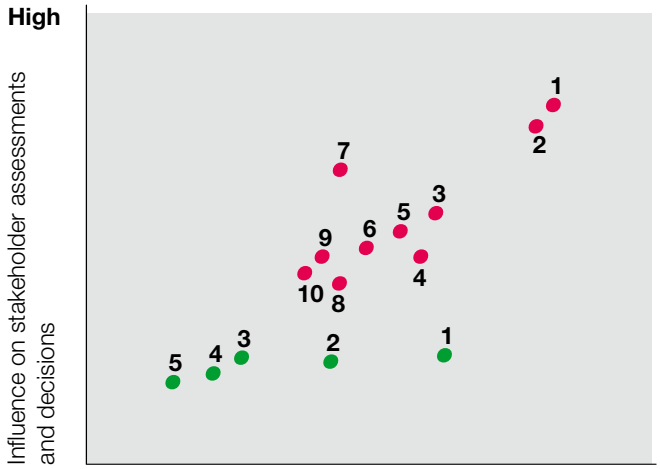
Similarly, the remaining material topics were defined as being important for Lenzing, for its customers and other societal stakeholders such as NGOs, governments and local communities.

Therefore, the Lenzing Group's sustainability strategy and vision address material topics identified in the analysis (Our focus areas, see page 16). They will guide future sustainability programs and activities of the Lenzing Group.

This report follows the value chain of Lenzing from sourcing to production to final products discussing material topics relating to Lenzing, and finally dealing with aspects relating to people.

Please refer to GRI Index, pages 80 to 84.

Materiality matrix fig. 2/8



Highly significant material aspects

1 Wood sourcing
2 Sustainable innovations
3 Energy use
4 Air emissions
5 Climate change
6 Water use & pollution
7 Chemicals/toxicity
8 Product responsibility
9 Sustainable materials (LCA)
10 Waste and circular economy

Significant aspects

1 Labor practices
2 Management practices in facilities
3 Value chain transparency
4 Human rights
5 Society

G4-18, G4-21, G4-27

Circular economy – *a systemic challenge*

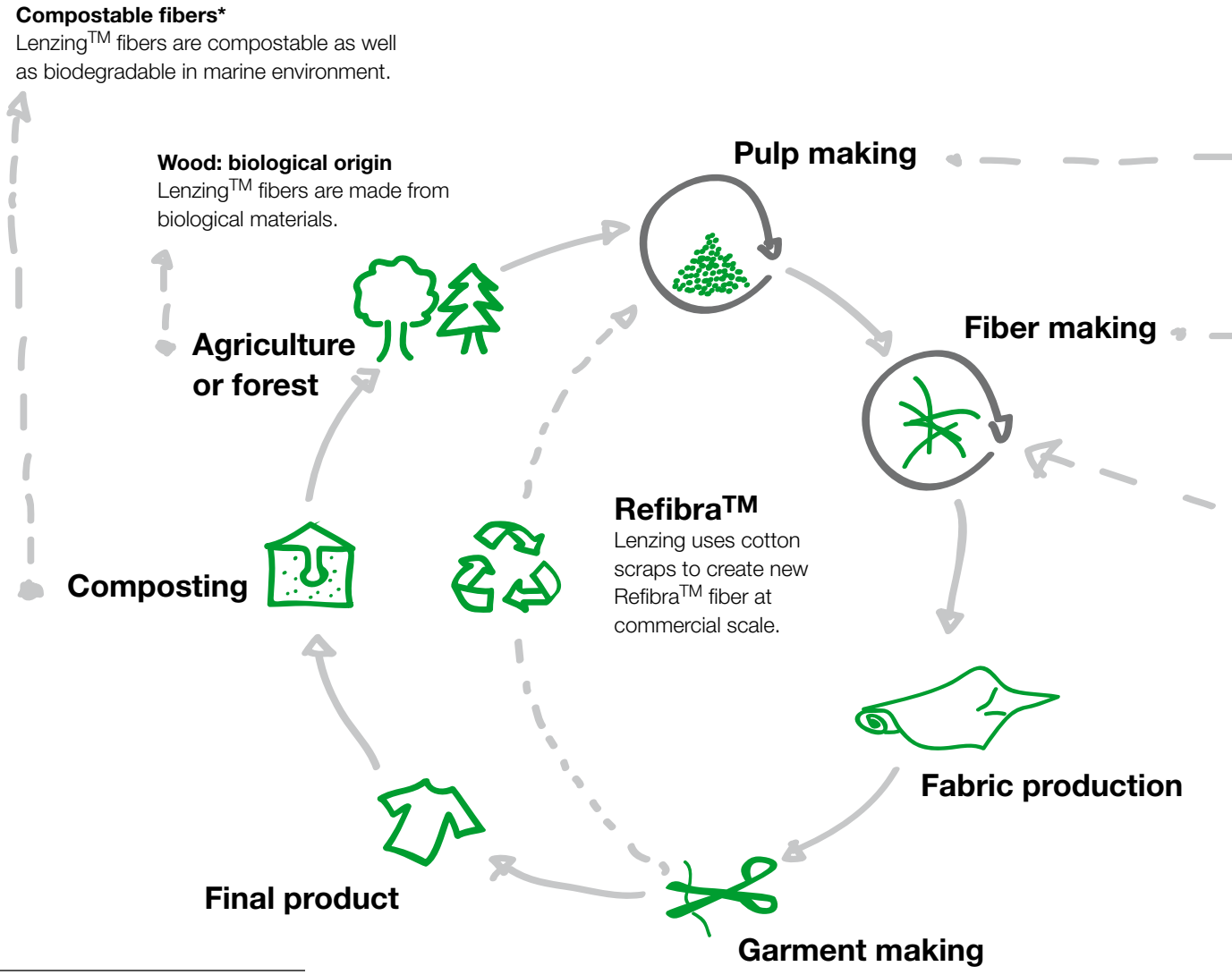
A circular economy is defined as one that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles.[2]

The main objective of circular economy is extending the life time of products and materials by keeping the resources in loops as much as possible by intelligent design and organization of material flows. This improves resource productivity.

According to a World Economic Forum report[3], it is estimated that the implementation of circular economy with current technologies could lead to material cost savings of USD 1 trillion per annum by 2025. This could create 100,000 new jobs for the next five years if companies focus on designing products and supply chains for circularity.

Lenzing - a circular economy leader

Lenzing Group exemplifies circular economy model fig. 2/9
This graphic describes the elements of circular economy and how Lenzing practices them.



*All Lenzing™ fibers are compostable and biodegradable in marine and soil conditions. However, the compostability of final products depends on the material composition (fiber blend) and processing in the value chain steps.

[2] See Ellen McArthur Foundation (EMF)
[3] World Economic Forum 2014

Lenzing enables circular economy through innovation

1. Lenzing offers fibers which are identifiable in final products. This innovation addresses transparency risks faced by brands/retailers and helps to fast-track circular economy.
2. Lenzing designs better products with higher resource efficiency. E.g. TENCEL® fibers, Refibra™ fibers, Lenzing Modal® COLOR fibers, etc.

Wood biorefinery: Extraction of biobased chemicals
Lenzing Group operates two commercial-scale biorefineries with 100% wood utilization (incl. energy use).

Closed-loop processes: Recover & reuse chemicals Lenzing's pioneering lyocell technology uses closed loops to recover and reuse the solvent > 99%.

Recovered energy

Incineration with energy recovery
Lenzing site collaborates with a local waste manangement company to recover energy from non-recyclable waste.

Municipal solid waste (MSW) from communities around the Lenzing site

3 Responsible Sourcing

Wood and pulp are the most important raw materials for the production of Lenzing™ fibers. This chapter describes the Lenzing Group's approach to purchasing in general and, in particular, the responsible sourcing of wood and dissolving wood pulp.

Sustainable procurement management

As a world market leader, Lenzing actively takes responsibility for the socio-economic environment and nature. Lenzing cooperates with partners who take responsibility for their employees, use environmentally friendly production processes and develop their business in a sustainable manner.

The Lenzing purchasing organization operates in accordance with the ethical, ecological, social and economic principles described in the company's Code of Business Conduct (CoBC). Lenzing minimizes purchasing-specific risks such as major price fluctuations and supply bottlenecks through reliable, long-term supply relationships and active supplier management. Identifying compliance-relevant risks and taking measures to minimize those risks are handled and supported through Lenzing's compliance management system CMS.

Apart from taking account of economic criteria, the selection and evaluation of suppliers is also based on environmental, social, and governance standards (ESG). The Lenzing Group puts a strong focus on its corporate values as part of its new sCore TEN strategy. One guiding principle in this context is that the way business is done is as important as the business itself. In 2016, the Lenzing Group updated its Global Code of Business Conduct (CoBC) and its Supplier Code of Conduct attaching greater importance to compliant and sustainable business conduct. Lenzing's ESG standards are defined by its Supplier Code of Conduct, requiring suppliers to adhere to them and to the capital market regulations.

Global Supplier Code of Conduct

The Global Supplier Code of Conduct outlines Lenzing's expectations for supplier conduct with regard to safety, health, labor and human rights, environmental protection, ethics and management practices. Lenzing's suppliers are required to provide safe working conditions, treat workers with respect, act fairly and ethically and use environmentally responsible practices wherever they make products or perform services on behalf of the Lenzing Group. By setting strict requirements, Lenzing's Global Supplier Code of Conduct helps promote an environmentally and socially conscious supply chain.

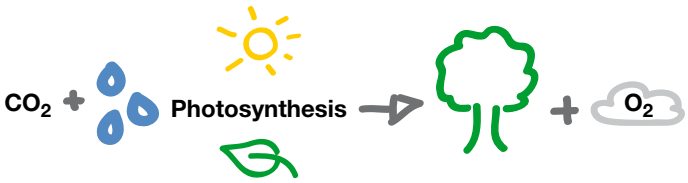
Supplier management

In the case of wood and pulp procurement Lenzing conducts on-site audits based on FSC® and PEFC™ criteria. Strategic suppliers are evaluated periodically. Through cooperation with EcoVadis (an external consulting company with the core competence of sustainability), Lenzing is seeking to standardize assessments and auditing of suppliers.

Wood & pulp

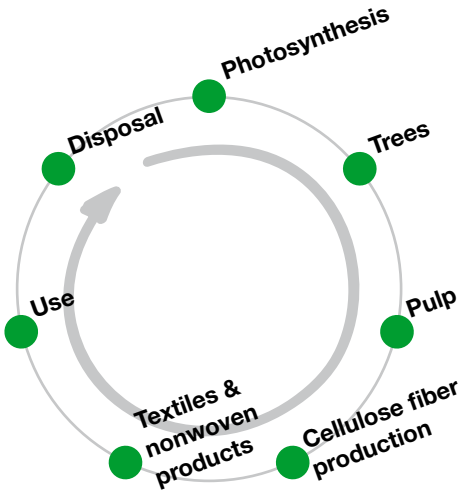
Lenzing™ fibers are part of a closed natural material cycle. It starts with the photosynthesis, the biochemical process that produces the organic building blocks for all life on earth from carbon dioxide and water by utilizing energy from the sun. One of its major products is the most important biological construction material, cellulose.

The principle of photosynthesis fig. 3/1



This biopolymer is used by the Lenzing Group for fiber production, and ultimately at the end of their useful lives the fibers can biodegrade to their original compounds.

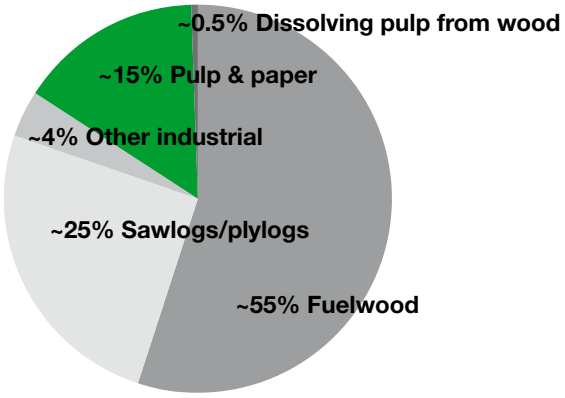
The cellulose cycle fig. 3/2



Global wood harvest and use, dissolving wood pulp

Lenzing's fiber production is mainly based on cellulose from wood pulp. Each year approximately 180 million tons of pulp are produced, constituting only a small proportion of global cellulose resources, which are estimated to be approximately 1,500 billion tons per year[4]. Estimated proportions of wood utilization are shown in figure 3/3. More than half the world's round wood harvest is used directly for energy. This proportion is increasing, driven by population growth with rising fuelwood requirements, as well as increased demand for renewable energy also in industrial countries.

Global wood market
Dissolving wood pulp uses currently about 0.5% of the global wood harvested (Lenzing estimates based partly on FAO statistics). fig. 3/3



Industrial wood accounts for about 45 percent of round wood. Around 15 percent of global wood is processed into pulp. The lion's share of industrial pulp is destined for the paper industry. The fiber industry accounts for 2-3 percent of total pulp production[5] or 0.5 percent of global wood use. Considering the available cellulose resources, dissolving wood pulp can be sourced in a sustainable way, and has a high potential for sustainable growth. Future growth can be sustained by growing forest resources in some parts of the world. However, the Lenzing Group is aware of deforestation issues and committed to protecting existing ancient and endangered forests through its wood and pulp policy, certification, and forest conservation solutions.

[4] Klemm et al, 2005
[5] Lenzing estimates, based partly on FAO statistics

Sustainability aspects of wood sourcing

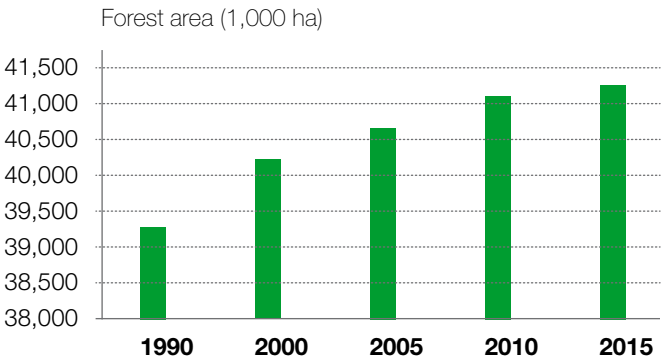
The total worldwide forest area amounted to 39.99 million square kilometers in 2015.[6] This area declined by 1.29 million square kilometers in the period 1990 - 2015. Deforestation primarily occured in tropical countries as a result of illegal logging, whereas forest areas in Europe, North America and China actually expanded.

Sustainable and responsible forest use, backed by various certifications, plays a crucial role in forest conservation.

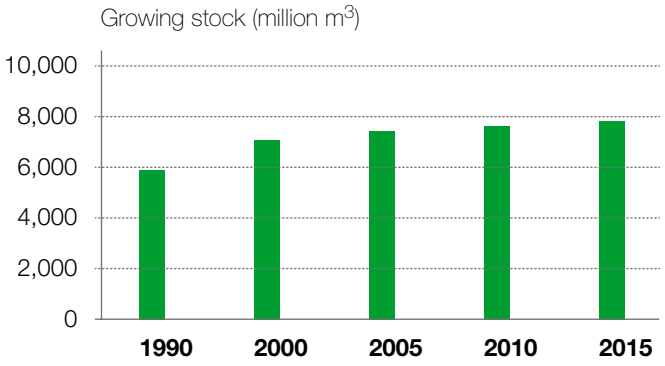
Following centuries of forest overexploitation in Europe, the silvicultural principle of sustainability was developed 300 years ago by German foresters to ensure an adequate supply of wood[9]. This means trees are only felled at the rate at which they can grow back. At present, European forests are growing steadily in size. Strict forest laws are enforced in Central Europe, safeguarding the sustainability aspects.

A study conducted by the University of Natural Resources and Life Sciences in Vienna (BOKU) documents this development with indicators for the years 1990 to 2015, based on FAO forest statistics[7]. Approximately 42 percent of the land area of the EU-28 consists of forested land. The comparable figure for Austria is about 48 percent[8]. Forest areas in Austria alone grew in size by more than 80.000 hectares during this period.[10] Forested areas in the main countries from which Lenzing sources wood for its own pulp mills increased in size by 5.1 percent and growing stock increased by 33 percent.Timber harvesting in these countries accounts for approx. 65-70 percent of the annual net growth (net annual increment, NAI), which equals two-thirds of the sustainably available potential.

Forest area in the Lenzing Group's wood sourcing countries fig. 3/4



Growing stock in the Lenzing Group's wood sourcing countries (except Poland – no data for 1990) fig. 3/5



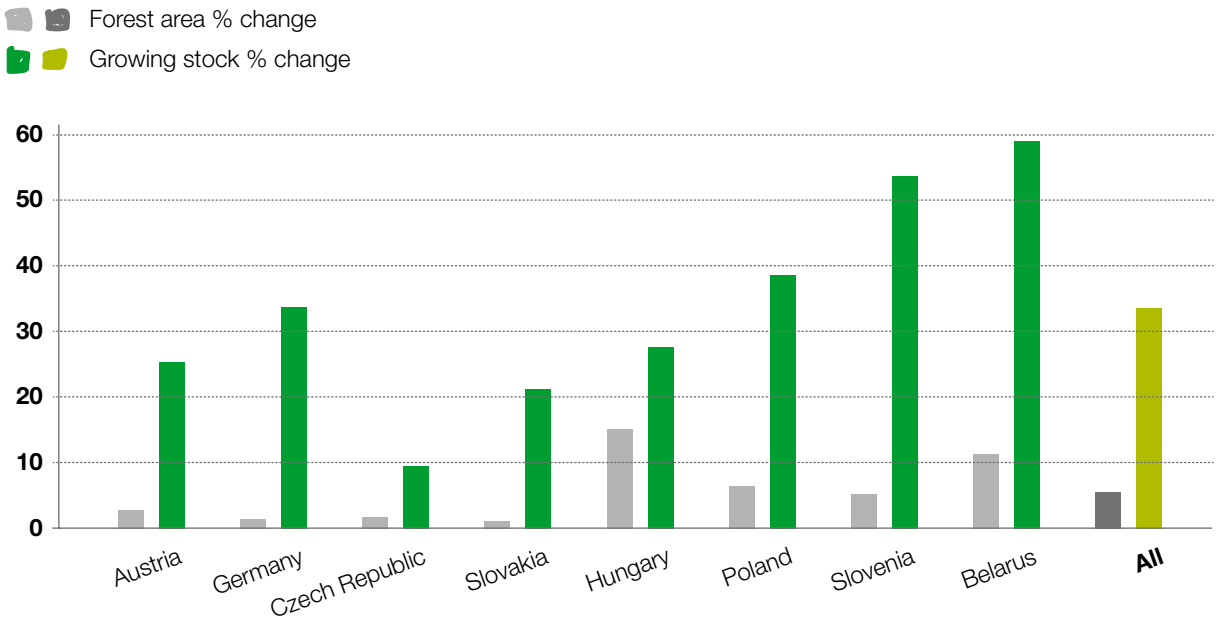
European forests play a key role in the stability of ecosystems. In addition to protecting soil from erosion, forests regulate the local climate and water supply, and sustain biodiversity. Moreover, they provide a service for society as recreational areas and a basis for tourism in many regions. All these functions can be provided in parallel to controlled wood extraction.

To describe the links between the natural environment, e.g., forests, economic activities, and society, the concept of ecosystem services[11] is increasingly being used. Multi-stakeholder initiatives, such as the Natural Capital Coalition, industries such as the Kering Group in their Environmental Profit and Loss Accounting, and governments[12] promote the concept as a holistic view of the dependencies. Info box 3/1 provides an overview of the functions of forest ecosystems associated with the provisioning of wood.

Sustainability indicators for forests and plantations used in wood production beyond the classical measures based on volumes and forest area, as described, are an increasingly significant issue in the discussion concerning sustainable fibers. Consequently, Lenzing supports a scientific study conducted by the WOOD Kplus Competence Center (see Info box 3/2 page 34).

[6] Food and Agriculture Organization of the United Nations: Global Forest Resources Assessment 2015
[7] Schwarzbauer & Wittmann 2016
[8] Forest Europe 2016a. State of Europe´s Forest 2015. Ministerial Conference on the Protection of Forests in Europe, June 2016
[9] Von Carlowitz, 1713
[10] Schwarzbauer & Wittmann 2016
[11] World Resources Institute, 2005
[12] Forest Europe 2016b, Work program

Wood sourcing countries for the Lenzing Group*
Development of forest sustainability indicators, 1990-2015.
"All" is a weighted average of the country data. fig. 3/6



* Source: Schwarzbauer & Wittmann 2016, based on FAO statistics "Growing stock-Poland": 2000-2015. "Growing stock –All" without Poland - no data for 1990

Info box 3/1

Functions of forest ecosystems (adapted from: World Resources Institute, 2005)

Ecosystem services

Supporting Nutrient recycling (CO_2, oxygen, nitrogen, etc.) Soil formation Primary production	**Provisioning** Wood • Fresh Water • Food • Air cleaning • Hunting
	Regulating Climate regulation • Streamflow regulation and flood protection • Soil erosion protection • Avalanche and mudflow protection • Stone guard • Noise protection • Wind protection
	Cultural Aesthetic • Spiritual • Educational • Recreational (traditional hiking, mountain biking, cross country skiing, mushroom picking, berry collecting, relaxation and stress relief, etc.)

Biodiversity
Habitat for wildlife, insects and plants

Info box 3/2

Competence Center "WOOD Kplus"
Many Austrian companies and scientific bodies that are active in the forest and wood sector have bundled their strengths in the Kompetenz-zentrum Holz. It is a leading research institute in the area of wood and wood-related renewable resources in Europe. Its core competences are materials research and process technology along the entire value chain – from raw materials to finished products. It develops methods and basic principles and performs applied research on the economy-science interface.

Strategic dissertation "Sustainability in Wood Sourcing"
In recent decades, society's opinion about and demands on the forest-wood-sector have changed significantly. Growing environmental awareness and public interest in sustainability evoke new challenges for the sustainability assessment of the supply chain in the global forest-wood sector.

The project supported by Lenzing aims to achieve an in-depth understanding of the dimensions of sustainability (ecology, economy, society) of global production systems of lignocellulosic raw materials. The scope encompasses plantations, mainly in the southern hemisphere, as well as semi-natural forests mainly in the northern hemisphere. Current methodological developments in the dynamic field of sustainability assessments will be considered. In order to anticipate methodological developments, special focus lies on the issues of "land use", sustainability communication (sustainability reporting, environmental product declaration, labelling) and evaluation of the relevance of indicator-sets applied due to legal regulations.

Climate protection
Forestry is an important area of action for climate protection. Every tree absorbs carbon dioxide from the atmosphere, converts it into organic polymers and stores it for the long term. Accordingly, not only forests, but also forest-derived products, such as buildings and furniture made of wood, as well as textile products in extended use, are important carbon reservoirs that make a significant contribution to reducing the CO_2 content in the atmosphere. Several studies in Central Europe concluded that managed (semi-natural) forests have a greater impact on climate protection than natural forests without wood utilization[13,14]. The main contribution here, apart from carbon storage, is the better carbon balance of wood-based materials and energy compared to other natural sources, such as crude oil or coal for the same products and services.

