



Lenzing Nonwoven Fibers.

In harmony with nature.



The principle of photosynthesis

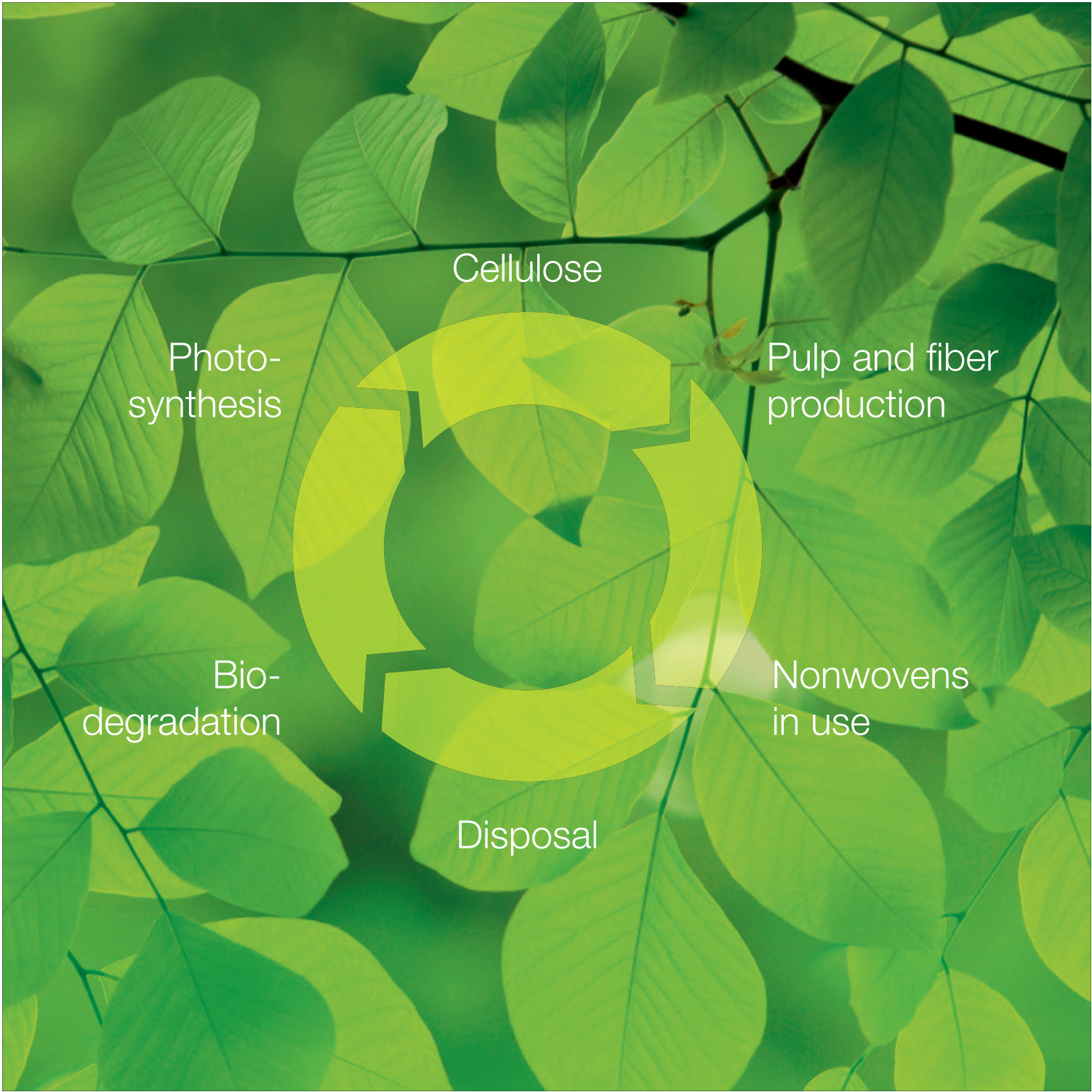
The average Greenhouse gas emissions in the production of Lenzing's nonwoven fibers are around half that of fossil fuel based fibers.

Nature uses photosynthesis to convert carbon dioxide and water in the environment into cellulose and oxygen.

