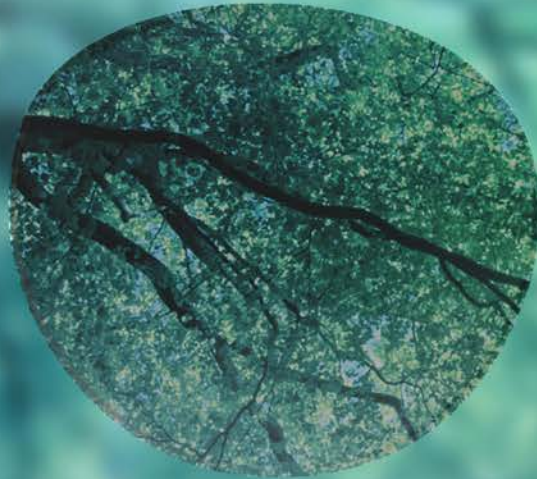


Sustainable Polyamide Sun Lenses



Seeing beyond



ZEISS Sunlens Sustainable Polyamide

ZEISS Sunlens brings a concrete solution for the reduction of carbon footprint.

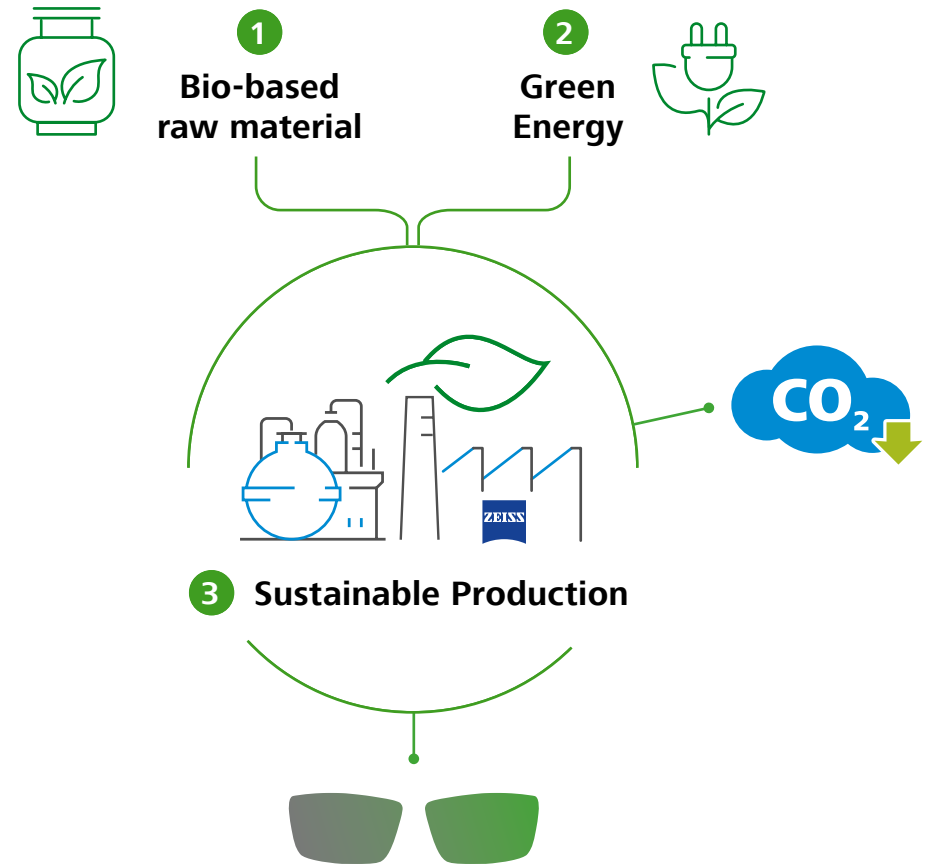


1. ZEISS Sunlens Sustainable Polyamide

From the raw material to the finished lens there are many manufacturing steps and many resources are used.

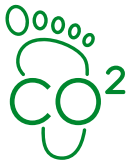
ZEISS Sunlens offers a new approach to sun lenses production by introducing not only a sustainable lens material but a more sustainable production process.

The whole chain is certified according to REDcert² standard, to offer a truly sustainable polyamide lens.