Water resources
The impact of forests and wood on water resources is a frequently asked question. Water is a precious resource and its scarcity in many parts of the world is a threat. Lenzing only uses wood derived from sustainably managed semi-natural forests or plantations for its fiber production. Natural and semi-natural forests either have no negative impact or only a minimal negative impact on the natural water supply. They are part of the natural hydrological cycle and, as such, do not consume water.[15] On the contrary, forests stabilize streamflow, thereby providing protection from floods and assuring water supplies in times of low rainfall.

Regarding the wood from eucalyptus plantations, Lenzing recognizes that there is concern about the ground water use of eucalyptus plantations. Eucalyptus trees utilize water for building up biomass much more efficiently than other cultivated plants[16].The plantations need no artificial irrigation, except for the nurseries[17].

In South Africa, numerous studies addressing the water use of plantations are well documented, and further afforestation is limited by legislative restrictions[18]. Plantations in South Africa are only operated in regions with sufficient natural moisture to enable growth of the plants.

Forests, plantations, and biodiversity
Plantations reduce the deforestation pressure on natural (primary) forest areas by providing wood as an alternative to sourcing it from natural forests. Plantations with FSC® certification must fulfil management criteria to protect biodiversity, as documented, e.g., in the Plantations Review process[19]. The management practices often include a certain percentage of set-aside conservation areas[20].

[13] Taverna et al., 2007
[14] Braun et al., 2016
[15] Sutterlüty et al., 2016
[16] Davidson, 1993
[17] Sappi, 2016
[18] Albaugh et al., 2013
[19] https://ic.fsc.org/en/certification/processes-and-reviews/archived-processes/plantations-review
[20] https://www.sappi.com/sappi-forests

For semi-natural forests in Central Europe, forestry laws have long since prioritized biodiversity protection in forest management, in order to balance the demand for wood sourcing with nature conservation. The study by Paillet et al.[21], a comprehensive review of 49 papers (meta-analysis) on species richness comparing the differences between managed and unmanaged forests in Europe is probably the main authority on this issue. The main conclusion is "a small, marginally significant effect of forest management on total species richness. Species richness tended to be higher in unmanaged than in managed forests (+6.8%), but the response varied widely among taxonomic groups." (p. 108)

Potential conflicts between forest management and nature protection have been studied in some regions in a very long-term view, comparing managed forests and areas set aside for conservation without wood utilization[22]. In the region of Thuringia in Germany, the formal records on species richness go back 250 years. There, the biodiversity in managed forests was shown to be higher than in unmanaged forests. For endangered species with special habitat requirements, protection measures other than non-management are required.

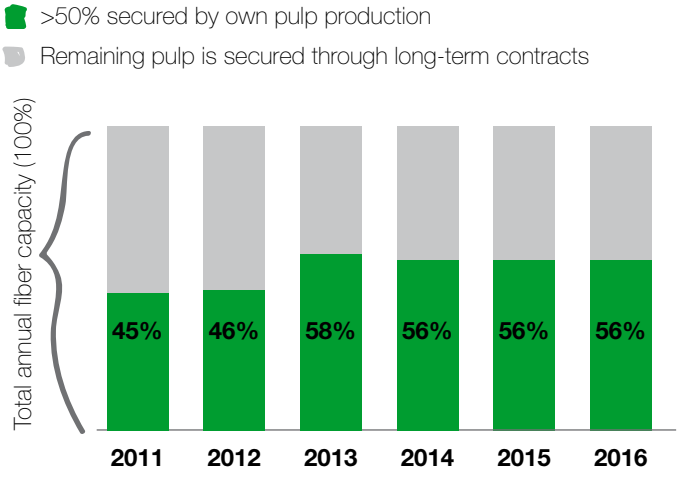
Another example study describes beneficial impacts of sustainable forest management on the biodiversity in Northern Germany[23].

Dissolving wood pulp in the Lenzing Group

Lenzing Group produces more than half the pulp it requires at its sites in Lenzing (Austria) and Paskov (Czech Republic). Sufficient quantities of wood are purchased for this purpose. In addition to its own pulp production, Lenzing procures pulp on the global market, mostly within the framework of long-term supply contracts.

One of the core objectives of the sCore TEN strategy is to increase the Group's own pulp production volumes. Lenzing invested in debottlenecking in its pulp facilities as a first step to increase its pulp backward integration to around 75 percent of its pulp needs by 2020.

Own pulp production as percentage of annual fiber capacity
Basis: Pulp produced by Lenzing Group fig. 3/7



Lenzing attaches great importance to maintaining and establishing long-term, transparent business partnerships with its wood and pulp suppliers. Lenzing strives to do business personally and directly with forest owners and pulp producers.

Lenzing's Wood and Pulp Policy

In its Wood and Pulp Policy, Lenzing is committed to procuring wood and pulp exclusively from non-controversial sources.

Controversial sources include wood which has been harvested:
- Illegally,
- from forests of high conservation value, including ancient and endangered forests, and endangered species habitats,
- from plantations established after 1994 through significant conversion of natural forests or converted to non-forest use,
- from forests or plantations growing genetically modified trees,
- in violation of traditional, community, and/or civil rights,
- and in violation of any of the ILO Core Conventions as defined in the ILO Declaration on Fundamental Principles and Rights at Work.

In order to protect and preserve ecosystems and biodiversity in the world's remaining ancient and endangered forests, Lenzing is committed to avoiding the use of wood and dissolving pulp from regions such as:
- Canadian and Russian Boreal forests
- Coastal temperate rainforests
- Tropical forests and peatlands of Indonesia
- The Amazon
- West Africa

In case Lenzing sources wood and pulp containing such wood from the above referenced regions, Lenzing strives (i) that at a minimum it be certified by the Forest Stewardship Council® (FSC®) and (ii) that science-based conservation planning is supported for this area and (iii) to support conservation solutions that protect ancient and endangered forests.

Regular risk-assessments, audits and on-site visits as well as independent third-party certification of the sustainable forest management programs ensure compliance with Lenzing's Wood and Pulp Sourcing Policy.

If Lenzing discovers that it sources wood or pulp from controversial sources,it will first engage the supplier to encourage consistent practices with Lenzing's wood and pulp policy. If the response is unsatisfactory, the supplier will be eliminated from Lenzing's supply chain with a reasonable lead time.

[21] Paillet et al. 2010
[22] Schulze and Ammer, 2015
[23] Ministeries of Agriculture of Brandenburg and Mecklenburg-Vorpommern, 2010

Canopy[24] – dialogue with brands and NGOs

Raw material security, and particularly the responsible sourcing and purchasing of the key raw materials in cellulose fiber production, wood and pulp, is one of Lenzing's strategic focus areas for sustainability. Consequently, collaboration with the non-profit environmental organization Canopy, which leads an initiative with over 90 global fashion, designer, and retail brands[25] to protect the world's ancient and endangered forests from ending up in textiles, constitutes a cornerstone of Lenzing Group stakeholder activities.

Lenzing began its dialogue with Canopy in 2012 and fully supports the CanopyStyle initiative and efforts to drive and evaluate sustainable sourcing to protect ancient and endangered forests.

Lenzing follows a clear roadmap, and as a leader in the industry, Lenzing strives to be a role model motivating the industry to change for the better.

The Lenzing roadmap includes the following key steps:

- Continuing with Lenzing's implemented policy to avoid sourcing from ancient and endangered forests and other controversial sources
- Preferring FSC® certified pulp and wood
- Opening up books for CanopyStyle audits and Rainforest Alliance verifications
- Creating conservation legacies and helping to mitigate climate change
- Innovating and using alternative cellulose feedstock-based fibers (recycling, agricultural residues)
- Showing leadership to encourage peers in the industry
- Developing verification and tracking systems

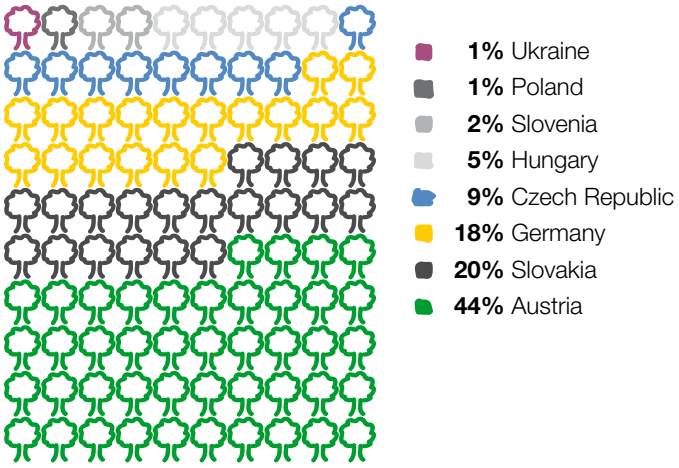
The Lenzing Group was attributed the most positive ranking in Canopy's recent "Hot Button" Report[26], which tracked progress on these key steps by the world's largest producers of man-made cellulosic fibers. Canopy commended Lenzing for its new Refibra™ fiber based on an alternative cellulose source, as well as having initiated the CanopyStyle audits.

[24] Canopy Planet Society
[25] Status: 27. Feb. 2017
[26] Canopy 2016, http://www.canopystyle.org/assets/The-Hot-Button-Issue-Canopy-Viscose-Report.pdf

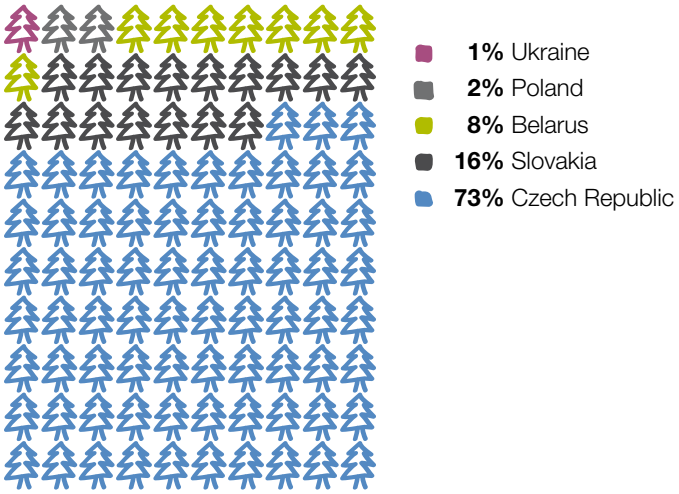
Responsible wood sourcing in the Lenzing Group

The wood processed in Lenzing (Austria) and Paskov (Czech Republic) is procured by a team of experts who are educated and well-trained foresters, and have reliable long-term relationships with their suppliers. Currently, about 700 suppliers deliver to Lenzing sites. As well as a large number of private owners, important sources include the state forests of Austria, Germany, Czech Republic, and Slovakia, which have strong political commitments to sustainable management of their forests, and supply about 40 percent of the wood to the Lenzing Group. Sustainability criteria have long since been crucial for the selection of suppliers, and are formalized in each purchasing contract. Lenzing's sourcing policy has been agreed upon by all suppliers in personal communication. Regular formal audits are conducted, but even more important is the ongoing, day-to-day informal, personal contact between Lenzing's procurement team and suppliers. In case of severe findings regarding sustainability aspects, a contract with a supplier can be terminated; this has been necessary in some cases where the issues were not remedied.

Wood sourcing for Lenzing site,
beech and spruce, by country, average 2014-2016 fig. 3/8



Wood sourcing for Paskov site,
spruce roundwood and chips, by country, average 2014-2016 fig. 3/9



In order to ensure short transport distances and short delivery times, almost all the wood required originates either from the country where the pulp is produced or neighboring countries wherever possible. The proportion of regional wood supply is 98 percent for the Lenzing site and 94 percent for the Paskov site. Strict European forest regulations and reliable enforcement of these regulations and laws also guarantee the sustainability of Lenzing's supply partners. **G4-EC9**

Lenzing's wood procurement management system ensures that all wood is sourced from demonstrably legal and sustainably managed sources. In order to demonstrate that wood sourcing complies with Lenzing's high standards, the company relies on FSC® and PEFC™ certification systems for verification purposes. Additional verification is conducted within the framework of the CanopyStyle Initiative by Rainforest Alliance. More than 99 percent of wood and pulp used by the Lenzing Group is certified by FSC® and PEFC™ or inspected in line with these standards.

As Lenzing is a company driven by innovation, the further development and expansion of its raw material base is an important part of ongoing activities. This includes the raw material wood as well as development and investigation of alternative, non-wood based, cellulose sources. Within the scope of these activities, Lenzing reserves the right to use and investigate small amounts of raw material, that is submitted to a due diligence procedure largely following FSC® guidelines, although it may not yet be fully certified. This proportion of pulp is described as "non-certified" in the "Certification status" figure 3/10.

In Central Europe, the Lenzing Group needs to procure wood other than that certified to FSC® or PEFC™. This proportion of wood is shown in the "Certification status figure as PEFC™ controlled source". Since forestry operations in Central Europe are generally small scale, some small forest owners harvesting wood as an additional income do not participate in a certification process. However, experience shows that their ownership of the forest is for the long-term with a very cautious harvesting behavior. Consequently Lenzing also purchases reliable quantities of wood from owners of small forests.

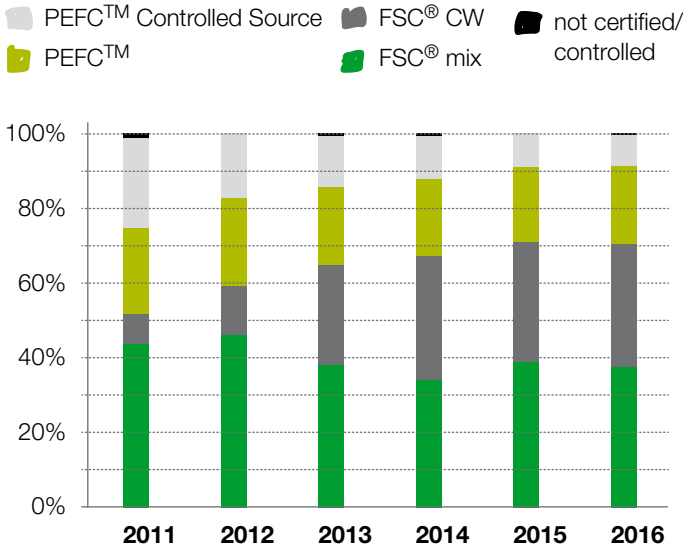
The Lenzing site uses mainly beech wood plus small amounts of spruce, and other hardwoods, whereas the Paskov plant utilizes spruce wood. Lenzing primarily makes use of timber generated by thinning which is unsuitable for high-grade products, for example in the furniture industry.

In wood-sourcing countries, the percentage of broadleaf forest, especially beech, is increasing[27], as forests are being returned to a more natural mix. The area devoted to spruce cultivation is decreasing, although growing stocks are still increasing in many countries due to low felling rates. Utilization of beech wood to manufacture fibers provides relatively high value creation as compared to fuelwood use, so it is an important factor for the regeneration of forests with more deciduous species. This transition is also crucial for adapting forest ecosystems in Central Europe to climate change[28].

Certification in the Lenzing Group

The certification status of all wood input into Lenzing's production is shown in figure 3/10. The relative increase in the FSC® Controlled Wood category is due the increase in internal pulp volume from the Biocel Paskov mill. This has a lower certification level due to wood being sourced from Central Europe where FSC® certification of forests is not widespread, but PEFC™ is used based on strict and strictly enforced national forestry laws. Note that fiber production increased by 30 percent between 2011 and 2016.

Certification status of total wood input at Lenzing production sites, direct and by purchased pulp, (2011-2016)
Basis: Pulp volumes used by Lenzing for fiber production
Non-certified pulp was used for R&D purposes. G4-EN32
fig. 3/10



Please refer to page 38 for explanations on certifications.

[27] Schwarzbauer & Wittmann, 2016
[28] Niedermair et al., 2007

Certification status of wood – explanations of above figure table 3/1

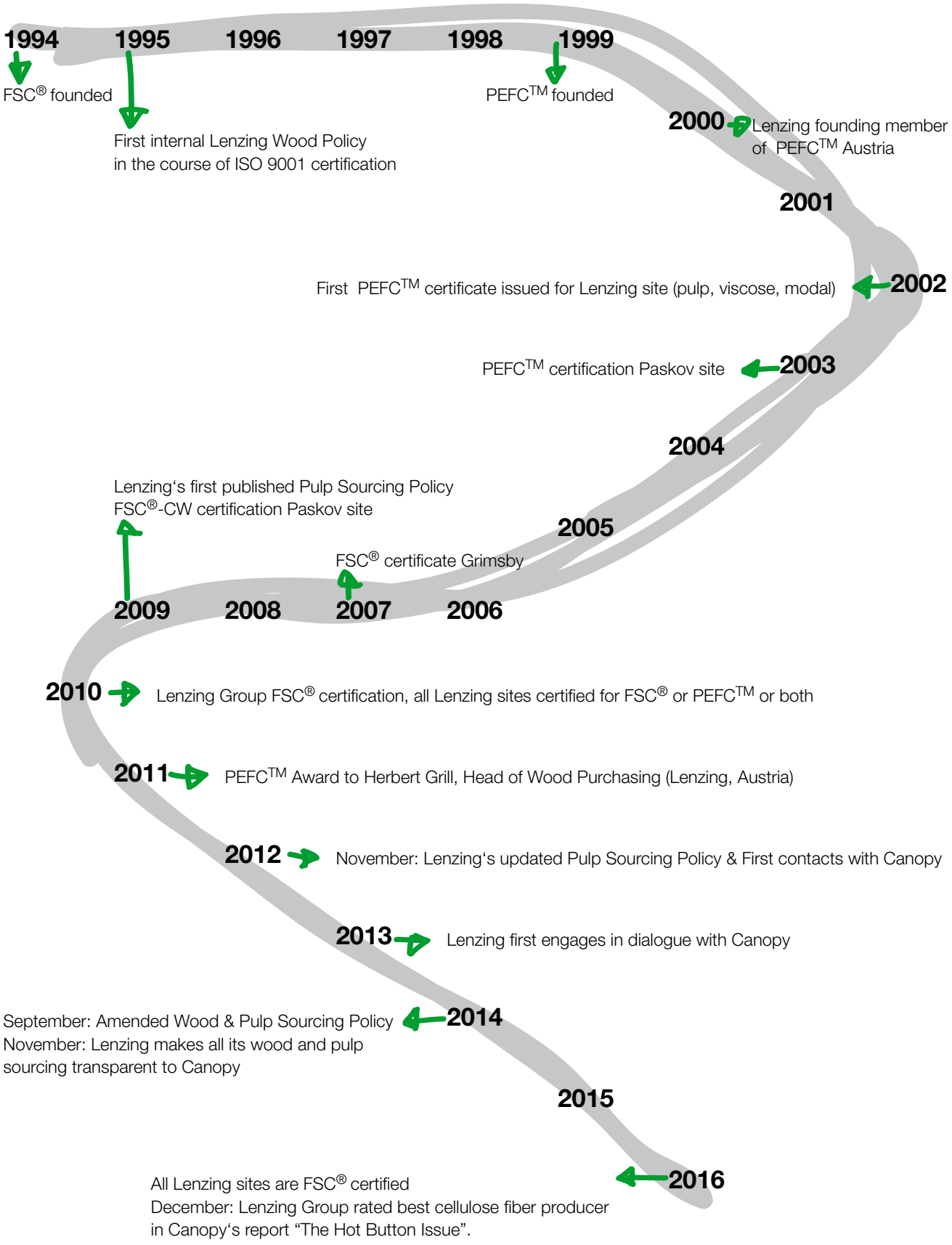
Certification status	Description
FSC® mix	Certified material, minimum 70%, which is mixed with FSC® controlled wood material according to the credit or percentage system (see also FSC.org for details)
FSC® Controlled Wood	Controlled wood sources meet the minimum requirements accepted by FSC® or PEFC™. These include implemented due diligence systems comprising risk assessments and on-site audits based on the respective wood certificate standard
PEFC™	PEFC™ certified
PEFC™ Controlled Source	Controlled wood sources meet the minimum requirements accepted by FSC® or PEFC™. These include implemented due diligence systems comprising risk assessments and on-site audits based on the respective wood certificate standard
Not certified / controlled	Used for R&D purposes with a due diligence process. Details see page 37, 3rd paragraph.

The Lenzing Group has been verifiably committed to the certification of its raw material sources for more than 20 years. Lenzing's first wood procurement policy dates back to 1995. Lenzing was a founding member of PEFC™ Austria. The company boasted FSC® Group certification as long ago as 2010. As of 2016, all Lenzing Group sites are certified in accordance with the FSC® Chain of Custody standard.

Certification status of Lenzing operations – Chain of Custody
Status: End of year 2016 table 3/2

Site	Country	Main Products	FSC® CoC Certification	PEFC™ CoC Certification
Lenzing Austria	Austria	Lenzing Viscose® Lenzing Modal® Lenzing FR®	✓	✓
Paskov	Czech Republic	Dissolving wood pulp	✓	✓
Purwakarta	Indonesia	Lenzing Viscose®	✓	✗
Nanjing	China	Lenzing Viscose®	✓	✗
Heiligenkreuz	Austria	TENCEL®	✓	✗
Grimsby	United Kingdom	TENCEL®	✓	✗
Mobile	USA	TENCEL®	✓	✗
Lenzing TENCEL® Austria	Austria	TENCEL®	✓	✓

20 years of wood and pulp certification fig. 3/11



Pulp supply in the Lenzing Group

Fact sheet - pulp, own production and market pulp, covering 98 percent of supply 2014-2016 table 3/3

Regions	Europe	South Africa	North America
Forest type according to FAO[29]	Semi-natural forest	Plantation	Semi-natural forest
Wood species (most important)	Beech, spruce, birch, aspen	Eucalyptus sp., Acacia sp.	Southern pine, maple, and aspen
Bleaching process	Totally chlorine free (TCF), Elemental chlorine free (ECF)	ECF	ECF
Forest certificates	FSC®, PEFC™		
System certificates	ISO 9001, ISO 14001, OSHAS 18001		

Shaping of cellulose pulp into fibers requires a special quality of pulp, referred to as dissolving wood pulp, which has to meet different requirements to those for paper pulp. Among others, dissolving wood pulp must have a higher pure cellulose content of over 90 percent, lower impurity levels, be bleached to a higher level of brightness, and have a more uniform molecular weight distribution. Two main technologies are employed for dissolving wood pulp: the Prehydrolysis Kraft (PHK) process and the Sulfite process.

The Lenzing Group's strategic objective is to increase its pulp supply from own operations or strategic cooperations with suppliers from 56 percent to 75 percent of its requirements (figure 3/7). The raw material supply of Lenzing's non-integrated fiber sites is additionally secured through long-term supply contracts and procurement on the market. A dedicated subsidiary of the Lenzing Group, Pulp Trading Ges.m.b.h., manages purchasing of the pulp for the entire group, ensuring transparency and consistency with the relevant policies.

The recently introduced EcoVadis[30] system which independently evaluates suppliers is also applied to Lenzing's external pulp sources.

The market for dissolving wood pulp only consists of a limited number of producers and Lenzing only purchases from a very small number of these with whom it has long-standing relationships. Most importantly, cooperation with some of these suppliers has been ongoing for decades.

The main market pulp production regions are Europe, North America, South America, China and South Africa.