Cellulose is renewable and abundant. The biopolymer is not only the foundation for our forests but also for Lenzing Viscose® and TENCEL®. Lenzing fibers are:

- Part of nature's cycle
- Pure and absorbent
- Sustainable
- Fully biodegradable





Cellulose

Photo-synthesis

Pulp and fiber production

Bio-degradation

Nonwovens in use

Disposal

The principle of nature's cycle

Every year, 40 billion tons of cellulose grow worldwide. Less than 1 % of the total cellulose is used by the pulp industry.

Products made from Lenzing Viscose® and TENCEL® preserve the environment since they are completely integrated in nature's cycle.

Nature returns to nature

- Cellulose from trees is used for the production of pulp which is the basic material for Lenzing fibers.
- In use, Lenzing Viscose® und TENCEL® bring the benefits of natural absorbency.
- After use, products made from Lenzing fibers will fully biodegrade.
- Lenzing Viscose® and TENCEL® are converted back into pure water and carbon dioxide which are reabsorbed during photosynthesis and converted into cellulose.

The botanic age

The renewable raw material wood is the basis for Lenzing Viscose® and TENCEL®. This makes Lenzing your partner now and for the future.



Lenzing fibers are based on the renewable raw material wood.

Lenzing takes its responsibilities for the environment very seriously. Therefore the trees for pulp production are derived from forests that are managed in line with certified forestry regulations.

Beyond this, Lenzing makes high demands on the wood utilized for the production of Lenzing fibers.

Wood is good:

- Wood is renewable
- Trees do not need fertilizers or artificial irrigation to grow
- Practically no use of arable land
- No genetic modification
- No illegally harvested wood

Is there an alternative?

The consumption of non-renewable energy for synthetic fiber production is about twice as high as for Lenzing's man-made cellulosic fibers.



Oil is one of our scarcest resources.

Arable land is needed for food

Natural fibers such as cotton use arable land which is needed to feed the growing population. By contrast, the majority of the trees used for the production of Lenzing fibers are grown on marginal land unsuitable for food crops.

Water sustains life on our planet

Lenzing fibers preserve scarce water resources. On the one hand, trees do not need artificial irrigation and, on the other hand, Lenzing produces its fibers with a minimum of water.

Oil is running out

The world's oil reserves will be used up within only a few decades at current consumption rates. Therefore the use of oil for the production of synthetic fibers clearly is not a sustainable option.

The principle of purity

Lenzing Viscose® and TENCEL® are based on wood.

Benefits of Lenzing fibers

- Highly absorbent
- Hygienic
- Exceptionally soft
- Pure (in accordance with European and US pharmacopoeias)



Lenzing fibers are the ideal choice for demanding applications.

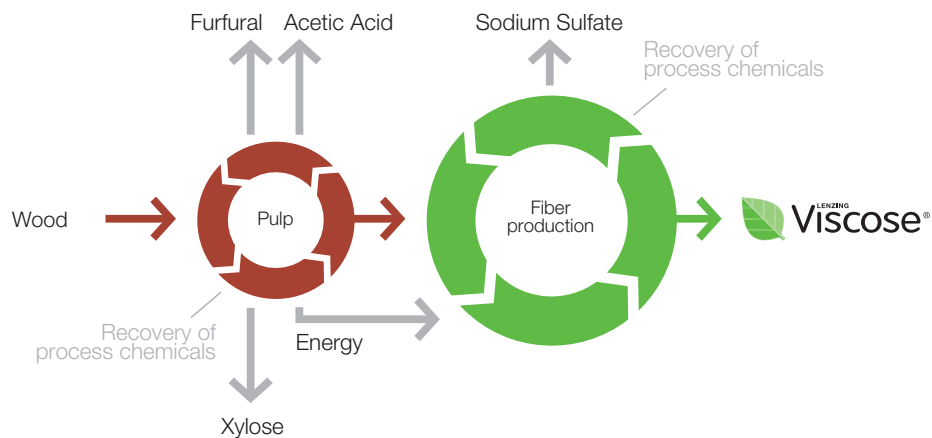
A variety of applications

- Wipes (cosmetic, baby, household)
- Medical products
- Tampons
- Technical nonwovens



Lenzing Viscose®

Sets the industry standard



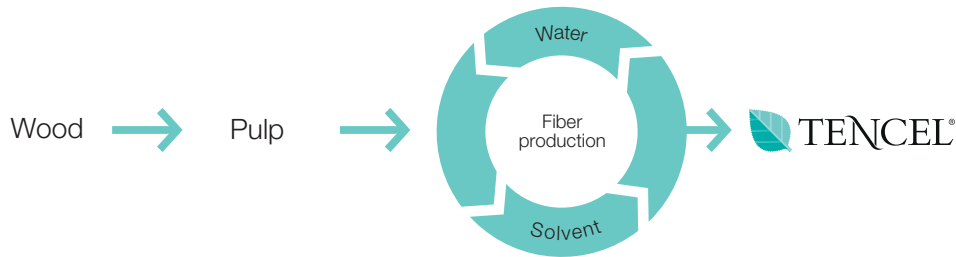
Integrated process management

Lenzing Viscose® lives the principle of sustainability. This is achieved by strict requirements for both pulp sourcing and fiber production.