This product entails a 39% substitution in the value chain of fossil based **by bio-based raw materials** made from agricultural and wood industry waste.

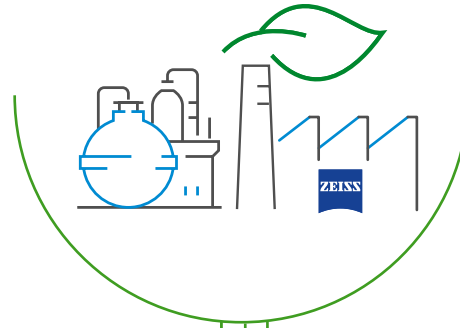


The carbon footprint of this lens has been **reduced by 50%** compared to a standard lens.



Benefits

Switching your lens supply to ZEISS Sunlens sustainable polyamide means:



1 You take a concrete step toward sustainability by partially using renewable resources and fighting against global warming.

2 You rely on a trustworthy product, certified by independent associations throughout the whole supply chain.

3 There is no impact on the color range or ordering process.

2. Sustainable polyamide production process

The production process that ZEISS uses introduces more sustainable elements.

This applies to many steps and phases.



ZEISS Sunlens sustainable production process of polyamide lenses

Raw material production

Raw materials



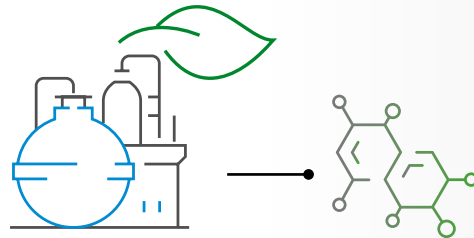
Fossil-based materials



39% of raw material is bio-based

Monomer and polymer transformation

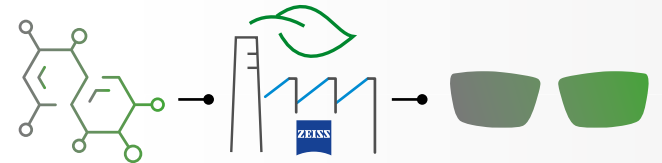
Chemical transformation into monomers and polymers using fossil-based and certified bio-based materials