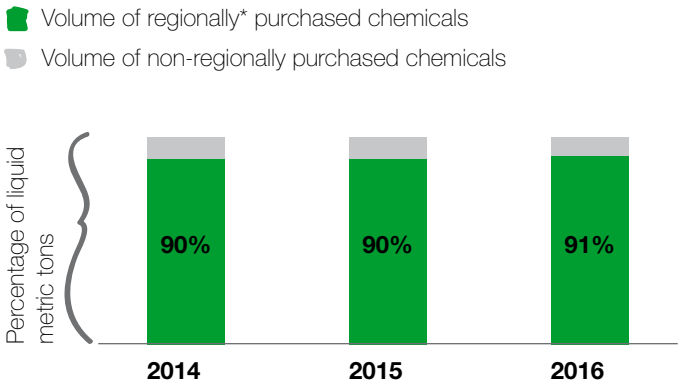
Lenzing's market pulp is mainly produced from eucalyptus, but also acacia, birch, southern pine, maple, and aspen.

Chemical sourcing

In general, the chemicals used can be divided into two main categories: bulk chemicals, which are mainly sourced regionally, and "special" or rare chemicals that are sourced globally. The most important chemicals used – amounting to approx. 85 percent of the overall purchase volume – are: caustic soda (NaOH), carbon disulfide (CS_2), sulfuric acid (H_2SO_4), sulfur (S), sulfur dioxide (SO_2), softening agents, flame retardants, modifiers, N-Methylmorpholine N-oxide (NMMO), titanium dioxide (TiO_2), zinc sulfate ($ZnSO_4$). **G4-EN1**

Around 90 percent of the chemicals are sourced regionally on group level. Regionally means from the same country or from neighboring countries. **G4-EC9**

Regionality of purchased chemicals G4-EC9 fig. 3/12



* regionally: home country + neighboring countries

[29] FAO 2003 (Carle and Holmgren 2003)
[30] EcoVadis supplier assessment; see "Chemical sourcing"

Chemical suppliers

All of the Lenzing Group's suppliers must comply with the Lenzing Supplier Code of Conduct. This was implemented in 2012 and has applied to every order since, so 100 percent of suppliers are covered. A new Supplier Code of Conduct was developed in 2016 and will be implemented in 2017, which will apply to all suppliers when their contracts are renewed in future. 80 percent of all purchased chemicals are sourced from fewer than 30 suppliers. The relationship with these suppliers is characterized by high stability. **G4-13**

All suppliers are evaluated with regard to sustainability in the production chain. In addition to regular audits, Lenzing conducts specific evaluations of new as well as established suppliers with regard to sustainability and compliance with environmental and safety standards. With the support of external experts, suppliers are interviewed on a regular basis and evaluated with regard to environmental and safety aspects. Subsequently, a final assessment is conducted, which influences the overall supplier assessment and constitutes a major criterion for sustainable cooperation with suppliers.

In 2016, the Lenzing Group started to implement the EcoVadis supplier evaluation tool. This will be the main tool for supplier evaluation as regards sustainability performance and will improve transparency for all supplier assessments. Furthermore, new criteria for assessing the environmental and sustainability parameters of suppliers will be applied in 2017.

In past supplier assessments, no violations of environmental, social, or ethical standards have been found that could have led to cancellation of existing supplier contracts. **G4-EN32**

Caustic soda purchasing

Different processes exist for producing caustic soda (NaOH) – membrane, diaphragm, and mercury technology. According to EU guidelines, production facilities employing mercury technology must be closed by the end of 2017. In anticipation of the upcoming regulation, Lenzing already purchases its caustic soda requirements in Europe almost exclusively from facilities employing membrane technology, due to strategic and sustainability considerations.

Logistics

To further optimize Lenzing's logistics performance, the company is focusing on increasing vehicle utilization by optimizing the packaging size of its products and reducing the number of empty transport journeys by triangulating inbound and outbound logistics. Lenzing is also switching its logistics away from traditional road transport to rail or short-sea freight, as well as to natural gas trucks or biofuel. **G4-EN30**

From life cycle assessment, it is evident that logistics contribute to a small fraction of emissions compared to the fiber production of the whole Lenzing Group. However, to mitigate climate change impacts, Lenzing takes every opportunity to further improve its performance.

Delivery vehicles that travel empty or not fully loaded are inefficient and costly, so considerable effort is invested in optimizing vehicle capacity utilization. Although the maximum load of a truck or container can be limited by the maximum weight or the maximum available volume, even a one percent improvement in load utilization would reduce CO_2 emissions by an estimated 2,000 tons per annum. **G4-EN19**

Lenzing's "Always Full truck" approach is key to improving environmental performance in transportation. The company continues to optimize loads and route planning, combining inbound and outbound trucks to maximize backhauling. **G4-EN19**

A standard reporting process is being rolled out, which will allow Lenzing to track vehicle utilization in every transport team across the Group by the end of 2017. For example, in 2015, Lenzing applied its load optimization concept in its pulp and fiber manufacturing sites and avoided more than 600 trips with intermodal loads, over 100,000 kilometers of road travel, and more than 1,500 tons of CO_2 emissions. **G4-EN19, G4-EN30**

For the transportation of chemicals, Lenzing has invested in special safety railway cars for transporting CS_2 for the Lenzing site. In cooperation with the supplier, Lenzing and Paskov have implemented special railway cars for transporting SO_2. Although this results in higher overhead costs, these wagons have been established as standard in order to meet the strictest safety requirements and minimize the risk of chemical spillages and environmental damage.

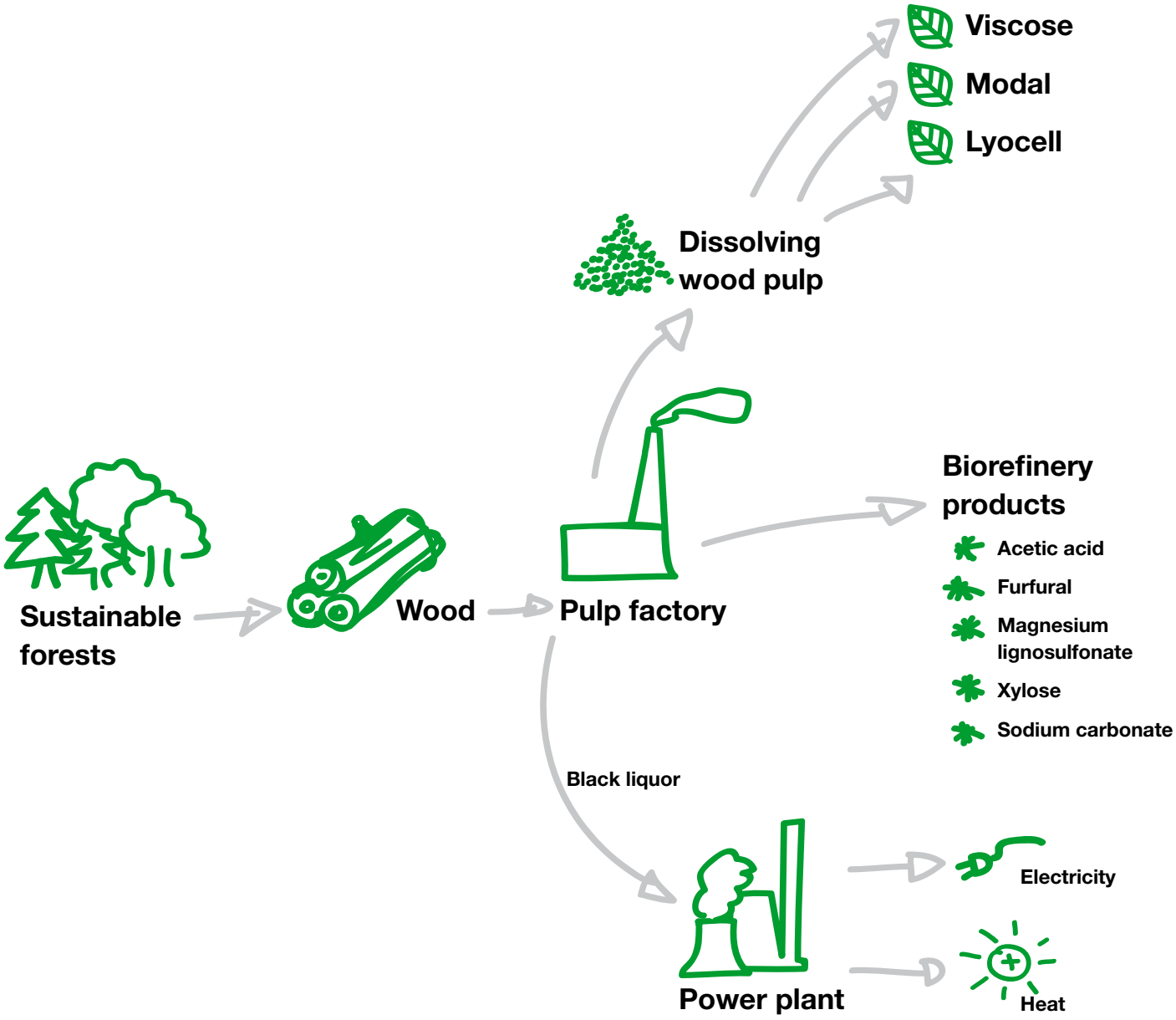
4

Efficient Production

This chapter describes the biorefinery and fiber production processes. It provides an overview of the Lenzing Group's performance with regard to environmental, product safety and quality aspects.

Biorefinery

The biorefinery concept fig. 4/1



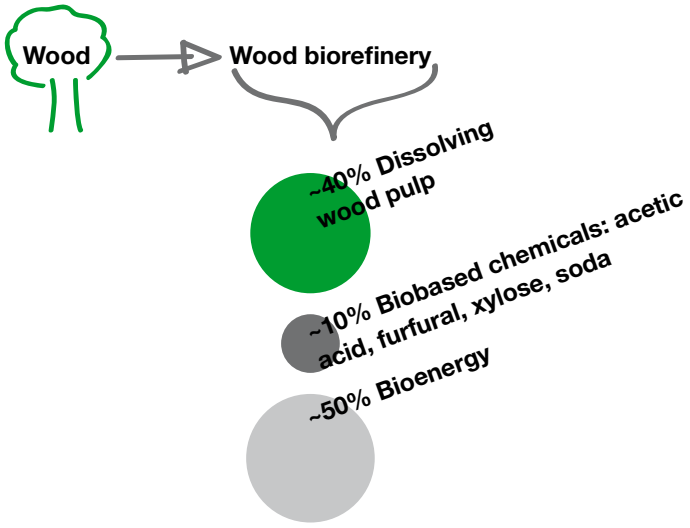
Dissolving wood pulp is the most important raw material used in producing Lenzing's wood-based cellulose fibers. The Lenzing Group operates two pulp production plants at the Lenzing site in Austria and in Paskov (Czech Republic). The biorefinery concept ensures that 100 percent of wood constituents are used to produce fibers, biobased chemicals, and bioenergy, thus maximizing value creation from an economic and environmental perspective.

The key principles of Lenzing's biorefinery concept are cascading wood use and circular economy:

- Use wood and its constituents as substitutes for oil-based products (recarbonization).
- Use wood constituents multiple times along the value chain.
- Produce biobased chemicals, such as acetic acid, furfural and xylose, to help increase the total material yield from wood as well as value creation.
- Recover and reuse process chemicals, which is a key contributor to sustainable success and profitability.
- Create useful products that are recyclable and therefore bind CO_2 as long as possible.

Lenzing has invested in the biorefinery concept for decades now, making it a forerunner in the production of biorefinery products at an industrial scale.

Highly efficient use of the raw material wood at the Lenzing Group's biorefineries
Wood and biorefinery products are calculated as "absolute dry", and pulp as "air dry" fig. 4/2



Pulp

Lenzing biorefinery plant

The facility in Lenzing (Austria) is the largest integrated dissolving wood pulp and wood-based cellulosic fiber production plant in the world. Integrated dissolving wood pulp and fiber production not only provides exceptional economic benefits, it also offers many ecological advantages and savings compared to non-integrated mills. For instance, there is no need for transportation because of the short distances involved, which itself eliminates the need for energy-intensive drying and packaging of pulp.

The Lenzing plant produces the pulp required for fiber production on site. Traditionally, the wood for the pulp made at the Lenzing site consists mainly of red beech. The logs are de-barked, chipped and treated in a cooking liquor of magnesium bisulfite. The cellulose – around 40 percent of the wood – is separated off as raw pulp in this process. This pulp is then washed and screened to remove the residual cooking liquor, knots and most impurities. The raw pulp is then bleached in a totally chlorine-free (TCF) process and turned into pulp sheets or flakes. The other wood constituents remain within the thin liquor together with other cooking chemicals. Marketable biorefinery products such as acetic acid, furfural, and xylose are obtained in further processing steps. More than half of the wood is transformed into products. The cooking chemicals are recovered and recycled from the remaining liquor.

Pulp production at the Lenzing site is not only self-sufficient in terms of meeting its own energy needs; it actually produces surplus energy. This surplus energy (steam and electricity) is used on site, for instance for fiber production.

Paskov biorefinery plant

The raw material base for the facility in Paskov (Czech Republic) is spruce wood in form of logs and chips. The magnesium bisulfite production process is similar to that at the Lenzing site. Wood chips are cooked in the acid and magnesium base to remove constituents such as lignin and hemicellulose, which dissolve into the liquor. The insoluble remainder is crude unbleached pulp. This pulp is then washed and screened. Further, deeper removal of lignin and hemicellulose is performed by means of alkali extraction and a TCF bleaching process. After final fine screening, the pulp is dried in sheets, baled, and dispatched.

During the conversion of this plant from paper pulp to dissolving wood pulp in 2013, additional measures to reduce emissions into the air and water were taken. The power supply concept also underwent major changes. Two state-of-the-art boilers for incinerating pulp leachate were built and burning of coal was stopped completely, with renewable energy resources – pulp leachate plus wood and bark residue – being used instead as fuel. Natural gas is no longer used in normal operations; only for starting up units and extraordinary situations. The Paskov site is completely self-sufficient in terms of heat and electricity generation. The company supplies surplus electricity to the public grid.

Fact sheet pulp production in the Lenzing Group table 4/1

Site	Lenzing	Paskov
Capacity 2016 (tons per year of air dry pulp @ 10% moisture / 90% dry matter)	297,000	270,000
Biorefinery products	Acetic acid, furfural, xylitol, magnesium lignosulfonate, soda (sodium carbonate)	Magnesium lignosulfonate, soda (sodium carbonate)
Use of energy surplus	In integrated fiber production at site	Electricity delivered to public grid
Main wood source	Beech	Spruce
Sustainability features	TCF bleaching, high share of bioenergy (97%)	TCF bleaching, high share of bioenergy (98%), coal-free
Production technology	Magnesium bisulfite	
Pulp cooking chemicals used	Magnesium oxide, sulfur dioxide, sodium hydroxide	
Bleaching chemicals used	Oxygen, ozone, hydrogen peroxide	

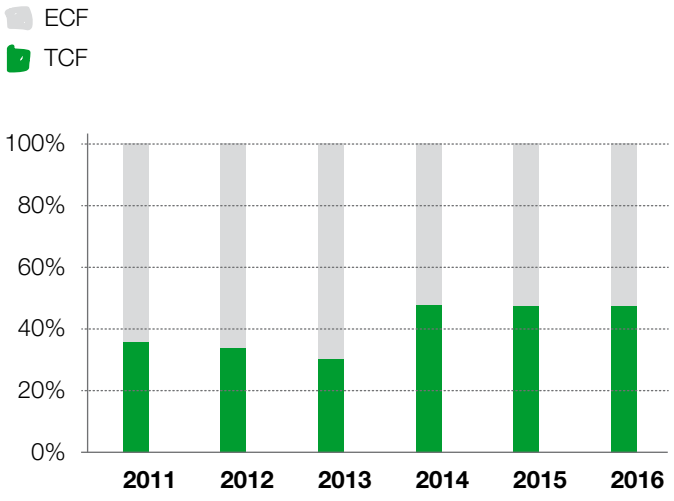
Pulp bleaching

Bleaching is necessary to yield a dissolving wood pulp quality suitable for viscose and lyocell fiber production. Most dissolving wood pulp producers use elemental chlorine free (ECF) pulp bleaching processes. Lenzing, however, was a pioneer in the industry with environmentally friendly pulp bleaching. Since 1992, the Lenzing pulp production plant in Austria has produced pulp without using any chemicals containing chlorine, but with oxygen-based substances instead. The technology at both plants satisfies the Best Available Technology standards of the European Union[31].

The elimination of chlorine makes Lenzing pulp extremely environmentally compatible and sustainable while maintaining the high quality required for fiber production. Totally chlorine free (TCF) pulp is the basis for Lenzing's TCF fibers, something exceptional in the industry.

Lenzing Group: pulp sources according to bleaching

Basis is pulp used for fiber production, from own pulp production as well as purchased pulp. fig. 4/3



[31] Suhr et al., 2015

Biobased chemicals and co-products

Lenzing markets the biorefinery products from pulp production and the co-products from its fiber production, which makes a major contribution to optimum utilization of the natural resource wood. This underlines the corporate ambition to achieve ecological sustainability by careful resource management and extensive reductions in emissions.

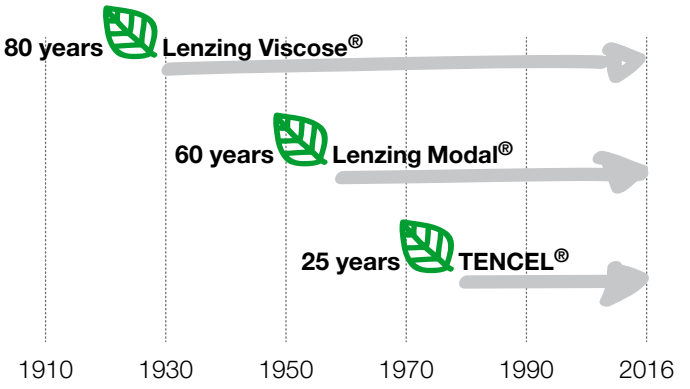
Biobased chemicals and co-products table 4/2

Product	Description	Users
Acetic acid	Acetic acid is a clear, colorless liquid with a pungent odor, produced as a biorefinery product of pulp production from beech wood. It is recovered in several process steps and turned into high-quality, food-grade acetic acid. The product is free from solids and of a high purity, making it suitable for human consumption.	• Food industry • Pharmaceutical and cosmetics industry • Chemical industry • Solvents • Textile industry
Furfural	Furfural is a clear, yellowish liquid with a characteristic odor of almonds. Furfural is produced as a biorefinery product of pulp production from beech wood. It is released in a double distillation process. This guarantees the removal of contaminants and a product of the highest purity.	• Primary product for furfuryl alcohol • Solvent in the refining of lubrication oil • Solvent for anthracene and resins • Distillation of butadiene • Herbicide production
Magnesium lignosulfonate	Lignines constitute one of the most common natural substances. The release liquor generated during pulping in the acid magnesium bisulfite process is evaporated to attain a solid matter content of approximately 60 percent. Natural magnesium lignosulfonate, which readily dissolves in water, is brown in color and used amongst other things as a fixing and pelletizing auxiliary agent and as a dispersing and annealing agent in the concrete industry.	• Animal food industry • Ceramics industry • Production of fireproof bricks • Tanning agent industry • Chipboard and fiber board industry • Auxiliary materials for the construction industry • Fertilizer industry
Sodium carbonate (soda)	Soda is a white, free flowing, odorless granulate, which is used in many industrial applications.	• Glass industry • Pulp and paper industry
Xylose (wood sugar)	Extracted from pulp cooking liquor and processed into xylitol at the Danisco Austria GmbH facility on site. A naturally occurring sweetener with all the taste and sweetness but only half the calories of sugar, xylitol leaves no aftertaste and protects teeth from cavities.	• Sweetener in food and pharma industry
Sodium sulfate	Sodium sulfate is produced as a co-product during viscose and modal fiber production. The white crystalline powder undergoes further processing.	• Detergent, cleaning-agent, and glass industries.

Overview of fiber technologies

Lenzing's quality and innovative strength set global standards for wood-based fibers. With close to 80 years of experience in fiber production, the Lenzing Group is the only company worldwide combining the production of all three cellulose fiber generations on a large scale under one roof – from classic viscose to modal and TENCEL® branded lyocell fibers.

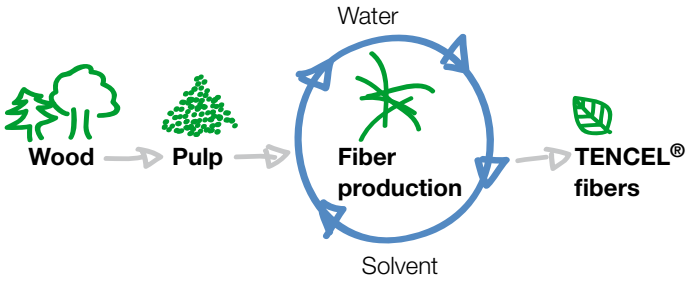
Three fiber generations from the Lenzing Group fig. 4/4



Lyocell fiber: The botanic fiber of the 21st century
Lyocell fiber is the latest generation of wood-based cellulosic fiber. It has been produced at a commercial scale for 25 years. The generic fiber name is lyocell, the branded product from Lenzing is mainly marketed as TENCEL® fiber.

The initial idea in developing the lyocell process was to derive cellulose fibers from pulp without relying on the chemically complex viscose process.

Lyocell production process fig. 4/5



A simple physical process
Similar to viscose fiber production, pulp derived from the renewable raw material wood is processed in producing lyocell fibers.

In contrast to the traditional chemical viscose process, the lyocell process involves direct dissolution of cellulose pulp in the organic solvent NMMO[32]. No carbon sulfide is used. Much smaller quantities of caustic soda and sulfuric acid are required as compared to viscose production. This physical process also simplifies production. Only two cycles need to be closed-loop. Recovery needs to be extremely effective in light of the high solvent costs. Lenzing has developed recovery rates surpassing 99 percent to make the process economically viable. Furthermore, the process water is recycled. These two closed loops result in very low emissions to the environment. The amount of waste generated during the production process is very low thanks both to closed loops and to lower consumption and higher utilization of chemicals and raw materials.

Lenzing also developed technological measures to minimize the process energy required in lyocell production. The second generation plant installed at the Lenzing site includes new heat recovery systems to reduce energy consumption compared to the former plant design. In principle, due to the generally simple process requiring less effort to close the loops, the total energy use of a lyocell fiber production plant is lower than that of a viscose plant with equal capacity.