The viscose production site in Austria is unique in having a fully integrated pulp and fiber production. This allows the optimized use of resources. By-products such as acetic acid, xylose and sodium sulphate are key ingredients in the food and glass industry. Any remaining materials are used as energy for the Lenzing process.

TENCEL®

The new age fiber



Lenzing fibers
preserve water
resources*


TENCEL®
Process & cooling water
~ 260 m³/t



Viscose®
Process & cooling water
~ 380 m³/t



Cotton
Artificial irrigation
~ 5.730 m³/t



Closed loop process management

The revolutionary thing about the production process of TENCEL® is the almost complete recovery of the solvent. This minimizes emissions to the environment and conserves the Earth's resources.

The environmentally sound manufacturing process was awarded the "European Award for the Environment".

* Source: Life Cycle Analysis conducted by the University of Utrecht

The principle of sustainability

Nature has lived the principle of sustainability from the very beginning. Lenzing has adopted this principle for the production of Lenzing Viscose® and TENCEL®.

Numerous certificates prove: Lenzing fibers help to preserve the environment and are subject to high quality standards.

The European and Nordic Eco-Labels provide guidance along the supply chain to identify sustainable products of high quality. Lenzing is the first fiber producer awarded with both labels. Lenzing fibers fully meet the criteria since they are based on the renewable raw material wood and produced in an ecologically sound manner.

The TENCEL® manufacturing process was presented with the “European Award for the Environment“ by the European Union due to its very low emissions during production.

The wood for the production of Lenzing fibers is derived from certified forests. These certifications include FSC, PEFC and SFI.



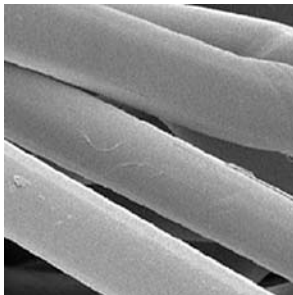
Organic power

Lenzing fibers are fully biodegradable and can decompose completely in soil burial or waste water treatment plants.

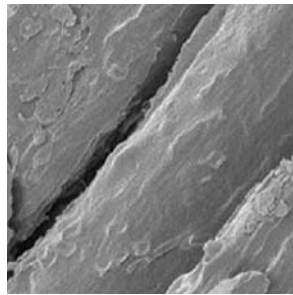
Nonwoven fabrics made from Lenzing Viscose® and TENCEL® have been certified and registered by DIN CERTCO as compostable materials.

Lenzing Viscose® and TENCEL® are converted into pure water and carbon dioxide which are re-absorbed during photosynthesis and converted into cellulose.

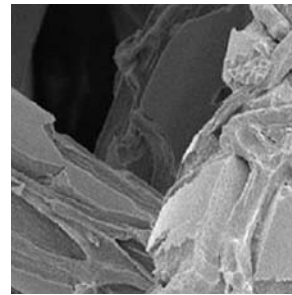
Lenzing fibers are made from nature and return to nature



0 days soil burial



4 days soil burial



7 days soil burial



Lenzing nonwoven fibers

Natural principles at a glance



Photosynthesis

Photosynthesis converts carbon dioxide and water into cellulose and pure oxygen. The wood originating from this process provides the basis for Lenzing fibers.



Absorbency and purity

Lenzing fibers are naturally pure and absorbent like the cellulose from which they are derived.



Sustainability

Lenzing only uses wood from responsibly managed forests. Sustainability is also given priority in the fiber production processes using state of the art recycling and recovery technologies.



Nature returns to nature

Lenzing fibers are fully biodegradable. Once composted, Lenzing Viscose® and TENCEL® are converted into pure water and carbon dioxide which are part of photosynthesis. This makes Lenzing fibers part of nature's cycle.



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