Green energy

Lens manufacturing

Sustainable certified monomers and polymers used for sun lens production

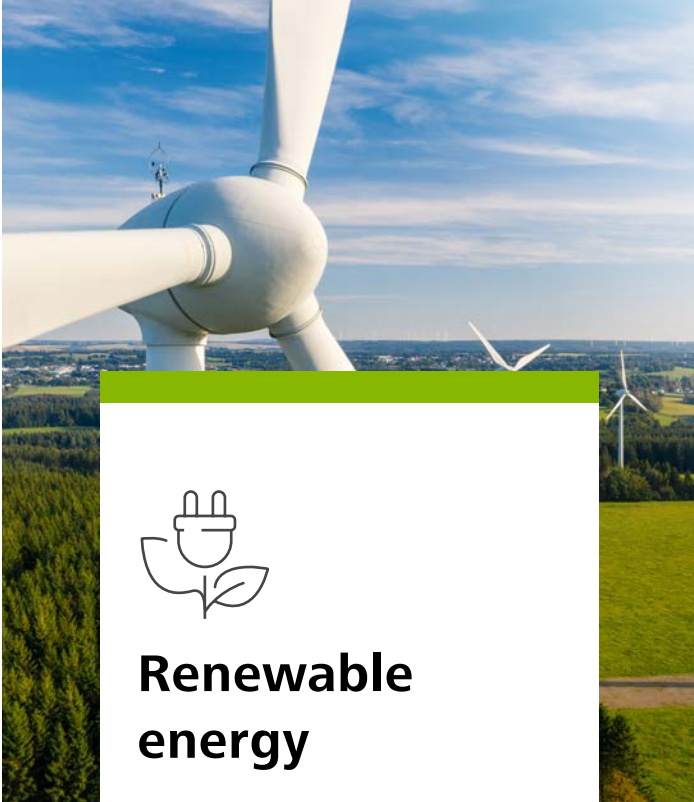


Green energy

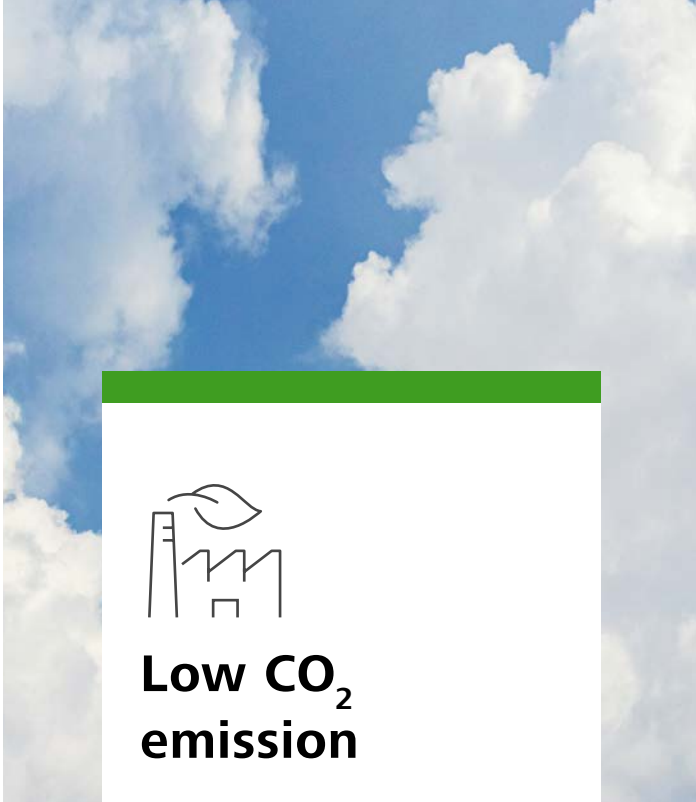
3. ZEISS Sunlens Sustainable Polyamide Lenses



**Bio-based
raw materials**



**Renewable
energy**



**Low CO₂
emission**



Bio-based raw materials



Renewable energy



Low CO₂ emission



39% of renewable material
61% of fossil material

100%
renewable electricity

up to
50% less



Renewable material

Made of bio-based waste, such as: municipal and industrial waste from wood and agricultural industries.



Electricity

Renewable electricity could come from: hydroelectric, geothermal or photovoltaic sources.



Reduction of CO₂ emission

Compared to the current standard production process & product.



Bio-based raw materials



- The bio-based raw materials used in the lens production value-chain comes from waste material from the wood and agricultural industries.
- The bio-based material replacing the fossil material in the manufacturing chain of the lens did not result from the direct cultivation of an agricultural commodity and therefore neither competes for land use for food production nor creates potential deforestation problems.



Renewable energy



- The renewable energy is certified via the purchase of renewable electricity with a Guarantee of Origins (GoOs) which guarantees that the electricity we purchase has been generated from a renewable source.
- Renewable energy in the supply chain: our polyamide pellet supplier is also certified as a user of renewable electricity and heat for the manufacture of the polymers for the sun lenses.



Low CO₂ emission



- The overall new process produces less greenhouse emissions compared to the previous fully fossil resource-based manufacturing process.
- Two main renewable factors contribute to the CO₂ reduction of the manufactured lens:
 1. The use of a mass balanced bio-based material, which roughly accounts for 10% of the emission reduction.
 2. The purchase of renewable electricity, which accounts for a reduction of emissions of about 40%.