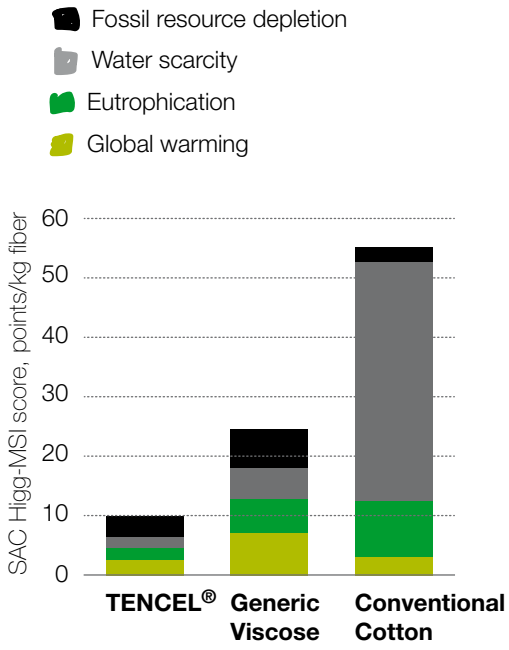
Similar to viscose and modal fibers, finishing agents are applied to the lyocell fibers at the end of the production process, to improve their running and gliding properties for further processing.

Use of lyocell fiber offers great advantages from an environmental perspective compared to other cellulosic fibers. Lyocell technology is much less resource intensive and leads to a significant reduction in chemical use due to conversion of pulp into fiber in a closed-loop physical process.

[32] NMMO – N-Methylmorpholine N-oxide is an aqueous, biodegradable, organic solvent

Info box 4/1

Comparison of environmental performance of TENCEL® fibers vs generic viscose and conventional cotton cultivation, world average* fig. 4/6



* Source: Higg-MSI

As figure 4/6 shows, the MSI score for lyocell fibers is several times lower than for generic viscose and conventional cotton. Especially when compared to conventional cotton, the much lower impact on water scarcity of lyocell fibers is remarkable.

These results were calculated using the Higg MSI™ tools provided by the Sustainable Apparel Coalition. The Higg MSI™ tools assess impacts of materials from cradle-to-gate for a finished material (e.g. a fabric ready to be assembled into a garment). However, the above figure only shows impacts from cradle to fiber production gate.

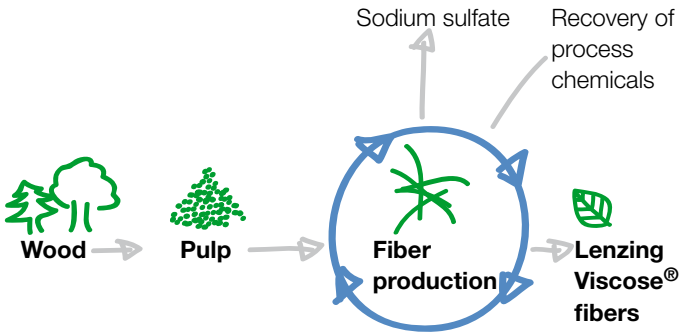
The MSI score of lyocell fibers is still based on the LCA data from the year 2010. Therefore, technical innovations like the lyocell plant in Lenzing (in operation since 2014) or the new Refibra™ fiber made from cotton scraps are not yet considered in this assessment.

Viscose and modal fiber production
Viscose fibers are produced in a chemical-technological process that involves multiple steps.

Pulp is steeped in a sodium hydroxide solution and converted to alkali cellulose. The addition of carbon disulfide causes cellulose xanthate to form. The xanthate is dissolved in diluted sodium hydroxide solution, filtered, deaerated, ripened and metered through spinnerets into a regenerating bath. Thereafter, the fibers are stretched, cut, desulfurized, and bleached with a sodium hypochlorite or hydrogen peroxide solution.

The fibers are repeatedly washed between the individual subsequent treatment steps. After the last wash, finishing agents are applied to ensure the running and gliding properties for further processing. As a final step, the fibers are dried and pressed into bales. Zinc is precipitated and recovered from the waste water. Sulfur-containing gases generated during spinning are collected and recovered once again in the purest form as the chemicals carbon disulfide and sulfuric acid for reuse. The co-product sodium sulfate is produced from the input chemicals sulfuric acid and sodium hydroxide solution and recovered.

Viscose production process fig. 4/7



Modal is produced in a modified viscose process. The special characteristic of Lenzing Modal® fibers is improved washability due to greater tenacity compared to viscose fiber, especially when wet, which in turn gives textiles improved dimensional stability. It stands apart with its supreme softness and is the preferred fiber for high-quality innerwear and similar products.

Finally, the fibers have finishing agents, i.e., soap-like materials, applied in the final wash cycle. The adhesive properties of the fibers are adjusted in such a way that common types of processing for textile or nonwovens production can run ideally. The effect is similar to using a fabric softener when washing household laundry. A mixture of gliding agents, adhesive agents and antistatic is used. All these agents are completely biodegradable.

Resources and emissions

Management approach

In 2016, the Lenzing Group launched a Group-wide program entitled "Enterprise Excellence" (EPEX[33]) to continuously improve internal processes. The EPEX initiative involves all employees and is designed to prepare the company to meet future challenges. In line with the sCore TEN business strategy, the positive corporate culture is being further strengthened, accompanied by an improvement in essential systems and processes.

The program extends beyond production operations, and now also encompasses areas such as human resources, engineering, safety, and quality. Other non-production areas will be included in the future.

A crucial core element is the linkage of safety, quality, and efficiency. Many improvements have an impact on all three of these aspects, and the systematic approach is very similar. A generally applicable improvement process covers both day-to-day performance and continuous improvement. It is implemented on all levels and in all areas of the company.

The sCore TEN business strategy defines the objectives Lenzing wants to achieve in the EPEX program, for example safety or quality targets. Topics such as pulp, water, chemicals, energy, climate protection as well as emissions to air and water, and waste are covered under this EPEX program throughout all the Lenzing Group's production sites. This provides guidance to determine losses and realize improvement potentials. The Lenzing Group has published its sustainability strategy in this report and has started a process for setting qualitative and quantitative targets with Group-wide alignment for focus areas and material topics.

All fiber and pulp production sites are certified in accordance with ISO 9001, ISO 14001, and OHSAS 18001 system certifications.

In the following sections, the key material topics of Lenzing will be discussed, using data from the 2014-2016 reporting period. All specific indicators in this chapter are reported per unit of production.

Energy and climate protection

Pulp and fiber production are energy-intensive processes. Lenzing is committed to improving energy efficiency and reducing CO_2 emissions for global climate protection. Lenzing considers emissions along the value chain. CO_2 emissions are reduced by utilizing efficient energy conversion technologies for heat and electricity generation, improving energy consumption in production, and working together with energy suppliers who provide energy to the Lenzing Group.

The "Enterprise Excellence" (EPEX) continuous improvement program serves as the core management approach to achieving this objective. On the energy supply side, improvements in energy efficiency are achieved by using renewable fuels in power production. For instance, the Paskov pulp plant (Czech Republic) has successfully phased out coal use and it became the first coal-free site in the Lenzing Group. This site has not only achieved energy self-sufficiency, but also provides excess energy from bioenergy sources to the local Czech grid.

Similarly, the pulp plant in Lenzing also supplies excess energy to fiber production on site. Due to the vertical integration of pulp and fiber production, energy is used highly efficiently at this site. In addition, this site has a waste incinerator with energy recovery, which disposes of unrecyclable municipal solid waste (MSW) from the local region and supplies the recovered energy to fiber production (see Best Practice box 4/2, page 51). All these attributes make consumption of fossil fuels for fiber production unnecessary, so this site has a higher share of renewable energy, around 83 per-

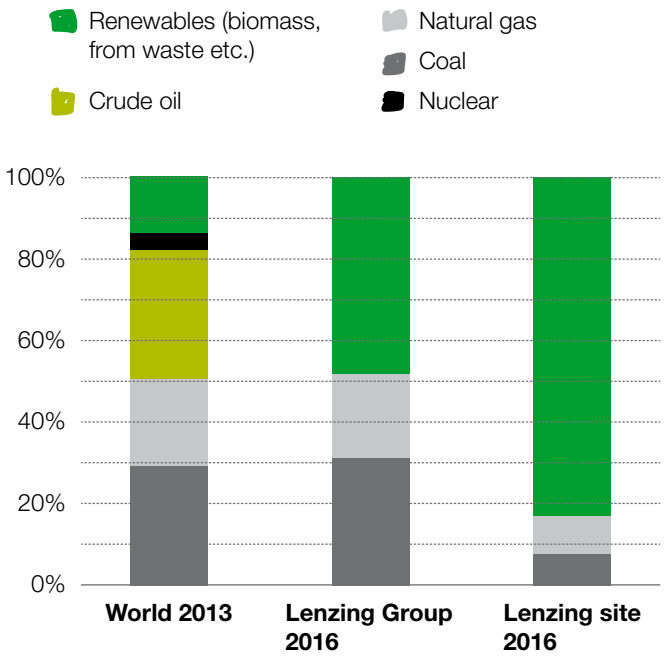
Certification status in the Lenzing Group fig. 4/8

	ISO 9001	ISO 14001	OHSAS 18001
Lenzing (Austria)	✓	✓	✓
Heiligenkreuz (Austria)	✓	✓	✓
Grimsby (Great Britain)	✓	✓	✓
Mobile (USA)	✓	✓	✓
Purwakarta (Indonesia)	✓	✓	✓
Nanjing (China)	✓	✓	✓
Paskov (Czech Republic)	✓	✓	✓

[33] EPEX is implemented using the World Class Operations Management (WCOM) approach

cent, in its overall energy consumption.

Energy sources of the world, Lenzing Group and Lenzing site* fig. 4/9



* Sources: World Energy Outlook 2015, Lenzing AG
Includes own energy consumption and from energy providers, excluding grid power which is a small fraction of total Scope 1 and 2 energy consumption of the Lenzing Group
The production sites in Paskov, Grimsby, Mobile and Heiligenkreuz do not use coal as a fuel source in their own operations whereas the Asian sites, i.e. Nanjing and Purwakarta, predominantly use coal.

On the energy demand side, Lenzing is reducing process energy consumption through various projects addressing optimization, efficient planning, and reduction of losses. A Quality Consistency Program (QCP) helps to systematically improve the process and raw material consistency. This reduces waste and produces more fibers from fewer resources; it also increases the quality of products. The QCP program also helps cross-learning from different sites and improves the operations of the Lenzing Group globally. Lenzing also participates in EU-funded projects by collaborating with universities and research organizations to increase resource efficiency in more innovative ways. For example, the EU-funded MORE[34] project has improved the operation of evaporators, resulting in fuel and cost savings.

All these efforts have helped to achieve around 1.5 percent savings in specific primary energy consumption and around 5 percent reduction in specific CO_2 emissions in the Lenzing Group during the reporting period.

[34] This project has received funding from the European Union's Seventh Framework Program for research, technological development and demonstration under grant agreement No 604068.

Best Practice box 4/2

Best practice at Lenzing site: Incineration of municipal solid waste with energy recovery

- Electricity and heat from residual materials
- Maximum utilization of energy sources

Lenzing contributes significantly to sustainable waste management at its production site in Austria.

Together with Energie AG (Austria), a state-of-the-art plant for thermal utilization of sorted and prepared waste materials is being operated at the Lenzing site.

Annually, around 300,000 tons of sorted plastic waste, rejects, biological sludge, and overflows from waste processing plants are taken to a thermal processing plant and transformed into electricity and heat. All year round, the energy is used with a high level of energy efficiency. The circulating fluidized-bed technology used in this connection creates optimum incineration conditions for the materials employed. This, together with the sophisticated dry and wet waste-gas purification plant and the downstream catalyst, guarantees a high level of environmental compatibility.

Air with a low concentration of CS_2 from the viscose fiber plant is captured and used as combustion air for the waste incineration plant, thereby achieving another major improvement in air quality at the Lenzing site.

By operating the incineration plant with residual materials, Lenzing is in a position to substitute approximately 75 million m^3 of natural gas per year. In addition to the benefits for the national economy, this is also of considerable ecological relevance. According to the Emissions Trading Scheme (ETS), incinerators that use more than 50 percent municipal solid wastes are excluded from the ETS. Therefore, the CO_2 emissions from the incinerators are not considered as fossil CO_2, and consequently energy from waste is included under renewables in figure 4/9.

Primary energy consumption of the Lenzing Group G4-EN3, G4-EN5 table 4/3

	2014	2015	2016
Primary energy consumption* (million GJ)	41.052	40.846	40.753
Specific energy consumption** (index in percentage based on GJ/t)	100%	98.7%	98.6%

Greenhouse gas emissions of the Lenzing Group G4-EN15, G4-EN16, G4-EN18 table 4/4

	2014	2015	2016
Total Greenhouse gas emissions, CO_2 eq. (million metric tons)	1.78	1.72	1.71
Direct emissions i.e. Scope-1 (million metric tons)	1.19	1.16	1.19
Indirect emissions i.e. Scope-2 (million metric tons)	0.59	0.55	0.52
Specific GHG emissions*** (index in % based on metric tons of CO_2 eq./t)	100%	96%	95%

The Lenzing Group considers emissions all along the value chain. Consequently, the Lenzing Group engages with its pulp suppliers to reduce their CO_2 emissions, even though pulp suppliers do not contribute to scope 2 emissions. Lenzing's innovative products also reduce the footprint of customers along the value chain (chapter 5). Therefore, the Lenzing Group reduces CO_2 emissions along the value chain.

Water use and effluents

Lenzing uses water for processes and cooling purposes and is committed to improving the water-related impacts at its production plants and all along the value chain.

Water is used prudently at the production sites. The aim is to close loops and reuse the water. For example, the Paskov plant (Czech Republic) has a closed-loop cooling water system and therefore requires little make-up water to compensate for losses. Lenzing's lyocell fiber plants use around one third of the water required by viscose plants. Consequently, further expansion of lyocell fiber capacities will reduce the Lenzing Group's specific water use and consumption in the long term.

Lenzing considers water issues in the upstream and downstream value chain of its products. The company aims to contribute wherever it can influence directly or indirectly. The table summarizes how Lenzing contributes in different steps of the value chain. Lenzing helps its customers to reduce their water-related impacts by providing Lenzing™ fibers that can replace more water-intensive fibers and avoid the most polluting steps in the value chain, such as dyeing.

Specific amounts of water extracted and returned were reduced by around 6 percent and 5 percent respectively, as shown in table 4/6, during the reporting period in the Lenzing Group.

Water use in the Lenzing Group G4-EN8, G4-EN22 table 4/5

million m³	2014	2015	2016
Water intake / extracted	117	115	110
Surface water	103	101	98
Ground water	13	14	12
Water returned	108	105	103
Wastewater effluent	64	62	62
Cooling water returned to rivers etc.	44	43	42

Specific water use in the Lenzing Group table 4/6

Index in percentage based on m³/t	2014	2015	2016
Specific water intake / extracted	100%	98%	94%
Specific water returned	100%	97%	95%

Water effluents

Process water is treated by biological wastewater treatment plants (WWTPs). The Lenzing Group has WWTP facilities at all its sites except Grimsby (Great Britain). However, the wastewater situation at Grimsby complies with local legal regulations as well as the EU Water Framework Directive.

At the Lenzing site (Austria), organic chemicals from waste streams, which would otherwise cause COD emissions, are converted into valuable biorefinery products of pulp milling, namely acetic acid, furfural, and xylose. This is one example of best practices where waste is converted into useful products, thereby avoiding water pollution. Sulfate emissions mainly originate from the viscose process, lyocell has lower sulfate emissions. COD emissions originate from pulp and fiber production processes. During the reporting period, the amine emissions have increased due to process disturbances, however, these emissions were within the legal limits. G4-EN22

Absolute emissions to water** table 4/7

Metric tons	2014	2015	2016
COD after WWTP	6,022	6,078	6,224
SO_4 after WWTP	167,773	165,472	174,746
Amines after WWTP	198	223	239

Specific emissions to water table 4/8

Index in % based on kg/t	2014	2015	2016
COD after WWTP	100%	100%	103%
SO_4 after WWTP	100%	98%	103%
Amines after WWTP	100%	112%	120%

* Lenzing reports both direct and indirect energy use. According to the GHG protocol, scope 1 covers direct energy consumed within the Lenzing Group and scope 2 covers the energy bought from energy suppliers and national grids.
** All specific indicators in this chapter are reported per unit of production.
*** Includes both scope 1 and 2 emissions. It was observed that the system boundaries of different wood-based fiber producers differ from the Lenzing Group's boundaries. In particular, upstream production of chemicals that are consumed in Lenzing's facilities belongs to scope 3, according to the GHG protocol, so they should not be included here. However, some sites in the Lenzing Group produce chemicals themselves, namely H_2SO_4 and CS_2, leading to a higher energy demand and scope 1+2 CO_2 emissions of the Lenzing Group than companies that do not produce chemicals themselves. This is relevant for all indicators. Scope 1 emissions are calculated from emission factors from EU ETS and scope 2 emissions are based on energy supplier-specific emission factors and average grid emission factors.
**** Wastewater from Nanjing site (China) is treated by an external service provider. Therefore, Lenzing does not have operational control over this wastewater treatment. Consequently, emissions to water from this site are not reported here.

Lenzing's contribution to reducing water-related impacts along the value chain table 4/9

Position in value chain	Relevance	Details	Lenzing Group contribution
Direct contribution of Lenzing where we have influence			
Sourcing	Water in forests and plantations	Forests are part of the natural hydrological cycle and contribute to the availability of fresh water. Lenzing's pulp suppliers practice efficient water management in their plantations.	Lenzing considers water issues in wood and pulp sourcing; Lenzing works with stakeholders to understand better management of water and impacts of water (e.g. research on water impacts, contribution to stakeholders' water footprint studies[35])
Production of wood-based fibers	Water use in pulp and fiber production	Process water, cooling water and emission to water	Water use is diligently managed in all production facilities. Efficient wastewater treatment plants minimize water pollution.
Manufacturing	Water use in textiles manufacturing	Process water, wastewater emissions	Lenzing's products, e.g. Lenzing Modal® COLOR, reduce consumption and pollution of water in the dyeing step.
End of use	Waste to landfill, marine litter		Lenzing products are compostable and biodegradable in soil and marine environments, so they do not contribute to the marine litter problem.
Lenzing's indirect contribution to avoiding water impacts			
Production of natural fibers	Water use in agriculture	Irrigation in water-scarce areas	By blending Lenzing™ fibers into natural cellulose fibers requiring irrigation, water impacts of final products can be substantially reduced.

Chemicals

The EPEX continuous improvement program also covers efficient use of chemicals, recovery, and reuse. The local Safety, Health, and Environment (SHE) managers are responsible for ensuring that the list of process chemicals is kept up to date with impending regulations. Process chemicals include all substances required to manufacture our products, and those with which products come into contact.

Research and development projects assess potential risks for people and the environment associated with potential use of new materials. New chemicals are only cleared for large-scale technical deployment when their safe use and compliance with all legal specifications is ensured.

During pulp, viscose, modal, and lyocell fiber production processes, important chemicals such as sulfuric acid, sodium sulfate, sulfur dioxide, carbon disulfide, zinc sulfate and NMMO are recovered or transformed. In some cases the recovery rate is very high, for example NMMO used in lyocell fiber production has a recovery rate higher than 99 percent.

[35] Sutterlüty et al., 2016

Info box 4/3

EU Ecolabel

The EU Ecolabel was established by the European Commission in 1992. It is an environmental quality label awarded to products and services that have less impact on the environment and on health throughout their entire life than comparable substitutable goods. Products bearing the EU Ecolabel are therefore among the most environmentally friendly in the industry.

Independent experts, scientists and NGOs devised the guidelines and criteria for awarding the EU Ecolabel in collaboration with the EU member states. The criteria are determined on a scientific basis and take into account the entire product life cycle. Regular revisions ensure that the criteria are adapted to new developments and that assessments remain current. EU ecolabel criteria were recently updated.

What this means in concrete terms for a company like Lenzing in the chemical industry is that strict criteria have to be met in pulp and fiber production, both with regard to emissions released to air or water and with regard to the handling of chemicals used. The Lenzing Group can provide Lenzing Viscose®, Lenzing Modal® and TENCEL® fibers with EU ecolabel.

Air emissions

Lenzing Group sites producing viscose fiber, i.e., Lenzing (Austria), Nanjing (China), and Purwakarta (Indonesia) are equipped with several waste gas purification technologies, including Sulfosorbon® systems, CS_2 condensation, and catalytic combustion for minimizing atmospheric load. Moreover, at the Lenzing site, air with low concentrations of CS_2 from fiber production is used as combustion air for energy generation boilers. These systems assist in the recovery of sulfurous compounds, as well as in the substantial reduction of H_2S and CS_2 emissions. This further reduces sulfur emissions.

Sulfur emissions, i.e., carbon disulfide (CS_2) and hydrogen sulfide (H_2S), originate from the viscose process and sulfur dioxide (SO_2) emissions both from the process and from own energy production. Specific emissions to air were reduced over the reporting period. **G4-EN21**

Absolute emissions to air table 4/10

Metric tons	2014	2015	2016
Sulfur emissions (t) (CS_2+H_2S emissions expressed in terms of sulfur)	33,732	29,018	29,616
SO_2 emissions	2,698	3,963	1,764

Specific emissions to air table 4/11

Index in % based on kg/t,	2014	2015	2016
Sulfur emissions	100%	85%	87%
SO_2 emissions	100%	146%	65%

During 2015, the higher sulfur content in coal resulted in increased sulfur dioxide emissions.

Production of lyocell fibers generates no gaseous emissions due to the environmentally sound production process.

Waste and circular economy

Waste is an important issue for our society. In the context of circular economy, waste has attracted renewed attention in different industries and especially in the textile value chains. Consequently, this aspect has been chosen to be material for Lenzing in terms of what we can contribute to the industry and society. The Lenzing Group's approach is to efficiently use and convert all raw materials into products, to prevent waste wherever possible, and to offer circular economy solutions to the textile value chains.

Within the EPEX Quality Consistency Program (QCP), Lenzing continuously improves process and raw material consistency, which leads to a reduction in waste. Recyclable fractions of waste are separated and sent for recycling. The unrecyclable fraction is disposed of in accordance with local legislation. Wherever possible, Lenzing uses unrecyclable fractions to produce energy, for example in incinerators with energy recovery, as discussed in the energy section, page 50.

Landfilling of non-hazardous waste is subject to strict national regulations. Hazardous waste is either treated or disposed of according to the applicable regulations. Since definitions of waste are not harmonized across countries, the table below provides the best approximation for the absolute amount of waste generated at group level during the reporting period. Within the Lenzing Group, a process to provide harmonized waste statistics is in development.

Waste, t/a	Average of 2014-2016
Non hazardous to landfill	16,002
Hazardous	1,277

The Lenzing site disposes of municipal solid waste from local communities in a waste incinerator. During this process, energy is recovered and used for production. The Lenzing Group's biorefineries convert wood into pulp and biobased chemicals, as discussed in the biorefinery section. Thus, the pulp plants prevent waste through higher resource utilization. For further information regarding how Lenzing reduces textile value chain waste with Refibra™ fibers from cotton scraps, please refer to chapter 5 on innovation.

Product safety

Lenzing utilizes external third-party certifications to demonstrate the safety of its products in the appropriate area of use. One of the most important certificates is OEKO-TEX Standard 100, which certifies the safety of Lenzing fibers for textile and nonwoven applications. Furthermore, Lenzing fibers are compliant with many regulations, standards, and directives, e.g., the European REACH Regulation, Proposition 65 List issued by the State of California, and many others. Lenzing Standard fibers are certified for food-contact applications according European and US regulations. All Lenzing fiber products are tested for a broad range of health and safety aspects to avoid potential effects on consumer health as far as this is possible within the limitations of a B2B company, i.e., a raw-material supplier. However, the responsibility for consumer health is a concern for companies that offer the final products to consumers. **G4-PR1**

Quality

Lenzing is committed to providing high and consistent product quality to satisfy its customers' requirements. For every Lenzing product, there are clear internal and external specifications that take into account customer requirements and Lenzing's production capabilities. To guarantee compliance with these specifications, Lenzing conducts quality tests in its own laboratories and ensures consistent quality standards for all Lenzing production sites. Lenzing also operates special processing units to test fiber performance in yarns and fabrics.

As part of its quality management, the Lenzing Group offers comprehensive and global customer service, with technical experts available to every customer. Lenzing provides expert advice on everything from fiber processing to finished products. All customer complaints are taken very seriously and investigated immediately in order to find the causes and to identify appropriate corrective actions.

Heartbeat for Quality

As part of Lenzing's sCore TEN strategy, the new "Heartbeat for Quality" strategy was introduced in 2016. "Heartbeat for Quality" has been launched under the same "Heartbeat" program, which also includes the areas of health and safety (see chapter 6). "Heartbeat for Quality" defines the new quality vision statement of the Lenzing Group:

- We are market leaders in terms of best product consistency, application performance, and service.
- We live quality. We understand the needs of our customers and adapt quality to their requirements.
- We use our systems to drive manufacturing processes to achieve sustainable improvements.

"Heartbeat for Quality" builds on Lenzing's already high quality management standards. On this basis, improved systems are being implemented to record and monitor customer satisfaction and to process customer feedback. Furthermore, communication and cooperation with key strategic customers will be strengthened.

"Heartbeat for Quality" is part of the EPEX program. By taking this management approach, Lenzing ensures the full involvement of all employees, high operational efficiency, and fully harmonized systems.

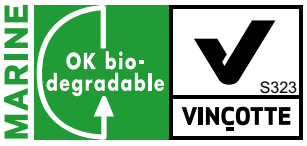
Third-party certifications of Lenzing™ fibers

From nature back to nature

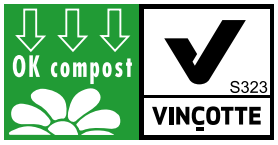
All standard types of fiber produced by Lenzing are fully derived from the natural and sustainable raw material wood. Lenzing™ fibers are not only derived 100 percent from nature, they also return to nature at the end of their life cycle. Standard Lenzing™ fibers are demonstrably 100 percent biodegradable in a range of natural environments and compostable within a period of six months according to international standards. G4-PR1

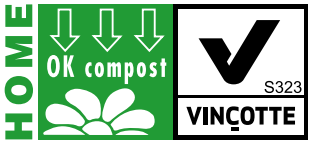
VINÇOTTE

The biodegradability of Lenzing's wood-based cellulose fibers has been confirmed by international standards and certified by the international certification organization VINÇOTTE The testing scheme includes testing for biodegradability (chemical break-down), disintegration (physical breakdown), ecotoxicity, testing for harmful substances (e.g. heavy metals).



VINÇOTTE Biodegradable – in seawater





VINÇOTTE Compostable, Home compostable

VINÇOTTE Biodegradable – in soil

EU Ecolabel

All three fiber generations Lenzing Viscose®, Lenzing Modal® and TENCEL® are available with the European flower.

OEKO-TEX® Standard 100

This standard ensures that a list of about 2,000 chemicals is either not used at all or residues are within very low allowable thresholds.

Food contact compliance

Standard fibers of Lenzing Viscose®, Lenzing Modal® and TENCEL® are compliant with European and US food contact regulation.

Responsible Forestry

Lenzing uses FSC® and PEFC™ certification systems as verification that the wood originates from sustainable sources.

Medically Tested – Tested for Toxins

Skin friendliness certification based on the approaches

- no harmful substances contained in the final product
- biocompatibility testing according to international standard ISO10993-5

USDA Biobased

Biobased products are derived from renewable resources such as agricultural, marine, and forestry materials and provide an alternative to conventional petroleum derived products.

Lenzing™ Standard fibers are derived from the renewable source wood.

5 Innovation for Sustainable Products

Sustainable innovations are those that balance the three aspects of People – Planet – Profit, improving the prosperity of society within the limits of one planet. They are at the core of all activities in the Lenzing Group such as developing technologies, operating our facilities, and creating new products and business models. The concept is not restricted to technological aspects; it also includes new ways of thinking for empowering people and collaborating with business partners and societal stakeholders. This chapter focuses on the technological aspects of innovation.

Sustainability in research & development

Innovation is at the heart of the Lenzing Group sCore TEN strategy. Lenzing has been the innovation and technology leader in the wood-based cellulose fiber industry for decades. Its success in achieving and maintaining this top position is the result of continuous, systemic innovation combined with expenditures for research & development (R&D) exceeding the industry average and highly experienced research staff. This systemic innovation approach extends beyond linear thinking and involves interaction between a large number of individuals, several organizations and their operating environment.

Lenzing's pioneering role in innovation has not only been a core strength but also a unique selling proposition setting Lenzing apart from its competitors for decades. In 2016, the company invested EUR 46.4 mn (calculated according to the Frascati method) in R&D, employing 176 people (2015:153) at its Global Research and Development department located at Lenzing's headquarters. It is the industry's leading R&D center for wood-based fibers and dissolving wood pulp.

Initially driven by strict environmental protection requirements, Lenzing's R&D department was a pioneer in implementing sustainable thinking in its process and product development. About ten years ago, a new scientific perspective of sustainability was initiated with the implementation of the world's first life cycle assessment (LCA) in the fiber industry, also encompassing Lenzing's wood-based fibers.

In accordance with Lenzing's sustainability strategy, innovation focuses on three different areas, all of which are relevant for sustainable growth:

a. Processes
b. Products & applications
c. Strategic forward solutions

Lenzing has a record of systemic innovation. In the 1990s, the company began transforming its Lenzing production site with its integrated pulp and fiber plant into a biorefinery. A new, highly-efficient, state-of-the-art integrated pulp and fiber production technology was developed. At the same time, air and water emissions were reduced effectively. Meanwhile, the development of the lyocell process for TENCEL® fibers since the 1980's has been groundbreaking for the fiber industry. The company's environmental performance with its closed-loop technologies has set new standards. Since 2015, the sCore TEN strategy has focused on forward solutions, circular economy and new business models.

Managing R&D projects

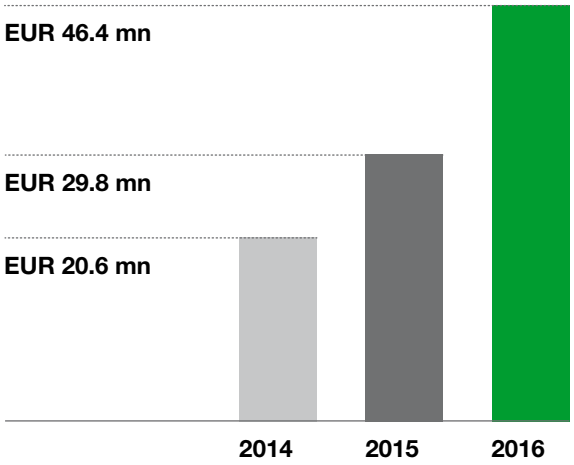
As regards the selection and management of R&D projects, Lenzing has designed the highly professional innovation management tool PRO², which allows Lenzing to manage its R&D project portfolio on a global basis. Creative front-end innovation is balanced with structured idea evaluation and project execution.

In the past, many R&D projects already considered sustainability aspects. Today the issue of sustainability is systematically taken into account at a very early stage of every project. The checklist for initiating a project within the PRO² project management framework covers various sustainability criteria such as safety, health and environmental issues as well as impact thinking along the downstream value chain.

The two major focal points of the company's global R&D efforts are process and product development, which ultimately lead to sustainable innovation. This is achieved through interaction of R&D with all other relevant functions in the Lenzing Group. Lenzing also cooperates with external partners, for example other companies and research institutes, which share the company's holistic view of sustainability. Lenzing has already demonstrated its life-cycle thinking along the entire value chain, such as with Lenzing Modal® COLOR fibers, described on page 63.

The company's commitment to innovation can be seen in the EUR 16.6 million increase in 2016 R&D expenditure, compared to 2015. Lenzing will continue to strengthen its position as the leading global innovator in the wood-based cellulose fiber industry in future as well. There are also promising developments in Lenzing's R&D pipeline.

R&D expenditure, calculated according to the Frascati method fig. 5/1



Processes

Lenzing's R&D, operations, and engineering departments collaborate on the continuous improvement of processes and innovative technologies. Successful examples of strategic achievements include the development of closed-loop processes for water and chemicals, and the reduction in CO_2 emissions and quantities of chemicals required for production. Some of the process innovation has also resulted in a more sustainable infrastructure, including an improved plant design, improved logistics, and similar effects.

Paskov conversion project
The Paskov mill in the Czech Republic, the Lenzing Group's second pulp site, was converted from paper to dissolving wood pulp production. This large-scale project involved several departments and lasted from 2010 to 2013. R&D's essential contribution to the success of this project ranged from laboratory tests to extensive trial production runs and data collection followed by in-depth analysis. The goal was to convert the paper pulp mill in such a manner as to ensure that the dissolving wood pulp could be used optimally in fiber production. The closed-loop lyocell process imposes high demands on pulp quality.

Sustainability highlights
Conversion of the Paskov paper pulp mill into a modern dissolving wood pulp plant also sought to attain improvements in resource efficiency and pulp quality. The main achievements were:

1. Increased efficiency in wood utilization
2. Higher proportion of biorefinery products
3. Switch to total chlorine free (TCF) pulp
4. High use of renewable energy and no use of coal
5. Achieving surplus renewable energy, which is fed into the power grid

Viscose and modal process improvements: reduced energy and CO_2
Lenzing R&D coordinates several internal projects aimed at continuously improving resource and energy efficiency in the viscose and modal production processes and at ensuring stable process conditions and high productivity. For example, within the scope of the EU-funded MORE[36] project (10 partners from five countries) Lenzing developed a system for monitoring and optimizing the evaporation process, which in turn led to significant reductions in energy use and CO_2 emissions. 1.25 mn m^3 of gas are now being saved every year, equivalent to a reduction of 3,400 tons in CO_2 emissions compared to before project implementation in 2015.

Process improvements and startup of the lyocell fiber production plant in Lenzing (Austria)
Within the framework of Lenzing's product and process innovation, R&D has spearheaded innovations in lyocell technology. Thanks to economies of scale resulting from the plant size and new technologies, the fiber facility at Lenzing (Austria) is the world's most efficient lyocell fiber plant in terms of energy and resource use. It can therefore be justifiably regarded as a "second generation" lyocell production facility.

Increased material utilization in Lenzing's biorefinery processes
Lenzing's own pulp production is based on the biorefinery concept described on page 44, which enables Lenzing to fully utilize the raw material wood. Further value-increasing wood utilization is a focus of Lenzing's ongoing R&D projects in cooperation with the production department and external academic and industrial partners.

One recent example of increased resource efficiency is the development of a technology allowing marketable soda to be produced from waste flows of the pulping processes. This biorefinery product is supplied mainly to the glass industry.

Alternative cellulose sources
Lenzing as a market leader pays regular attention to the developments and opportunities concerning alternative cellulose feedstocks. In the last two years, Lenzing has again investigated the technical suitability, availability, and price of selected biomass feedstocks such as wheat straw, corn stover, cotton linter, bagasse, several types of grass, bamboo, and palm wood residues. This was followed by an economic availability check corresponding to the quantity of available biomass in the market at a set target price. In the area of agricultural feedstocks, no sustainable feasible alternative to dissolving wood pulp has yet been identified. However, Lenzing's pioneering activities in the field of alternative cellulose sources have resulted in the development of Refibra™ fiber, Lenzing's first fiber based on cotton fabric scraps. Lenzing will continue to evaluate relevant new developments.

Products and applications

Lenzing's innovative products reduce the ecological footprint of the entire value chain while maximizing the benefits for customers and society as a whole. Examples of Lenzing's unique and sustainable products include TENCEL® fiber, Lenzing Modal® fiber, Lenzing Modal® COLOR fiber, a spun-dyed fiber, and Refibra™ fiber. All these products result from Lenzing's creative and innovative R&D work combined with a holistic approach and the proprietary know-how to be found in the Lenzing Group.

As part of its application, product, and strategic innovation project portfolio, Lenzing focuses on specialty fibers and forward solutions providing a net benefit to customers and society.

Packaging nets
Fibers with a demonstrably positive ecological impact qualify for applications meeting high sustainability standards. Together with the Verpackungszentrum Graz, an Austrian packaging consultancy, Lenzing has developed packaging nets particularly suitable for organic fruits and vegetables using Lenzing Modal® COLOR fibers. These nets replace standard nets made of synthetic fibers; they are biodegradable and compostable and help to integrate renewable raw materials into the packaging sector. In addition to enhanced sustainability, the nets satisfy tough performance requirements, including strength.

[36] This project has received funding from the European Union's Seventh Framework Program for research, technological development and demonstration under grant agreement No 604068.

TENCEL® fibers with reduced flammability

TENCEL® fibers can be used in a wide range of applications thanks to their excellent fiber properties. In recent years, Lenzing has also developed a new lyocell fiber designed to support applications where reduced flammability is requested. For example, this fiber can be used for flame barriers for the US mattress market.

On the one hand, this fiber offers all the benefits of TENCEL® fibers, such as perfect moisture management and breathability. Additionally, the fiber does not melt in case of fire. Using this fiber also prevents leakage of toxic chemicals that can be found in conventional fabrics treated with flame-retardent finishing. Consequently, this innovation reduces the risk of potential toxicity-related health problems, and has no negative environmental impact.

Refibra™ fibers - lyocell fibers made with cotton fabric scraps

In the textile value chains, waste is an important issue because of the loss of valuable raw materials in different steps. Lenzing has conducted extensive research in recent years, concluding that cotton textile scraps can be used as a raw material in wood-based fibers, similar to dissolving wood pulp.

High-quality recycling of cellulosic fibers on a molecular level facilitates a circular process in which the cellulosic building blocks can be used several times before they are finally returned to nature as nutrients via composting. Lenzing employed its expertise in cellulose processing to develop the required process steps. Successful project implementation is based on cooperation all along the value chain to establish the necessary logistics and processes for collecting and processing waste textiles.

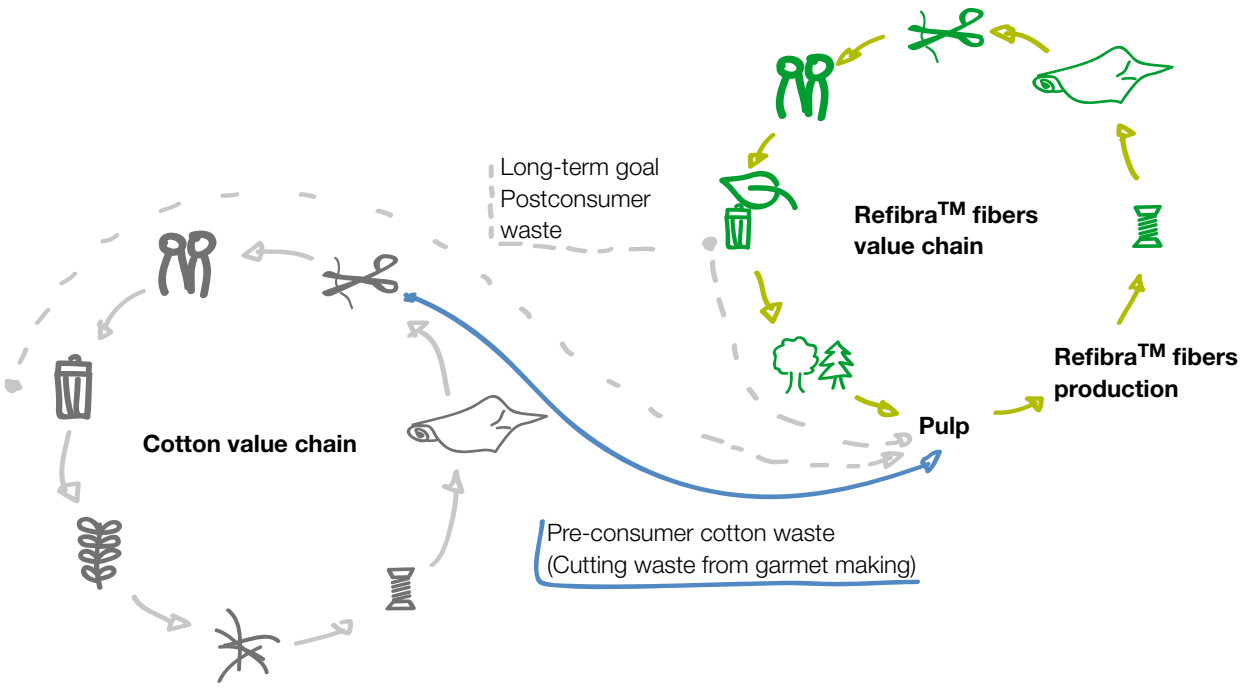
In 2016, Lenzing presented the first lyocell fiber partly made from pre-consumer scraps – mainly from cotton – to drive circular economy solutions in the textile industry. This new generation of lyocell fiber is the most ecologically compatible wood-based fiber combining cotton waste recycling with Lenzing's pioneering closed-loop lyocell production. The commercial launch of this new lyocell fiber under the trademark Refibra™ took place in February 2017. In order to assure customers that this fiber is actually in the textiles, Lenzing has also developed a new identification system. It allows Refibra™ branded lyocell fibers to be identified in the finished textile. The Refibra™ trademark is supported by the global Lenzing Branding Service and the brand is licensed once the textile has undergone a certification process.

Lenzing is the first global manufacturer to offer such cellulose fibers incorporating recycled materials at a commercial scale. Developing circular business models in the fashion industry ensures the decoupling of business growth from pressure on ecological resource consumption. It reduces the need to extract additional virgin resources from nature and reduces the net impact on the environment.

An innovative approach has been taken to marketing the new Refibra™ fibers. It is being developed and marketed in collaboration with partners from the entire value chain. This approach requires novel partnerships and transparency among all the parties involved.

Lenzing began by using pre-consumer scraps and will continue to develop the project further by evaluating recycling options for post-consumer textiles.

Refibra™ fiber – contribution to circular economy fig. 5/2



Forward solutions

Lenzing will expand its research and development activities in selected areas along the value chain via new pioneering technologies.

Lenzing Modal® COLOR fibers
Lenzing Modal® COLOR fiber is the only spun-dyed modal fiber available on the market. The pigments are incorporated into the fiber matrix, so that these fibers exhibit excellent color fastness. Considering Lenzing's fiber production in isolation, the ecological impact is slightly negative compared to standard fibers due to the additional use of pigments. However, if one considers the whole value chain, these fibers are highly sustainable, because no conventional dyeing is necessary, which requires large quantities of chemicals and water.

Accordingly, fabrics made with Lenzing Modal® COLOR fibers have a far better eco-balance than garments dyed using conventional methods. Fabrics made from Lenzing Modal® COLOR require 50 percent less energy, resulting in 60 percent less CO_2 emissions, and need 50 percent less water compared to conventionally dyed fabrics. This results in as much as a 60 percent smaller environmental impact. In addition, clothing containing Lenzing Modal® COLOR fibers keeps its fresh and bright colors longer, a clear-cut advantage for the consumer. **G4-EN27**

Info box 5/1

Net benefit products
Refibra™ fibers and Lenzing Modal® COLOR fibers are net benefit products (see Info box 2/1 on page 17).

Life cycle assessment

The Lenzing Group is a trailblazer in terms of taking a holistic overall view to its products and services by applying the life cycle assessment method. More than ten years ago, Lenzing became the very first fiber producer to do so, contracting the University of Utrecht to develop life cycle assessments. The additional knowledge and experience gained from this study has since helped Lenzing to continuously improve its life cycle footprint based on ongoing process optimization and the development of sustainable products. In turn, this ensures sustainable and responsible growth of the Lenzing Group.

Life-cycle thinking in the Lenzing Group
The life cycle assessment method is used by Lenzing to support decision making for strategic investments and to embed the concept of sustainability in innovation processes.

- Lenzing measures the performance of its products based on life cycle assessment conducted at regular intervals.
- "Best practice" technologies are developed and applied in order to improve the ecological footprint of Lenzing products.
- The environmental performance of the Lenzing Group has been improved since the last evaluation conducted in 2010. The main reasons for this are:
  - » Increased use of pulp from the Lenzing pulp plant in Paskov, which produces dissolving wood pulp in a particularly efficient and ecologically responsible manner.
  - » The internal Lenzing initiative Enterprise Excellence Program designed to optimize its production processes has improved energy and resource efficiency.
- Lenzing's external pulp suppliers have improved their own production processes by increasing use of bioenergy.
- The environmental performance of Lenzing's downstream value chain partners can be optimized with the help of life cycle thinking. For example, use of Lenzing Modal® COLOR and Lenzing Viscose® COLOR replaces the conventional dyeing process. This results in water pollution from wastewater being decreased and chemical, energy and water consumption being reduced in fabric production.

[37] Terinte et al., 2014

6 Responsibility for people

The corporate culture of the Lenzing Group is characterized by long-term partnerships based on transparency and open dialogue, trustful cooperation and respect. Lenzing assumes responsibility for its employees, who are the greatest future potential for ensuring sustainable success. The company promotes the wellbeing of the local communities and regions in which it operates.

Employment trends

Motivated employees who are eager to learn constitute the most important future potential for the sustainable success of the Lenzing Group. As a company, Lenzing assumes responsibility for the wellbeing, professional development and training of its employees and supports them in maintaining their health.

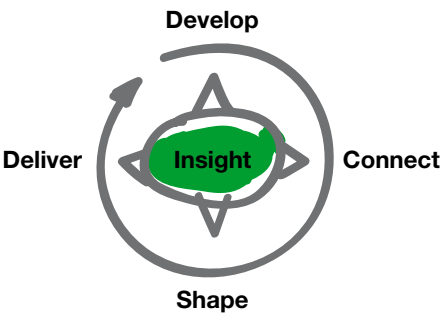
The Lenzing Group encourages the development of its employees and offers on-the-job challenges as a means of promoting personal and professional growth.

In spite of Lenzing's strong roots in Europe, an international corporate culture has emerged thanks to ongoing exchange between the production sites in Asia, Europe and the USA. Cultural diversity and respect for others are an integral part of daily working life. The Management Board actively supports the ongoing internationalization of the workforce on all levels. At the same time, Lenzing is still a "hands on" company with flexible and fast-reacting units in which a "family-like" spirit has been preserved.

By the people – for the people: the leadership model of the Lenzing Group

The Group strategy sCore TEN presented in November 2015 was developed within the framework of a comprehensive strategy process in which teams from all Lenzing sites worked together, taking a cross-hierarchical and cross-departmental approach. With respect to the corporate culture, this initiative resulted in a new value system for the Lenzing Group focusing on respect, diversity and professional cooperation. At the same time, the process itself reflects the fundamental principle underlying the Lenzing Group's working model i.e. "by the people – for the people".