4. About Mass Balance

Sustainable polyamide lens production

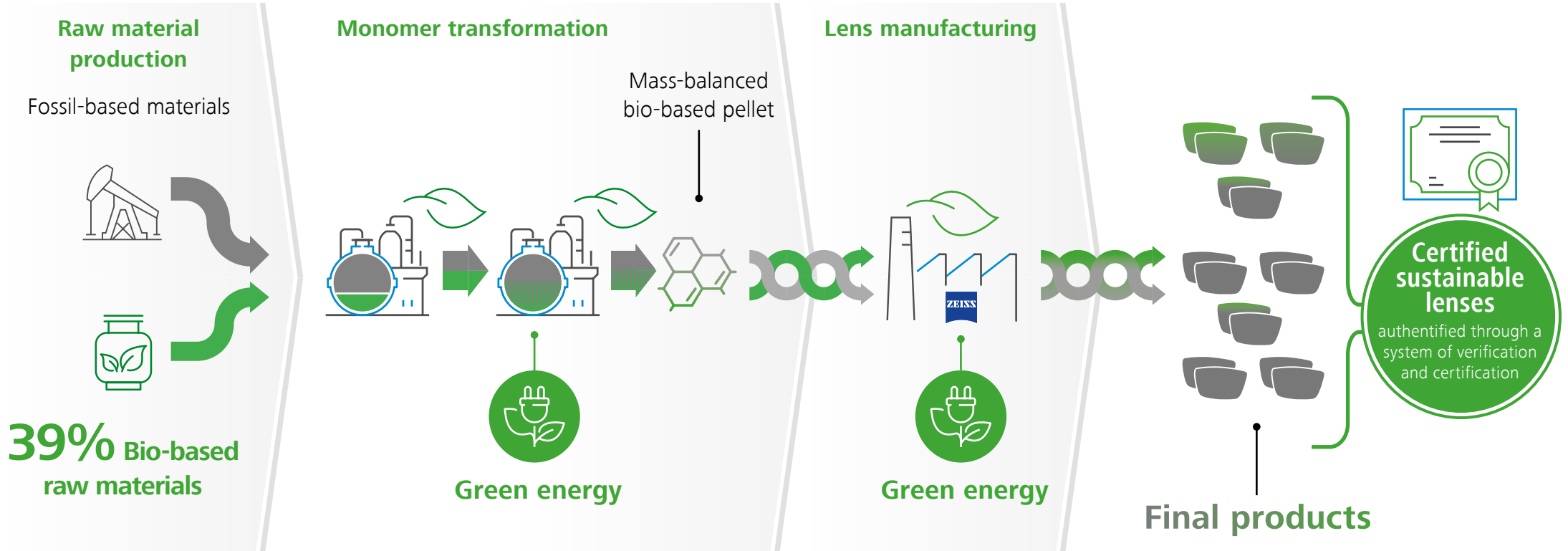
The term “mass balance processes” means that bio-based materials and standard fossil-based materials are used in the same production process instead of being separated or segregated in two different production plants. The usage of bio-based material is accounted for and balanced **through a system of verification and certification.**

The ZEISS Sunlens sustainable polyamide follows the same process. The sustainable bio-based raw materials are mixed in upstream facilities with fossil-based raw materials and is then allocated downstream to the production of plano sun lenses.

Bio-based content is confirmed via on-site verification and the issue of certificates as it cannot be defined by the C14 method.

ZEISS Sunlens

Sustainable polyamide lens production through mass balance



The Mass Balance Approach

Percentages of fossil-based and bio-based materials vary from one lens batch to another

5. Certifications

Product certificate

To be defined

Site certificate

To be defined

Certification System

REDcert²

Inspection service

To be defined



6. Lenses features

The features of the certified sustainable polyamide lenses supplied by ZEISS Sunlens and verified by the REDcert certification system are the following:

- **1:** The carbon footprint of this lens has been reduced up to 50% compared to a fully fossil-based manufacturing process.*
- **2:** During the manufacture of this lens, 39% of fossil-fuel raw materials has been replaced in the value chain by bio-based waste materials.**
- **3:** The bio-based waste raw materials used in the manufacturing value chain of this lens come from waste from the wood and agricultural industries.***





7. Responsibility at ZEISS

Responsibility is of key importance and has a long tradition at ZEISS where we have been implementing the stipulations on social responsibility anchored in our Foundation Statute for over 125 years.

These include environmental protection, social commitment, ethical behavior and sustainable improvements in the value chain.

Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs.

8. ZEISS Sunlens Sustainability strategy



Inspiring leadership



- Focus on strong values for our employees.
- Lead the way for our competitors, suppliers and partners.



Social contribution



- Contribute both within the company and externally to wellbeing and inclusiveness.
- Measure and communicate our achievements to inspire and create a positive change.



Responsible manufacturing



- Improve manufacturing practices so that they are better for the environment, people and for the business.
- Find the solutions and innovate to answer sustainability challenges.

Carl Zeiss Vision Italia Sunlens

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