Leadership model fig. 6/1



On this basis a leadership model was developed which sets the tone for how Lenzing should work, communicate, evaluate, recruit and plan in a team. The leadership model also describes how the Lenzing Group operates and does business in principle and which criteria are used to organize in-house training programs.

Growing workforce

The Lenzing Group workforce is growing steadily and its activities are becoming increasingly internationalized. At the end of 2016, the Lenzing Group had 6,043[38] employees in 8 countries, representing an increase of 1.6 percent compared to 2015 (5,946 employees). The number of contractors increased from 403 to 432 in 2016. The proportion of full-time contracts is 96 percent for the Lenzing Group, split between 74 percent for female employees and 99 percent for male employees. The proportion of part time contracts for the Lenzing Group is 4 percent, split between 26 percent for female employees and one percent for male employees. Lenzing Group employs 175 apprentices, 95 percent of whom work at Lenzing sites in Austria and 5 percent in Grimsby (Great Britain). **G4-10**

Best Practice box 6/1

Restructuring challenge successfully managed

The Lenzing Group has always been committed to treating its employees fairly and with dignity. This principle applies in both good and economically challenging times.

In the years 2011, 2012 and 2013, Lenzing was faced with a steep fall of about 60 percent in market prices for viscose fiber compared to the peak levels reached at the end of 2010. A cost optimization program called "excelLENZ" was developed as a means of safeguarding the company's economic strength in spite of this market slump. The initiative was launched in November 2013 and annual savings amounted to a total of EUR 160 mn, with personnel expenses only accounting for about one quarter of the cost reductions. Group-wide staffing levels were cut by about 650 full-time equivalents (FTE), corresponding to approximately 10 percent of the workforce. The company succeeded in implementing this program around the world without a single legal conflict, strike, or public protest on the part of its staff.

[38] Employees (excluding trainees and leased labor) in Austria, Czech Republic, GB, USA, China, Indonesia, India and Singapore

Diversity

Lenzing promotes the personal development of its employees regardless of factors such as origin, religion, or gender. Cultural diversity and respect for others are an integral part of daily working life at Lenzing and have become even more important within the context of the sCore TEN strategy.

For the Lenzing Group, openness and integrity are key factors for successful cooperation in a multi-cultural environment. Consequently, the corporate culture of the Lenzing Group is aimed at encouraging tolerance and respect for other people and their respective cultural backgrounds. Nevertheless, the proportion of employees with a nationality other than the country of location is only 2.5 percent, as the workforce is mainly recruited locally. The proportion of female employees is growing slightly year by year, increasing from 12.1 percent in 2014 to 12.3 percent in 2015 and 13.0 percent in 2016. The proportion of employees over 50 years of age has increased slightly in recent years from 18.1 percent in 2014 to 20.4 percent in 2015 and 21 percent in 2016. The turnover rate (number of persons leaving the company) has decreased in the past year as the prospects for the Lenzing Group have improved: Starting with 10.1 percent in 2014, the turnover rate rose to 12.1 percent in 2015, but fell sharply to 7.1 percent in 2016. **G4-10, G4-LA1, G4-LA 12**

Table: Information by country 2016 table 6/1

	Headcounts	Female in %	Age > 50 in %	Turnover rate in %
Group	6,043	13.0	21.3	7.1
Austria	2,773	16.9	27.7	7.2
Indonesia	1,743	3.6	9.3	3.9
China	733	15.1	2.7	6.3
Czech Republic	382	17.0	47.1	1.8
USA	189	12.7	39.2	6.9
Great Britain	164	12.2	45.1	2.4
Other	68	52.9	11.8	13.2

G4-10, G4-LA1, G4-LA12

Employees with disabilities

In 2016, 102 employees (119 in 2015) with disabilities were employed by the Group. Most of them are employed in Austria (82), followed by Czech Republic (14), USA (4), and Indonesia (2). The plant in Grimsby, GB, does not hold formal records of employees who are registered as disabled. At the Nanjing plant, no employees with disabilities were reported. **G4-LA12**

There were no grievances, cases of discrimination, or human rights abuses reported in 2016. **G4-LA16, G4-HR12**

In Austria, 100 percent of employees are included in collective bargaining agreements and these agreements therefore apply to 45.9 percent (2015 45.6 percent) of the global Lenzing workforce. In all other countries Lenzing complies with local labor standards. **G4-11**

Works council

The management of the Lenzing Group adopts a cooperative approach to running the company. It is committed to a transparent internal information policy, especially in its relations with official employee representatives. Local works councils have been established at the Lenzing, Heiligenkreuz, Paskov, and Nanjing plants. In accordance with the Austrian Labor Constitution Act, several representatives of the Works Council of Lenzing AG have seats on the Lenzing Supervisory Board and enjoy voting rights. The Works Council of Lenzing AG represents the interests of all employees at the sites in Lenzing and Heiligenkreuz (Austria). Trade union representatives of various factions and groups are active at the Lenzing Group's sites in Paskov, Purwarkarta, Grimsby, and Mobile. None of the production sites – namely Grimsby, Paskov, Purwakarta, Nanjing, Mobile, Lenzing, and Heiligenkreuz – reported any strike days in the reporting period.

Lifelong learning and training

Well-educated and motivated employees are the basis for sustainable corporate success, which is why Lenzing strongly focuses on their ongoing training and further education. The total amount of spending on lifelong learning and training therefore grew from EUR 3.1 mn in 2015 to EUR 3.3 mn in 2016.

Training and education activities are generally managed by Global Human Resources (HR). The Lenzing Training Center (Bildungszentrum Lenzing – BZL), which was established in 1998, offers a variety of training and development programs for the Lenzing Group and other external companies. These training programs for Lenzing AG focus mainly on apprentice training and development training.

In Purwakarta, Indonesia, there is a smaller spin-off of the BZL with similar training courses. In addition to these local programs, the Lenzing Group offers international programs on a local and global basis for all employees. In 2016, for example, Global HR implemented such programs as "Springboard" and a development program for engineers called "Lenzing Lyocell Talents".

Employees of the Lenzing Group are continually supported and challenged during the different phases of their professional careers, whether as apprentices, specialist employees, or executives. The broad range of professional development measures aims to recognize employee potential as well as to expand employees' personal, social, and professional competencies on the basis of customized training programs.

Besides a vast variety of training programs, the Lenzing Group places special emphasis on regular performance and career development reviews for all employees. This important management tool is used on an annual basis between employees and their direct superiors. It should give both parties the possibility – away from their everyday working situation – to review and reflect upon the current situation, as well as to define future objectives and initiatives to help further develop their working relationship.

In addition to agreeing on objectives for operational tasks and subsequent monitoring and control of how successfully these objectives have been achieved, the employee performance review should encourage and improve the communication culture within the company. **G4-LA10**

Best Practice box 6/2

Springboard
A 16-month global junior leadership development program called Springboard was successfully concluded in March 2016. It was initiated in 2014 and included 26 participants from Asia, the USA, and Europe. Springboard focused on such topics as culture and change, decision making, leadership, international communications, as well as virtual and practical cooperation. A second cycle of Springboard started in February 2017 with 30 participants.

Commercial Academy
In order to further strengthen Lenzing's leading position in customer intimacy, a Commercial Academy training program has been designed to address the increasingly demanding and challenging market environment. The Commercial Academy is a platform for all Lenzing employees working in commercial roles. It kicked off in August 2016 with pilot implementation of the negotiation skills, technical process know-how, and legal knowledge modules. The official roll-out is scheduled for 2017.

Global Fiber Academy
The Lenzing Fiber Academy was founded in 2004 to promote an interdisciplinary understanding of fiber expertise, better understanding of the value chain and of processes and technologies across the Lenzing Group.

In response to the initiative launched by the Learning & Development Austria department, the concept of the Fiber Academy was introduced at the plant in Purwakarta, Indonesia in 2016. Fourteen experts attended a "train the trainer" workshop. A short time later, the first courses offered by the Purwakarta Fiber Academy were successfully held. The course materials are now being translated into Bahasa, the official language of Indonesia, and will be rolled out further at the Purwakarta site.

A Fiber Academy targeting Lenzing's management was also created and implemented for the first time during the 2016 financial year.

Health & safety

Health

Based on a comprehensive situation analysis carried out at all Lenzing sites, a new health management system has been developed for the Lenzing Group ("House of Health"). It is based on the concept of salutogenesis[39]. The concept is tailored to the prevailing health and social system of the respective country in which Lenzing operates, offering a conceptual framework for targeted investments in health care.

Health management at Lenzing's production sites
Lenzing offers an internal system of basic medical care to its employees at all sites, compensating for existing deficits in the health care system of the respective country. For a brief overview of the Lenzing Group's health services, see table 7/7 (appendix).

Lenzing provides employees with a diagnostic-therapeutic service via national medical partners, which is adapted to local needs and the size of the plant. The spectrum of medical services ranges from a few medical examinations and therapy sessions per week at the sites in Mobile (USA), and Grimsby (UK), to medical care for family members at a separate health care facility located in Purwarkata, the town neighboring the Indonesian fiber plant.

The large production facilities in Purwarkata and Lenzing also have outpatient clinics with medical personnel to offer swift and competent treatment for acute medical conditions.

In terms of emergency medical care, Lenzing goes beyond the natural offering of basic first aid services. At present, Lenzing boasts eight to twelve qualified, regularly trained first responders per 100 employees. Furthermore, emergency physicians and paramedics at the production sites, who are familiar with operational hazards, ensure high-quality medical assistance for injured or acutely ill persons.

An emergency rescue service is operated on the Lenzing site in cooperation with and under the auspices of the Austrian Red Cross. In case of emergency, it works closely with doctors at the local health care center (IBG Gesundheitszentrum Lenzing) and the company's own fire brigade. A similar model with local partners is implemented in Purwarkata. Lenzing has its own modern ambulances in in Purwarkata (Indonesia) and Lenzing (Austria) to ensure swift further medical assistance at specialist medical facilities.

[39] Developed by Aaron Antonovsky († July 7, 1994), an Israeli-American professor of sociology. In contrast to pathogenesis, the salutogenic approach does not focus on the question "What makes a human being ill?" but rather "What keeps a human being healthy?"

Info box 6/3

Purwakarta (Indonesia)
Communal health services
For decades now, all employees at the production site in Purwakarta (Indonesia) as well as their families, have been provided with comprehensive primary health care services. The site operates two company clinics, one is located on the factory premises and one in the city of Purwakarta, where most employees live.

An external service provider has been responsible for providing all medical services since 2012. In this way, Lenzing is able to ensure cost-effective services in line with extremely high international quality standards.

The two modern, well-equipped medical centers treat an average of 500 patients per week. On balance, the facilities provide medical care for a total of 6,000 people.

In general, both clinics offer treatment of acute and chronic diseases as well as dispensing of medicines. The clinic in the city provides additional services, such as simple laboratory diagnostics and basic dental care. The clinic on the production plant premises have knowledge about occupational medicine and provide initial medical care in case of emergencies. If necessary, the patients are then transported to a nearby hospital in the company's own ambulance.

Quick and competent primary care in the event of occupational accidents is also ensured by a large number of trained first aiders. At present, eleven out of every 100 employees are qualified first responders who undergo additional training once a year.

All health care facilities and measures are managed and monitored by a highly qualified Indonesian occupational health physician employed by the company.

Since 2014, preventive health care programs have increasingly been offered with the objective of raising overall awareness among employees. The company's health care priorities in coming years will be to further develop these programs as well as to optimize the occupational medical care.

Info box 6/4

Mobile, USA:
iHealthy wellness program
The production plant in Mobile (USA) has offered support to employees in the form of health monitoring for many years. In response to growing concerns for the health and well-being of its workforce, and the impact that undiagnosed medical conditions can have on employees and the company, the "iHealthy Wellness Program" has been implemented.

iHealthy is managed by an external health service provider, thereby significantly reducing the burden on management, while ensuring the confidentiality of employees' medical information. The program includes an annual biometric screening for each employee, feedback to the management team on key areas of concern, quarterly seminars to educate employees in these key issues, periodic "challenges" to encourage active participation in the program, and access to a personal wellness portal for employees to track their progress and obtain information to help them address their specific health issues (e.g. how to improve exercise and eating habits, manage stress, control blood pressure, and reduce body mass index).

In 2015, the company implemented an annual points system. Points are earned for a variety of healthy activities and, at the end of the year, employees are awarded prizes based on the number of points earned. In the first year of this program, 12 gifts were awarded for participation in logging "healthy points".

The program has been in place for over two years now and continues to gain in popularity.

Best Practice box 6/5

Lenzing (Austria)
Employees at the Lenzing site are offered a comprehensive occupational health promotion program, including such initiatives as a spinal care and exercise program, fitness and relaxation courses,

smoking cessation seminars, ergonomics counseling, a continuation of the well-established Health Days, and identification and evaluation of psychological burdens at work.

Safety

Lenzing Group Policy for Safety, Health and Environment
The Lenzing Group's Safety, Health, and Environment (SHE) policy is based on the strong belief that protecting people from harm and preserving the environment are fundamental prerequisites for the business. Consequently, safety, health, and environment are enshrined as corporate values for the Lenzing Group.

- Activities are carried out in a way to protect people and the environment based on the belief that every incident, injury and occupational illness is preventable.
- Lenzing protects the environment by minimizing emissions and waste and by improving resource efficiency.
- In order to continuously improve SHE performance, objectives and targets are set and controlled and the safety culture, standards and systems are continuously developed and maintained.
- The Lenzing Group complies with all applicable legislation and regulations in the countries of their operation and goes beyond compliance to relevant industry standards.
- All employees are trained and involved in hazard identification, risk assessment and control.
- All employees are empowered to stop any task or activity if it cannot be carried out in a safe manner.

"Heartbeat for Safety": Cultural change calls for a new safety strategy
The Lenzing Group's sCore TEN strategy, presented in the fall of 2015, defines safety as one of the company's underlying values, along with sustainability and the Lenzing Code of Business Conduct.

Building on this, the Heartbeat for Safety concept has been developed. It provides a basis for all Safety, Health & Environment (SHE) activities to be carried out over the next five years.

The vision underlying this initiative is: "leave home healthy, come home healthy – injury free work at Lenzing is possible!" This forms the basis for Lenzing's new safety culture. Six development paths on two levels have been defined in order to realize this vision:

Employees

- Leadership competence in safety: from managers to safety leaders
- On an expert level: from technical experts to safety coaches
- Employee engagement: from reactive to proactive, collectively-driven preventive behavior

Systems

- Organization and processes: integration of fragmented practices to create harmonized processes
- IT/technical enablers: from isolated systems to solution platforms
- Quality assurance and quality control: from lagging to proactive indicators

Each of these development paths is backed by numerous projects, and some of these already began to be implemented in 2016.

High quality safety culture based on leadership training

An extensive training program lies at the heart of the "Heartbeat for Safety" concept. Great importance is attached to its practical relevance. Tours of the operating plants and workshops ("walk and talk") are essential elements of this training.

Around 300 safety culture foundation training sessions for executives were held in 2016 alone, and additional sessions are planned for 2017. Hazard perception, risk assessment, and respectful communication are taught. Audits are performed in the departments after the workshops. Follow-up support is provided to training participants within the context of coaching sessions. Meetings to discuss experiences are designed to promote learning throughout the organization and further strengthen the safety culture.

Safety, health, and environment action and reporting system – SHEARS

Within the context of the process harmonization envisaged by the new strategy, Lenzing's focus in 2015 and 2016 was on forging ahead with rolling out a core SHE process called "SHEARS". This is designed to act as the platform for managing incident reporting, and encompasses the following aspects:

- Incident reports
- Risk assessment
- Root cause analysis
- Task management
- Reporting & KPIs

Safety committees

In order to minimize as many potential hazards as possible, health and safety committees have been established at every Lenzing production site. The safety committees meet on a regular basis to decide on targets, strategies, and specific programs to be implemented at each location across the Group. They consist of both employee and management representatives. **G4-LA5**

Potentially hazardous areas

In the following areas of the Lenzing Group, employees are exposed to potential health and safety hazards:

- Production and logistics
- Research and development
- Business travel (especially by car)
- Areas where chemicals are used

Injuries and lost workday cases

The injury rate (accidents with less than one day of lost time) has generally been declining at all Lenzing sites from an average rate on Group level of 29.4 injuries per 1000 employees in 2014 to 24.1 injuries in 2016. Lost workday cases have also been decreasing from an average rate of 9.2 lost workdays per 1000 employees on Group level in 2014 to 6.1 days in 2016. There were no Lost Workday Cases in Grimsby (GB) during the reporting period and none in Mobile (USA) since 2015.

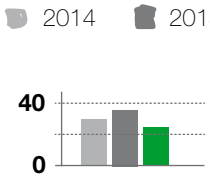
Work-related fatalities

In the period from 2014 to 2016, there was one work-related fatality of a contractor in China where a worker fell off a truck during loading in 2016. **G4-LA6**

Lenzing Group Number of injury cases table 6/2*

	2014	2015	2016
Group	211	251	180

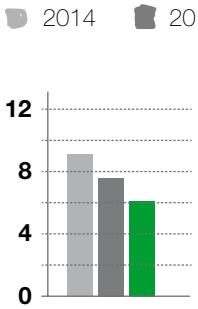
Lenzing Group: Injury rate of employees & supervised workers (per 1,000 employees) fig. 6/2*



Lenzing Group lost workday cases LWCs table 6/3

	2014	2015	2016
Group	59	47	40

Lenzing Group: Lost workday cases (LWC) Rate of employees & supervised workers (per 1,000 employees) fig. 6/3



* The injury cases in 2016 do not contain "Minor Injury No Treatment" (MINT) cases, for example, a mosquito bite. On the contrary, in 2014 and 2015 MINT cases were reported. This change has been made to provide better understanding of actual injuries which need first aid and medical treatment.

Corporate citizenship

As measured by its regional economic outputs wherever the company operates, Lenzing is an industrial company boasting significant regional economic strength in the respective regions.

A recent study[40] by Johannes Kepler University (Linz, Austria) on the macroeconomic and regional economic importance of the Lenzing Group came to the conclusion that the business operations of the Group result in measurable macroeconomic effects, which go above and beyond a purely economic impact.

On balance, the study concluded that the Lenzing Group creates or secures more than 19,000 jobs annually across the globe. Each job within the Lenzing Group creates or secures two additional jobs in other sectors of the economy. The public sector also profits from taxes and social security contributions resulting from the Lenzing Group's activities. **G4-EC8**

The study also evaluated the indirect regional employment effects resulting from the activities of the Group. The numbers of secured jobs exceed the numbers of the direct employed workforce significantly.

Effects on regional economies during the period under review 2012 – 2016:

Austria

- **Upper Austria** The Lenzing Group operates pulp and fiber production facilities at the Lenzing site, which employs a workforce of around 2,150 people. The Group's head office and central research & development activities are also located in Lenzing. As a consequence of the activities at the Lenzing site, the company secured an average of in total 6,124 jobs each year in Upper Austria during the period under investigation. Disposable income increased by EUR 388 mn p.a.
  The positive effects on the gross domestic product of Austria's federal province of Upper Austria amounted to nearly EUR 777 mn p.a. during the period under investigation. The manufacturing sector accounts for more than two-thirds of this amount, with with other sectors (trade, services, construction, infrastructure) accounting for the rest.
- **Burgenland** Lenzing's plant in Heiligenkreuz produces TENCEL® lyocell fibers. The positive effects on the gross domestic product of the federal province of Burgenland amounted to nearly EUR 102 mn p.a., whereas disposable income increased by EUR 52 mn p.a. Lenzing's site in Heiligenkreuz secured an average of 940 jobs during the period under investigation.

Czech Republic

- Lenzing produces pulp at its plant in Paskov. The contribution to the gross domestic product of the Czech Republic amounted to EUR 177 mn p.a. on average, and disposable income increased by EUR 79 mn p.a. On balance, Lenzing's facility in Paskov secured an average of 3,197 jobs each year.

Great Britain

- The Lenzing production plant in Grimsby manufactures TENCEL® lyocell fibers. The average contribution to Great Britain's gross national product was EUR 52 mn p.a., whereas disposable income rose by EUR 26 mn p.a. A total of 406 jobs p.a. were secured on average.

Indonesia

- The Purwarkarta plant operated by Lenzing in Indonesia – PT. South Pacific Viscose (SPV) – is one of the world's largest viscose fiber factories. The contribution of Lenzing to Indonesia's gross national product was around EUR 280 mn p.a. Disposable income rose by EUR 125 mn, and the plant's business operations secured an average of 5,058 jobs p.a. SPV is one of the biggest employers in the Purwarkarta region, and also continuously finances extensive infrastructure facilities and social services.

China

- The Nanjing plant operated by the Lenzing Group mainly produces viscose fibers for local needs. The factory's contribution to China's gross national product amounted to EUR 156 mn p.a., disposable income increased by EUR 69 mn annually and an average of 2,807 jobs were secured each year.

USA

- In Mobile, Alabama, Lenzing manufactures the TENCEL® fiber for the American nonwovens market as well as for export. The Mobile site made an average annual contribution of EUR 66 mn to the gross national product of the USA, increasing disposal income by EUR 33 mn each year and safeguarding an average of 521 jobs.

G4-EC8

Social community projects

Lenzing has been supporting a large number of social projects on a decentralized basis for many years. These projects include a long-standing microcredit program in Purwakarta (Indonesia) and various sponsorships of sport and social events and charities at all Lenzing sites. Based on the local needs, the site management teams decide which projects and initiatives are supported.

Neighbor relationship management

Conflict situations with neighboring residents ma y arise as a result of production-related circumstances, such as noise emissions, unpleasant odors or environmental pollution. Several such conflict situations were reported at all sites in 2016, with the exception of Grimsby, Mobile and Heiligenkreuz. However, as per December 31, no legal disputes relating to neighborhood conflicts with Lenzing companies are pending. **G4-SO2,G4-SO11**

[40] Schneider et al., 2016

Compliance

Over the past decade, Lenzing as a listed company has voluntarily complied with the Corporate Governance Code issued by the Vienna Stock Exchange, and taken measures to comply with all capital market regulations in accordance with the Issuer Compliance Regulation. In 2002, the company appointed a Compliance Officer, and has since regularly set up confidentiality areas, enacted blocking periods and trading bans, conducted training, and required both employees and suppliers to adhere to capital market regulations.

Similarly, procurement guidelines were set forth for particularly sensitive areas about 20 years ago. Lenzing imposed strict ecological rules at a very early stage to govern, for example, the purchase of wood and pulp (see chapter 3).

The first formal Code of Conduct issued by the Lenzing Group was drawn up in 2011 and entered into force in 2012. The Compliance Officer regularly informs the Supervisory Board on compliance matters.

New Global Code of Business Conduct

When the Lenzing Group resolved to realign its corporate strategy based on sCore TEN during the 2015 financial year, internal company control systems and underlying control processes were evaluated within the framework of a comprehensive analysis process. The relevant areas were updated or optimized.

This resulted in a more comprehensive and transparent compliance structure than in the past. The new Global Code of Business Conduct of the Lenzing Group issued at the end of 2016 was one of the fruits of this optimization process. The code clearly defines rules for business practice, which are binding for all Lenzing team members. Accordingly, it constitutes a solid foundation that facilitates trusting relationships between the Lenzing Group and its stakeholders. **G4-56**

Compliance management system (CMS)

The Legal Management & Compliance department of the Lenzing Group is responsible for dealing with all legal and compliance issues within the Lenzing Group except Human Resources and Safety, Health, Environment issues with legal implications which are handled by external legal councelors. A central task of the Legal Management & Compliance department is further refinement of a compliance management system (CMS) for processes regulating compliance with statutory requirements and directives as defined below. Legal Management & Compliance reports directly to the Chief Executive Officer.

The Legal Management team supported by a compliance management system (CMS) is responsible for the following tasks:

- Continually identifying compliance-relevant risks
- Taking steps to minimize these risks
- Developing compliance-relevant policies and monitoring adherence to them
- Training of employees
- Providing assistance on compliance issues
- Dealing with and correcting cases of improper behavior
- Preparing regular reports to the Management Board and Supervisory Board or to the Audit Committee

All compliance-relevant documents of the Lenzing Group were systematically categorized and hierarchically arranged. The document pyramid encompasses the entire framework of internal rules applicable within the Lenzing Group and defines a separate approval process for each document category.

Policies, Directives and Guidelines processes, for example the safe handling of chemicals.
G4-56 fig. 6/4

- Policies are declarations of intent on the part of the Lenzing Group which define behavioral standards for all employees. These include the Global Code of Business Conduct as guiding principle, the Policy on Human Rights and Labor Standards, the Policy for Safety, Health and Environment, Sustainability Policy and Quality Policy).
- Directives specify rules of conduct which are binding for all employees. Important directives include the Antitrust Directive as well as the Anti-Bribery and Corruption Directive.
- Guidelines provide instructions focusing primarily on work

Global Code of Business Conduct as an umbrella principle and integral part of sCore TEN

The Lenzing Group places special emphasis on its corporate values as part of its new sCore TEN strategy. One guiding principle in this context is that the way business is conducted is as important as the business itself. This is why the Lenzing Group updated its Global Code of Business Conduct (CoBC) in 2016 to attach even greater importance to compliant and sustainable business conduct.

The CoBC is a framework of legal/ethical standards within which all team members of the Lenzing Group operate. It establishes core values and behaviors that guide the way the Lenzing Group conducts business. The CoBC applies to all team members around the globe. The content of the CoBC is based on and interconnected with different policies and directives of the Lenzing Group. It is divided into three parts, namely social & cultural responsibility (people), environmental & ecological sustainability (planet), and fiscal & economic accountability (profit).

For more information, please refer to http://www.lenzing.com/fileadmin/template/pdf/konzern/lenzing_gruppe/code_of_conduct.pdf

Key directives and special-purpose codes

Anti-Bribery and Corruption Directive
The Lenzing Group has zero tolerance towards bribery and corruption in any form and is committed to encouraging a culture of honesty, disclosure, and fair dealings with its customers, service providers, suppliers, and competitors.

The Anti-Bribery and Corruption Directive (the ABC Directive) outlines the behavioral requirements underlining this commitment. It is designed to enable executives, employees, and those performing services for or on behalf of the Lenzing Group to recognize when issues arise and to be aware of what they should do in such circumstances.

Antitrust Directive
The Lenzing Group fully accepts the principles of free and fair competition and commits itself to complying with all relevant antitrust requirements. The same level of commitment is expected from Lenzing's business partners. In all circumstances, the Lenzing Group will distance itself from any anti-competitive and unfair practices on the part of its customers, suppliers, agents, distributors, or competitors.

The Antitrust Directive provides a detailed overview of the most relevant antitrust-related circumstances in order to help all employees of the Lenzing Group to identify, avoid, prevent, and report potential competition law infringements.

Global Supplier Code of Conduct
The Global Supplier Code of Conduct outlines Lenzing's expectations for supplier conduct with respect to safety, health, labor and human rights, environmental protection, ethics and management practices. Lenzing's suppliers are obliged to provide safe working conditions, treat workers with respect, act fairly and ethically and use environmentally responsible practices wherever they make products or perform services on behalf of the Lenzing Group. By setting strict requirements, Lenzing's Global Supplier Code of Conduct helps promote an environmentally and socially conscious supply chain.

Issuer Compliance Directive
Lenzing AG shares are traded on the Prime Market and ATX of the Vienna Stock Exchange. In addition, a corporate bond issued by Lenzing AG is listed on the Vienna Stock Exchange. Consequently, Lenzing AG is obliged to operate in accordance with the applicable Issuer Compliance Ordinance of the Austrian Financial Market Authority. These guidelines regulate the handling of compliance-relevant information in capital market-oriented companies in order to prevent the inappropriate use of such information. The Issuer Compliance Ordinance also prescribes specific organizational and structural measures aimed at preventing the misuse of compliance-relevant information. Lenzing AG has implemented all the structures and measures contained in the ordinance, for example by appointing a Compliance Officer, setting up confidentiality areas, and specifying blocking periods prohibiting trading by certain groups of people. **G4-56**

New whistleblowing system

In 2016, it was possible to report misconduct and concerns about unethical or unlawful behavior, as well as matters relating to organizational integrity via a link in the Group Portal or by a telephone contact with the Compliance Officer. This contact can also be used for seeking general advice on ethical and lawful behavior. In 2016, five concerns and requests were received. All of them were addressed and four were resolved within the reporting year. In 2016, there was one confirmed incident of corruption by employees of the Lenzing Group. **G4-58**

Compliance training

The Code of Business Conduct published in the 2016 financial year applies to all team members of the Lenzing Group. Accordingly, an international training program has been developed to ensure that all Lenzing Group employees are familiar with, understand, and consciously live by the contents of the code in their daily work. Implementation of the training program will begin in 2017, with the aim of every team member of the Lenzing Group undergoing CoBC training by 2019.

Several live training sessions and e-learning courses on the issue of anti-corruption (i.e., ABC Directive) took place in the 2016 financial year. For example, large-scale training sessions were held in Shanghai, Mobile, and Lenzing throughout 2016 for more than 400 team members.

Furthermore, all board members, all managers reporting directly to board members, and all area and department managers (in total about 200 persons) were informed about anti-corruption policies and procedures by e-mail in 2016. In addition, all permanent Confidentiality Area Members received the annual Issuer Compliance Live Training. **G4-SO4**

Enforcement

The Compliance Officer reports directly to the Audit Committee of the Supervisory Board twice a year. A Compliance Report is also included in the company's annual reports as part of the Corporate Governance Report.

Policies focusing on handling sensitive data of the Lenzing Group (e.g. "Protection of Confidential and Strictly Confidential Information") have also been specified within the context of implementing the new CoBC. In this regard, a decision-making committee defines different levels of secrecy depending on the scope and importance of the respective know-how. Once a certain level of secrecy is reached, data transfer takes place exclusively via a secure system with a limited and carefully monitored group of users.

In 2016, no governmental actions or legal claims were brought against the Lenzing Group regarding corruption or anti-trust laws.

Lenzing provided no financial contributions to political causes. In 2016, there were no significant fines or non-monetary sanctions for non-compliance with laws and regulations **G4-SO5, G4-SO6, G4-SO7, G4-SO8 G4-EN29, G4-PR2, G4-PR4, G4-PR9**

Sustainability benefits of Lenzing™

TENCEL®

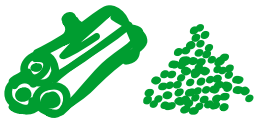
Modal®

Description

TENCEL® fiber is produced using the lyocell process which won the European Award for the Environment from the European Union as an environmentally friendly technology. Unique physical properties such as tenacity (especially when wet), moisture management and pleasantness to the skin make TENCEL® fiber an appealing material for a wide range of usages.

Lenzing Modal® fiber is manufactured from the natural raw material beech wood at the Lenzing facility utilizing unique integrated process management. Besides being especially soft and pleasant to the skin, the fibers are known for their luster and brilliant colors. The dyeing behavior of Lenzing Modal® fiber is very similar to that of cotton.

Wood and pulp



Lenzing is committed to the protection of ancient and endangered forests. In 2016, the Canadian NGO Canopy ranked the Lenzing Group as the industry leader for its sourcing practices, sustainability commitments, innovations and its progress made towards those goals.

More than 99 percent of Lenzing's pulp and underlying wood are certified by or controlled in accordance with FSC® and PEFC™ standards[1].

Wood is not only a renewable raw material, it also contributes to a better carbon balance by capturing CO_2, thus reducing climate change impacts. Forests also provide fresh water, oxygen, climate regulation, flood resilience, biodiversity and recreation. Forests grow without the use of chemical fertilizers and artificial irrigation.

TENCEL® fiber is based on various tree species, e.g. eucalyptus, spruce, pine, birch and beech. TENCEL® fibers are available with chain of custody FSC® certificate

Lenzing Modal® fiber is based largely on wood from beech trees available with PEFC™ and FSC® certifications and regionally sourced from sustainably managed forests in Austria and surrounding countries, resulting in short transportation distances and its sourcing complies with the strict European forest regulations. No planting is needed as beech trees rejuvenate by themselves.

Fiber production

The lyocell technology of Lenzing achieves a significant reduction of chemicals due to the conversion of pulp into fiber through a closed-loop physical process.

The closed-loop system is based on the solvent NMMO[2], of which more than 99 percent is recovered and reused with close to zero emissions. The water footprint of TENCEL® fiber is 1.7x lower than that of generic viscose fibers[3].

Lenzing Modal® fiber is produced exclusively in Austria, using an integrated production process in which the raw material pulp is manufactured at the same site as the fiber itself.

The pulp production at Lenzing is self-sufficient in terms of energy while supplying a significant amount of energy for the fiber production.

A share of bioenergy exceeding 83 percent results in low fossil fuel use and a very small CO_2 footprint: The climate change impact of Lenzing Modal® is 88 percent lower than that of generic modal[4].

Fiber products

LENZING Viscose®

With almost 80 years of experience in producing viscose fibers, Lenzing sets the international quality standards in the industry for this product. Lenzing Viscose® is considered a premium product on the world market and is typically used in ladies' outer garments, such as elegantly flowing printed dresses. Because of its purity, pleasantness to the skin and natural absorbency, Lenzing Viscose® fiber is also an outstanding choice for sensitive hygiene applications.

Depending on the production site, Lenzing Viscose® fiber is largely based on wood from eucalyptus, beech and spruce. Lenzing Viscose® fibers are available with chain of custody FSC® and PEFC™ certificates.

The viscose process is a chemical-technological process. All individual stages are electronically monitored. Applied chemicals are recovered and reused. In addition, valuable co-products such as sodium sulfate are obtained and provided to other industries.

All sites are certified according ISO 9001, ISO 14001 and OSHAS 18001.

End of life

Lenzing fibers are fully biodegradable under soil and marine conditions, and compostable.

FSC® and PEFC™ certifications ensure that negative impacts on local populations are avoided. These certifications uphold indigenous peoples' rights of ownership and use of land and resources. People who work in certified forests and plantations benefit from fair labor rights.

Fair labor and indigenous people's rights

Labor rights are subject to local laws. At all Lenzing sites, employees benefit from Lenzing standards, fair wages due to collective bargaining and national protection of basic human rights.

Lenzing's commitment to Labor rights is covered by the following documents:

- Lenzing Global Code of Business Conduct (COBC)
- Lenzing Global Supplier Code of Conduct (SCOC)
- Policy on Human Rights and Labor Standards
- Wood and Pulp Policy
- Policy for Safety, Health and Environment (SHE)

1) Lenzing reserves itself the right to use and investigate small amounts of raw material that is submitted to a due diligence procedure largely following FSC® guidelines but may not yet be fully certified.
2) NMMO – N-Methylmorpholine N-oxide is an aqueous, biodegradable, organic solvent
3) 0.046 m^3/kg fiber for TENCEL® vs 0.1245 m3/kg fiber for generic viscose. Source: Higg MSI
4) Climate change: 1.28 kg CO_2eq/kg fiber for Lenzing Modal® vs. 10.62 kg CO_2eq/kg fiber for generic Modal. Soure: Higg MSI

7 Appendix

GRI Index

According to the criteria of the Global Reporting Initiative ("Core"), all General Standard Disclosures and the Specific Standard Disclosures for all aspects of relevance according to the materiality analysis have been described in this Report on the basis of G4 indicators. The following GRI Content Index contains the relevant references, indicating the chapters and page numbers.

The verification body for this report is Quaility Austria, Trainings, Zertifizierungs und Begutachtungs GmbH., Vienna. This company has an in-depth knowledge of the Lenzing Group and has been the certification body for the various ISO certifications for many years.

GRI G4 General standard information table 7/1

General standard information	Short description of information disclosed	Page	External assurance
Strategy and analysis			
G4-1	Declaration from the most senior decision maker	5	Quality Austria
G4-2	Description of key impacts, risks and opportunities	11, 16, 17, 30	Quality Austria
Organizational profile			
G4-3	Organizational profile: brands, products and services	10, 12, 26	Quality Austria
G4-4	Overview of products	47, 61, 76, 77	Quality Austria
G4-5	Organizational profile: headquarters of the organization	8, 9	Quality Austria
G4-6	Overview most important locations	8, 9	Quality Austria
G4-7	Nature of ownership and legal form	10	Quality Austria
G4-8	Markets	11	Quality Austria
G4-9	Organizational profile: size of the organization[1]	10, 67	Quality Austria
G4-10	Employment profile	67, 68	Quality Austria
G4-11	Number of employees covered by bargaining agreements	67	Quality Austria
G4-12	Description of supply chain	11	Quality Austria
G4-13	Changes in shareholder structure, changes in the supply chain, significant changes in the organization	10, 41	Quality Austria
Commitments to external initiatives			
G4-14	Precautionary principle	16, 30	Quality Austria
G4-15	Self-commitment for voluntary initiatives	21	Quality Austria
G4-16	Active memberships	21	Quality Austria
Identified material aspects and boundaries			
G4-17	The organization in the consolidated financial statements	10	Quality Austria
G4-18	Defining the report content	4, 14, 25	Quality Austria
G4-19	Material aspects	25	Quality Austria
G4-20	Boundary of the key aspects within the organization	24	Quality Austria
G4-21	Boundary of the key aspects outside the organization	25	Quality Austria
G4-22	Restatement in reporting	4	Quality Austria
G4-23	Changes in the scope and the boundaries of the aspects	4	Quality Austria

Stakeholder engagement			
G4-24	List of stakeholders	21, 91	Quality Austria
G4-25	Selection of stakeholders	21	Quality Austria
G4-26	Engagement of stakeholders	17, 21, 91	Quality Austria
G4-27	Results of the engagement	21, 25, 91	Quality Austria
Report profile			
G4-28	Report period	4	Quality Austria
G4-29	Previous report	4	Quality Austria
G4-30	Reporting cycle	4	Quality Austria
G4-31	Contact to sustainability management	97	Quality Austria
GRI content index			
G4-32	GRI content index	4, 80	Quality Austria
External assurance			
G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report.	76	Quality Austria
Governance			
Structure and composition of governance			
G4-34	Governance structure and control bodies, committees for sustainability	20	Quality Austria
Ethics and integrity			
G4-56	Code of Conduct	30, 70, 74, 75	Quality Austria
G4-58	Report of concern for integrity	75	Quality Austria

[1)] Total capitalization borken down in terms of debt and equity

GRI Index

GRI G4 Specific standard disclosures table 7/2

Omissions: in exceptional cases, if it is not possible to disclose certain required information, provide the reason for omission.

Category: Economy

Specific standard disclosures	List of specific standard disclosure regarding each identified essential aspect and DMA	Page	External assurance
Economic performance			
G4-DMA	Disclosure of Management Approach	5	Quality Austria
G4-EC 2	Financial implications and other risks and opportunities for the organization's activities due to climate change	16, 17, 37	Quality Austria
Indirect economic impacts			
G4-DMA	Disclosure of Management Approach	72	Quality Austria
G4-EC 8	Significant indirect economic impacts, including the extent of impacts	66, 72	Quality Austria
Procurement practices			
G4-DMA	Disclosure of Management Approach	30	Quality Austria
G4-EC 9	Proportion of spending on local suppliers at significant locations of operation	36, 37, 40	Quality Austria

Category: Environmental

Specific standard disclosures	List of specific standard disclosure regarding each identified essential aspect and DMA	Page	External assurance
Materials			
G4-DMA	Disclosure of Management Approach	30	Quality Austria
G4-EN 1	Materials used by weight or volume[1]	31, 40	Quality Austria
Energy			
G4-DMA	Disclosure of Management Approach	50, 52	Quality Austria
G4-EN 3	Energy consumption within the organization	52	Quality Austria
G4-EN 5	Energy intensity	52	Quality Austria
Water			
G4-DMA	Disclosure of Management Approach	52	Quality Austria
G4-EN 8	Total water withdrawal by source	52	Quality Austria
Biodiversity			
G4-DMA	Disclosure of Management Approach	34, 35	Quality Austria
G4-EN12	Description of significant impacts of activities, products, and services on biodivertity in protected areas and areas of high biodiversity value outside protected areas	34, 35	Quality Austria
Emissions			
G4-DMA	Disclosure of Management Approach	50	Quality Austria
G4-EN 15	Direct greenhouse gas (GHG) emissions (Scope 1)	52	Quality Austria
G4-EN 16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	52	Quality Austria
G4-EN 18	Greenhouse gas (GHG) emissions intensity	52	Quality Austria
G4-EN 19	Reduction of greenhouse gas (GHG) emissions	52	Quality Austria
G4-EN 21	NOx, SOx and other significant air emissions	54	Quality Austria

Effluents and waste			
G4-DMA	Disclosure of Management Approach	50	Quality Austria
G4-EN 22	Total water discharge by quality and destination	52	Quality Austria
G4-EN 23	Total weight of waste by type and disposal method	55	Quality Austria
Products and services			
G4-DMA	Disclosure of Management Approach	16, 60	Quality Austria
G4-EN 27	Extent of impact mitigation of environmental impacts of products and services	17, 63	Quality Austria
Compliance			
G4-DMA	Disclosure of Management Approach	74	Quality Austria
G4-EN 29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	75	Quality Austria
Transport			
G4-DMA	Disclosure of Management Approach	41	Quality Austria
G4-EN 30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations and transporting members of the workforce	41	Quality Austria
Supplier environmental assessment			
G4-DMA	Disclosure of Management Approach	41	Quality Austria
G4-EN 32	Percentage of new suppliers that were screened using environmental criteria	36,41	Quality Austria
G4-EN 33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	41	Quality Austria

Category: Social

Labor practices and decent work

Specific standard disclosures	List of specific standard disclosure regarding each identified essential aspect and DMA	Page	External assurance
Employment			
G4-DMA	Disclosure of Management Approach	66	Quality Austria
G4-LA 1	Total number and rates of new employee hires and employee turnover by age group, gender and region[2]	67	Quality Austria
Occupational health and safety			
G4-DMA	Disclosure of Management Approach	70	Quality Austria
G4-LA 5	Percentage of total workforce represented in formal joint management-worker health and safety committees	71	Quality Austria
G4-LA 6	Type of injury and rates of injury, occupational diseases, lost days and absenteeism and total number of work-related fatalities	71	Quality Austria
Training and education			
G4-DMA	Disclosure of Management Approach	68	Quality Austria
G4-LA 10	Programs for skills management and lifelong learning	68	Quality Austria
Diversity and equal opportunity			
G4-DMA	Disclosure of Management Approach	67	Quality Austria
G4-LA 12	Composition of governance bodies and breakdown of employees per employee category	67	Quality Austria
Labor practices grievance mechanisms			
G4-DMA	Disclosure of Management Approach	67	Quality Austria
G4-LA 16	Number of grievances about labor practices filed, addressed and resolved through formal grievance mechanisms	67	Quality Austria

[1] Due to confidentiality reasons a quantitative description of chemical use is not part of the reporting
[2] No differentiated reporting of indicators according to gender

Human Rights

Specific standard disclosures	List of specific standard disclosure regarding each identified essential aspect and DMA	Page	External assurance
Human rights grievance mechanisms			
G4-DMA	Disclosure of Management Approach	67	Quality Austria
G4-HR 12	Number of grievances about human rights impacts filed, addressed and resolved through formal grievance mechanisms	67	Quality Austria

Society

Specific standard disclosures	List of specific standard disclosure regarding each identified essential aspect and DMA	Page	External assurance
Local communities			
G4-DMA	Disclosure of Management Approach	72	Quality Austria
G4-SO 2	Operations with significant actual and potential negative impacts on local communities	73	Quality Austria
Anti-corruption			
G4-DMA	Disclosure of Management Approach	74	Quality Austria
G4-SO 4	Communication and training on anti-corruption policies and procedures	75	Quality Austria
G4-SO 5	Confirmed incidents of corruption and actions taken	75	Quality Austria
Public policy			
G4-DMA	Disclosure of Management Approach	75	Quality Austria
G4-SO 6	Total value of political contributions by country and recipient/beneficiary	75	Quality Austria
Anti-competitive behavior			
G4-DMA	Disclosure of Management Approach	75	Quality Austria
G4-SO 7	Total number of legal actions for anti-competitive behavior, anti-trust and monopoly practices and their outcomes	75	Quality Austria
Compliance			
G4-DMA	Disclosure of Management Approach	73	Quality Austria
G4-SO 8	Monetary value of significant fines and total number of non-monetary	75	Quality Austria

Product responsibility

Specific standard disclosures	List of specific standard disclosure regarding each identified essential aspect and DMA	Page	External assurance
Customer health and safety			
G4-DMA	Disclosure of Management Approach	55	Quality Austria
G4-PR 1	Percentage of significant product and service cagtegories for which health and safety impacts are assessed for improvement.	55	Quality Austria
G4-PR 2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products	75	Quality Austria
Product and service labeling			
G4-DMA	Disclosure of Management Approach	55	Quality Austria
G4-PR 3	Type of product and service information required by the organization´s procedures for product and service information and labeling	56, 57	Quality Austria
G4-PR 4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling	75	Quality Austria
Compliance			
G4-DMA	Disclosure of Management Approach	74	Quality Austria
G4-PR 9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	75	Quality Austria

Validation and Test Certification

Quality Austria Trainings-, Zertifizierungs- und Begutachtungs GmbH, Zelinkagasse 10, 1010 Wien, Österreich, has been commissioned by Lenzing AG with its corporate headquarters at Lenzing / Austria to evaluate the company's conformity regarding the international guidelines for sustainability reports according to the Global Reporting Initiative, GRI G4.0 with the option 'core'.

The defined focus areas as well as the key performance indicators determined our methods of examination. Figures, taken from data analyzes were random checked for plausibility and correct transfer of relevant information and data in the report. There was no further evaluation of financial statements and performance indicators, which were carried out by a certified public accountant at the close of the financial year. We examined the conforming display of the GRI account data in this report. The evaluation of future indications was also not part of our mandate.

The management of Lenzing AG is wholly responsible for the compilation of the report, as well as its content, in accordance with the set down criteria. This responsibility encompasses the development, implementation, and the surety of internal controls, which in turn are essential for the generation of this reporting, in order to avoid the inclusion of false information. The examined data and information, which were validated, are mentioned in the Lenzing GRI Content Index in the appendix of the report.

During the validation, not only the evaluation of formal reporting criteria was undertaken, but also the qualitative establishment of sustainability processes in the company were taken into consideration. Therefore, besides the onsite interviews in Lenzing, video conferences to the sites in Indonesia and UK were carried out. All at all more than 30 persons were interviewed.

The company Lenzing AG affirms (with this report) the strict ongoing alignment within the bounds of CSR. This orientation may be noticeably experienced during the reporting process. The aspects of sustainability are integrated into the integral business practices in a well-structured manner. The annual development is also integrated into the planning cycle and the sustainability goals will be derived from this strategy. Selected key figures are used in reporting to periodically track the process objectives.

The following priorities were outlined in the report, which are reflected in the materiality analysis:

- Responsible sourcing
- Efficient production regarding environmental, product safety and quality aspects
- Innovation for sustainable products
- Responsibility for people (employee and other stakeholders)

In the next reporting interval, more attention should be paid to the presentation of the main objectives and the corresponding programs. In addition, there should be a clearer link on the activities which were derived from the materiality analysis.

The auditors, Agnes Steinberger and Axel Dick, had thorough access to all necessary documents and information, which were unconditionally at their disposal, during the validation. They hereby verify that the sustainability report of Lenzing AG with its head offices in Lenzing / AT meets all the GRI requirements as laid down in the G4.0 core option. Lenzing accepts full responsibility for the figures used in the report.

qualityaustria
Succeed with Quality

Vienna, April 14th 2017

DI Agnes Steinberger
Product Expert CSR
Quality Austria

Material GRI aspects for the Lenzing Group sustainability report table 7/3

Lenzing Sustainability Issue	Individual Lenzing Sustainability Topics	Place in the value chain			GRI Aspect	G4 Indicator Code	Expected from G4
		Supplier	Own production	Customer/ Use/ Disposal			
Wood and Pulp Sourcing	Wood from sustainable forestry	x	x		MATERIALS, PRODUCT AND SERVICE LABELING, PROCUREMENT PRACTICES	G4-EN1 G4-PR3 G4-EC9	EN1: Materials used by weight or volume (non-renewable and renewable) PR3: Type of data required for product and service information and labelling EC9: Regional Suppliers
	Pulp from sustainable forestry	x	x		MATERIALS, PRODUCT AND SERVICE LABELING	G4-EN1 G4-PR3	
	Supplier assessment wood and pulp production	x			SUPPLIER ENVIRONMENTAL ASSESSMENT	G4-EN32	EN32: Percentage of new suppliers that were screened using environmental criteria
Energy use	Renewable Energy	x	x		ENERGY	G4-EN3	EN3: Energy consumption within the organization
	Energy Efficiency	x	x		ENERGY	G4-EN5	EN5: Energy intensity
Climate Change	CO_2 out of own production		x		EMISSIONS	G4-EN15	EN15: Direct greenhouse gas emissions (Scope 1)
	CO_2 from electricity consumption	x			EMISSIONS	G4-EN16	EN16: Energy indirect greenhouse gas emissions (Scope 2)
	Specific CO_2 emissions	x			EMISSIONS	G4-EN18 G4-EN19	EN18: Greenhouse gas emissions intensity EN19: Reduction of CO_2-emissions
	Effect of climate change on forest development and wood usage	x			ECONOMIC PERFORMANCE	G4-EC2	EC2: Financial implications and other risks and opportunities for the organization's activities due to climate change
Air Emissions	Air pollution from fossil fuel combustion	(x)	x		EMISSIONS	G4-EN21	EN21: NOx, SOx and other significant air emissions by type and weight
	Noise and smell		x		EMISSIONS	G4-EN21	EN21: NOx, SOx and other significant air emissions by type and weight
Water use and pollution	Own water consumption		x		WATER	G4-EN8	EN8: Total water withdrawal by source
	Water consumption in pulp production of suppliers	x					
	Water consumption in forestry	x					
	Water footprint compared to other fibers in different life cycle stages	x	x	x			
	Release of wastewater	x	x		EFFLUENTS AND WASTE	G4-EN22	EN22: Total water discharge by quality and destination
	Avoiding marine littering			x	PRODUCTS AND SERVICES	G4-EN27	EN27: Initiatives to mitigate environmental impacts of products and services
	Water consumption: finishing and consumer use phases			x	PRODUCTS AND SERVICES	G4-EN27	EN27: Initiatives to mitigate environmental impacts of products and services

Lenzing Sustainability Issue	Individual Lenzing Sustainability Topics	Place in the value chain			GRI Aspect	G4 Indicator Code	Expected from G4
		Supplier	Own production	Customer/ Use/ Disposal			
Waste	Hazardous waste from production	x	x		EFFLUENTS AND WASTE		
	Non-hazardous waste from production	x	x		EFFLUENTS AND WASTE		
	Biodegradability of fibres			x	PRODUCTS AND SERVICES	G4-EN27	EN27: Initiatives to mitigate environmental impacts of products and services
	Secondary material in process	x	x		MATERIALS		
Sustainable materials	Life Cycle Assessment (LCA) information for materials in value chain for own fibres	x	x	x	PRODUCTS AND SERVICES	G4-EN27	EN27: Initiatives to mitigate environmental impacts of products and services
Chemicals	Chemicals used in own producion		x		MATERIALS, PRODUCT AND SERVICE LABELING	G4-EN1	EN1: Materials used by weight or volume (non-renewable and renewable)
Environmental management practices in facilities	Management practices and management systems in all sites	x	x				
Leadership in sustainability/ Innovation	Product quality / wearing comfort / water reduction in finishing and consumer use phase...		x	x	PRODUCTS AND SERVICES	G4-EN27	EN27: Initiatives to mitigate environmental impacts of products and services
Compliance	Compliance in all its sites		x		COMPLIANCE	G4-SO7 G4-SO8 G4-PR2 G4-PR9 G4-EN29	SO7: Anti-competitive Behavior SO8: Significant fines PR9: non-compliance with laws and regulations concerning the provision and use of products EN29: on-compliance with environmental laws and regulations
Labour practices and Decent work	Employment practices		x		EMPLOYMENT	G4-LA1	LA1: Total number of new employee hires or employee turnover by age group, gender and region
	Occupational health and safety		x		OCCUPATIONAL HEALTH AND SAFETY	G4-LA5 G4-LA6	LA5: Percentage of total workforce represented in health and safety committees LA6: Type and rates of injury, occupational diseases, lost days, absenteeism and work-related fatalities by region and by gender

Lenzing Sustainability Issue	Individual Lenzing Sustainability Topics	Place in the value chain			GRI Aspect	G4 Indicator Code	Expected from G4
		Supplier	Own production	Customer/ Use/ Disposal			
Society	Impact on local communities		x		LOCAL COMMUNITIES; GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY	G4-SO2 G4-SO11	SO2: Operations with significant actual and potential negative impacts on local communities SO11: Grievances about impacts on society
					NDIRECT ECONOMIC IMPACTS	G4-EC8	EC8: Significant indirect economic impacts, including the extent of impact
	Anticorruption		x		ANTI-CORRUPTION	G4-SO4 G4-SO5	SO4: Communication and training on anti-corruption policies and procedures SO5: Confirmed incidents of corruption and actions taken
	Public policy (monetary contribution to political parties/candidates by country and in-kind contributions)			x	PUBLIC POLICY	G4-SO6	SO6: Total value of political contributions by country and recipient
Product responsibility	Customers health and safety			x	CUSTOMER HEALTH AND SAFETY	G4-PR1	PR1: Products and services for which health and safety impacts are assessed for improvement
				x	CUSTOMER HEALTH AND SAFETY	G4-PR1	
	Sustainability needs of customers			x			
	Product and service labeling		x	x	PRODUCT AND SERVICE LABELING	G4-PR3	PR3: Data required for product and service information and labelling
			x	x	PRODUCT AND SERVICE LABELING	G4-PR4	PR4: non-compliance with regulations and voluntary codes concerning product and service information

Additional information to chapters

Chapter 2

Lenzing Group: Engagement with stakeholders G4-26, G4-27 table 7/4

Stakeholder Group	How we engage	Stakeholder interest
Employees	Internal communcation, meetings and via works council/labour unions	Fair employment conditions, respect, safe & healthy working environment, transparent information, job security, long term & sustainable thinking
Media	Regular information and meetings	Understanding and ongoing public information of the development of Lenzing
Investors	Regular information and meetings	Better understanding of the business to minimize investment risks
Local communities/neighbors	Regular events, presentations and discussions with communities around Lenzing's production sites	Safety, Job creation, prosperity, clean environment in terms of water, air, noise; ethical standards, compliance, paying fair taxes
Customers (direct customers & value chain partners, brands & retailers)	Customer service and events about quality, product development, innovation, supply chain management	Innovative, sustainable and differentiating products, long term and trustful partnerships, open and transparent collaboration, reliability
Suppliers /contractors	One-on-one discussions, visits, supplier assessments, specialist conferences	Long-term and trustful partnerships, open and transparent collaboration, fair pricing, reliability
Industry associations & multi-stakeholder initiatives	Memberships including representatives of Lenzing as board members and contributions to working groups of some industry associations	Leadership & participation to change for the better, support industry interests, develop and shape standards, collaboration
Nonprofits/NGOs	Regular information & meetings as well as site audits	Drive a sustainable industry, change for the better, leadership
Academia (academics and research institutions)	Research grants, participation in collaborative projects, competence centers, and regualar exchange of information and views	Industry insights, market development analysis
Certification bodies and rating agencies	Audits, meetings and exchange of information	Transparency, evaluation of sustainable performance, accessability of data
Governments (from local to multinational)	Annual Report, Sustainability Report; provision of company data required to be published	Job creation, prosperity, clean environment in terms of water, air, noise; ethical standards, compliance, paying fair taxes

Chapter 3

Wood sourcing by country and year 2014-2016, in percent table 7/5

	Lenzing				Paskov			
	2014	**2015**	**2016**	**2014-2016**	**2014**	**2015**	**2016**	**2014-2016**
Austria	41	45	46	44	0	0	0	0
Germany	18	17	19	18	0	0	0	0
Czech Republic	10	8	8	9	72	67	78	72
Slovakia	20	20	19	20	12	22	13	16
Hungary	7	5	4	5	0	0	0	0
Poland	1	1	1	1	3	2	2	2
Slovenia	2	3	2	2	0	0	0	0
Belarus	0	0	0	0	11	8	6	8
Ukraine	1	1	1	1	2	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Regional	98	98	98		87	91	93	

Remarks:
Regional for Lenzing: all but Poland, Belarus, Ukraine
Regional for Paskov: all but Belarus, Ukraine

Development of forest sustainability indicators table 7/6

Indicator development 1990-2015			Remark
	Forest area	Growing stock	
	% change	% change	
Austria	+2.5	+25.1	
Germany	+1.1	+33.7	
Czech Republic	+1.4	+9.3	
Slovakia	+1.0	+21.0	
Hungary	+14.9	+27.6	
Poland	+6.2	+38.3	2000-2015
Slovenia	+5.1	+53.7	
Belarus	+11.0	+59.0	
Ukraine			
All	**+5.1**	**+33.3**	**Growing stock: without Poland (no data for 1990)**

Remarks: Forest area: 1) without “other wooded land”
Growing stock: 2) “available for wood supply”
Source: Schwarzbauer and Wittmann, 2016

Chapter 6

Health and medical services across the Lenzing Group table 7/7

	Lenzing	Purwakarta	Nanjing	Paskov	Heiligenkreuz	Mobile	Grimsby
Outpatient clinic	One fully equipped outpatient clinic on site	Two clinics - one on site, one off site					
In-house emergency care	Emergency care and first aid services	Emergency care and first aid services	Emergency care and first aid services	Emergency care and first aid services	Emergency care and first aid services	Emergency care and first aid services	Emergency care and first aid services
Diagnosis & therapy	Health days with general preventive medical checkup Work specific checkup	Annual general preventive medical checkup with individual therapy plan	Annual general and work specific preventive medical checkup	Regular medical checks	Health days with general preventive medical checkup	iHealthy Wellness Program with general preventive medical checkup	Free physiotherapy
Medical care for family members		Family members of all employees receive medical care					
Preventive medicine	Program for spinal health Smoking cessation courses Fitness and relaxation courses Influenza vaccination program Counseling by an occupational psychologist Ergonomics counseling	Various programs to increase health awareness	Health screening program in partnership with an external provider	Financial support for medical treatments, if employees attend health and educational classes	Health promotion program with sport coaching Influenza vaccination program Assessment of psychological stress factors and removal thereof	iHealthy Wellness Program	Employee Assistance Program (EAP) to help with psychosocial problems Individual offerings for fitness and healthy diet

Glossary

Alpha cellulose Alpha cellulose is a technical term referring to pulp purity describing the portion of the cellulose that has not decomposed and that is insoluble in 17.5% and in 9.45% sodium hydroxide solution at 25°C.

Biobased chemicals Chemicals from the biorefinery from renewable or regrowing origin, in this report also referred to as biorefinery products.

Biorefinery A biorefinery is a facility for sustainable processing of biomass into a spectrum of marketable biobased products and bioenergy.

Finishing agents Soap-like substances added in the final washing cycle. Finishing agents are used in the production of lyocell, viscose and modal fibers.

Biobased materials are derived from renewable or regrowing origin and can be biodegradable or non-biodegradable.

Biodiversity This is the variability among living organisms from all sources including, among others, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Bioenergy Bioenergy is energy produced from biomass. Various forms of energy such as heat and electricity are included. Also the biomass which contain bioenergy can be termed as bioenergy. The main source for bioenergy are renewable resources.

Biodegradable The ability of a substance to be broken down by micro-organisms (bacteria, fungi, etc.) into carbon dioxide and water, so that it can be consumed by the environment. Test methods describe a certain time, conditions of temperature, oxygen availability, and humidity, and set a certain percentage of breakdown.

Canopy Planet Society The Canopy Planet Society is a Canadian nonprofit organization that focuses on the conservation and protection of ancient and endangered forests.

Carbon footprint A carbon footprint is the sum of greenhouse gas emissions and greenhouse gas removals of a product system or an organization, expressed as a carbon dioxide equivalent.

Compliance In general, compliance means conforming to a rule, such as a specification, policy, standard or law. Regulatory compliance describes the goal that organizations aspire to achieve in their efforts to ensure that they are aware of and take steps to comply with relevant laws, policies, and regulations.

Cellulose The raw material of pulp production. Cellulose is a component of all plants. The cellulose content of wood is about 40 Percent.

Co-product By-products recovered during fiber production.

COD Chemical oxygen demand. A further method for assessing the organic load of waste water (besides BOD biological oxygen demand). It measures the degree to which the waste water can undergo chemical oxidation.

COSO® framework Standard for preparing a financial risk report , issued by the Committee of Sponsoring Organisations of the Treadway Commission.

Decarbonization Decarbonization denotes the declining average carbon intensity (CO_2 emission per unit of a product) over time. Products can be e.g. (primary) energy, gross domestic product, or any produced units by a company.

Dissolving pulp A special kind of pulp with special characteristics used to manufacture viscose, modal and lyocell fibers and other cellulose-based products. This grade of pulp is characterized by higher alpha cellulose content and by a high degree of purity.

Debottlenecking Increasing the production capacity of existing plants by eliminating bottlenecks.

Ecosystem services The benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other nonmaterial benefits.

EcoVadis EcoVadis aims to promote the environmental and social practices of companies through CSR performance monitoring within the supply chain and to support companies in improving sustainability. EcoVadis operates the first collaborative platform to deliver CSR ratings from suppliers to global supply chains.

Environmental, social and governance standards (ESG). Environmental, social and governance (ESG) refers to the three central factors in measuring the sustainability and ethical impact of an investment in a company or business.

EDANA– European Disposables and Nonwovens Association The international association serving the nonwovens and related industries, with European focus and global influence. It reflects the changing dynamics of the nonwovens industry, mainly focusing on harmonization of global technical standards.

FSC® The Forest Stewardship Council® (FSC) is an international non-profit organization for wood certification.
https://ic.fsc.org/

Furfural A clear yellowish liquid with a characteristic scent of almonds. During viscose fiber production, beech wood is cooked and furfural is released in a double distillation process.

Global Reporting Initiative (GRI) The Global Reporting Initiative (known as GRI) is an international independent standards organization that helps businesses, governments and other organizations understand and communicate their impacts on issues such as climate change, human rights and corruption.

The purpose of GRI is the development of globally applicable guidelines for sustainability reporting.

Greenhouse gas (GHG) emissions Emissions of gases which contribute to global warming by absorbing infrared radiation, thereby heating the atmosphere. The main contributors are carbon dioxide, methane, and nitrous oxide (N_2O).

Growing stock Volume over bark of all living trees more than (e.g. 10) cm in diameter at breast height.

Hemicellulose The designation for carbohydrates that are contained in wood but that are not cellulose. They can have the widest variety of compositions depending on the type of wood involved, e.g. xylan (in beech wood).

HIGG Index The Higg Index is the core driver of the Sustainable Apparel Coalition (SAC). an association of leading companies in the textile and chemical industry, non-profit organizations as well as research and educational experts aiming to create a more sustainable international textile industry. This suite of self-assessment tools empowers brands, retailers and facilities of all sizes, at every stage in their sustainability journey, to measure their environmental and social and labor impacts and identify areas for improvement. Higg delivers a holistic overview of the sustainability performance of a product or company—a big-picture perspective that is essential for progress to be made.

ISO 14001 An international standard for the certification of environmental management systems.

ISO 9001 An international standard for the certification of quality management systems.

Industrial wood Is round wood which is not processed into saw-wood or plywood, but mechanically disintegrated (e.g. into wood containing paper, or particle board) or chemically digested (e.g. pulp).

Integration All stages of fiber production are concentrated at one and the same site, from wood, the raw material, to pulp and fiber production.

KPI Key performance indicator, describes performance indicators in economy, which are used to measure progress or achievements related to key targets or success factors in an organization.

Lignin A polyaromatic component of wood that cannot be used for fiber production. It is used to generate power and to recover co-products.

Lignosulfonate The decomposition products of lignin from wood after pulping.

Lyocell fibers A type of cellulose fiber developed by Lenzing and produced in a very environmentally friendly solvent process. Lenzing markets these fibers under the brand name TENCEL®. Their properties enable new and innovative products to be developed and produced.

Magnesium bisulfite process This is an acidic single-step process for recovering cellulose from wood while at the same time separating out lignin and hemicellulose.

Man-made cellulose fibers A fiber industrially produced from raw materials of plant origin (e.g. wood).In this report we refer to man-made cellulose fibers as wood based fibers.

Microcredit program Microcredits are small loans between one Euro up to a few thousand Euro to small businesses mainly in developing countries. They are an important microfinance service, beside micro insurance and micro savings. The loans are usually given by specialized finance service providers, mostly for supporting development.

MSI Materials Sustainability Index. The quantitative part of the Higg Index, scoring materials according to their environmental impacts in the categories global warming, eutrophication, water scarcity, and abiotic resource depletion (fossil fuels), and according to chemistry applied.

Modal Modal is a viscose fiber refined under modified viscose production conditions and spinning conditions. It stands apart for its softness and is the preferred fiber for high-quality underwear and similar products. The fibers have improved use characteristics such as tenacity, dimensional stability, and so forth. Lenzing markets these fibers under the brand name Lenzing Modal®.

NMMO NMMO (N-methyl morpholine N-oxide) is a water-miscible organic solvent that is biodegradable. It is used in the lyocell process.

Nonwovens Nonwoven materials, fleece. Nonwovens made from Lenzing fibers are used in sanitary, medical and cosmetic applications

OHSAS 18001 Occupational Health and Safety Assessment Series (OHSAS) is a certification system for management systems pertaining to work safety.
www.ohsas-18001-occupational-health-and-safety.com

PEFC The Program for the Endorsement of Forest Certification Schemes (PEFC) is an international non-profit organization for wood certification.

Plantation Forests of exotic species that have been planted or seeded by human intervention and that are under intensive stand management, fast growing, short rotation. Examples: poplar, acacia or eucalyptus plantations.

Roundwood Is unprocessed raw wood, which can be processed into various products (plywood, saw-wood, paper, particle board, pulp).

Salutogenesis Developed by Aaron Antonovsky († July 7, 1994), an Israeli-American professor of sociology. In contrast to pathogenesis, the salutogenic approach does not focus on the question "What makes a human being ill?" but rather "What keeps a human being healthy?"

Semi-natural forest Forests of native species, established either through assisted or natural regeneration, or a mix of these under intensive stand management (Includes forests in which assisted regeneration carried out with same species and similar species composition as in the natural forests in the area.) Example: many production forests in Europe, some teak plantations.

Sustainable Apparel Coalition (SAC) an association of leading companies in the textile and chemical industry, non-profit organizations as well as research and educational experts aiming to create a more sustainable international textile and footwear industry. The SAC is the developer of the Higg Index.

Stakeholders All internal and external persons or groups affected directly or indirectly by business activities currently or in the future.

TENCEL® Wood based (cellulosic) fiber of the generic type lyocell, produced and branded by Lenzing

Textile Exchange (TE) Founded in 2002, is a global non-profit organization that works closely with all sectors of the textile supply chain to find the best ways to minimize and even reverse the negative impacts on water, soil, air, animals, and the human population.

VBV Austrian Sustainability Index VÖNIX VÖNIX is Austria's first sustainability index. It was created by the VBV Austrian pension fund and is comprised of listed Austrian companies that are leaders in terms of social and environmental performance.

VINÇOTTE The Belgian certification company VINÇOTTE tests and certifies products which are biodegradable in various environments, and / or suitable for industrial compostability and for proper disposal in a garden composter.

Viscose fibers A regenerated cellulose fiber produced from raw materials of plant origin (e.g. wood) using the viscose process. Lenzing markets these fibers under the brand name Lenzing Viscose®.

World Apparel Lifecycle Database (WALDB) WALDB will make it easier for apparel and footwear brands to identify environmental hotspots along their full value chain, to quantify the benefits of improvement and reduction measures and to benchmark individual footprints compared with industry averages.

World Economic Forum (WEF) The World Economic Forum (WEF) is a foundation based in Cologny in the Swiss canton of Geneva, which is primarily known for its annual meeting of the same name that takes place annually in Davos, in the canton of Graubünden. Internationally leading economists, politicians, intellectuals and journalists gather to discuss current global issues. These not only include economic, but also health and environmental policies.

Xanthate A precursor or an intermediate product in viscose production.

Xylose Wood sugar, component of thick liquor and base material for xylitol (sweetener that inhibits tooth decay).

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List of graphics & tables

Key Indicators of Lenzing Group 2016

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Revenue	EUR 2,134.1
EBITDA (earnings before interest, tax, depreciation and amortization)	EUR 428.3
Number of employees	6,045[1]
Share of female employees	13,0%[2]
Fiber capacity	1 mn tons/year
Own pulp supply share	56%
Share of fibers with forest certificate	58%
Share of wood source certified or controlled by forest certification	>99%
Energy consumption, specific improvement (2014=100%)	98,6%
GHG emissions, specific improvement (2014=100%)	95%
Water intake, specific improvement (2014=100%)	94%
Specialty fibers share	42%
Accident rate	24.1/1000 HC

[1)] Headcounts incl. trainiees – excl. leased labor
[2)] Excl. trainees

Notes

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