



MANUFACTURING

THE CHALLENGES

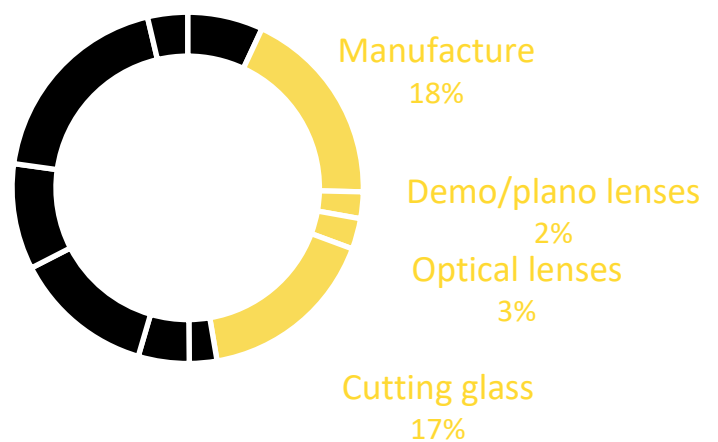
IN THE WORLD

According to the IPCC¹, industry is responsible for 21% of global greenhouse gas emissions. Manufacturing products generally requires a lot of energy, which is a source of greenhouse gas emissions. If the energy mix in the country of manufacture is made up of fossil fuels, then these greenhouse gas emissions are all the greater (as in China, Italy, etc.).

As well as the impact on climate change, the manufacturing phase is also a source of pollution and generates waste. In 2020, European industry produced 226 million tonnes of waste, or 10.6% of total waste production in Europe.²

According to the life cycle analysis of a pair of glasses,³ their manufacture, including the manufacture of the lenses, accounts for 40% of their environmental impact. This stage requires machines that consume energy and resources and produce waste in order to operate, and these machines themselves require energy and raw materials to manufacture.

For example, moulding plastic or metal frames and shaping lenses can require high temperatures and the use of special machines.



FOR THE OPTICAL SECTOR

¹ Source: 6th IPCC report, 2022

² Source: Waste statistics, Eurostat, 2023

³ LCA (Life Cycle Analysis) carried out by Ace & Tate on a pair of acetate glasses. See the "CSR, what is it about?" sheet.

WHAT DOES THE LAW SAY?

The manufacturing phase of optical products is at the heart of a large number of different pieces of legislation (energy, water pollution, toxic products, buildings, etc.), many of them on a local scale.

WHERE TO START?

MEASURING THE IMPACT

To act appropriately, the first thing to do is to measure:

- Energy consumption
- The various resources consumed during the manufacturing stages (water, materials, etc.)
- The volume of waste generated
- Chemical, noise and light pollution emissions

OPTIMISING THE MANUFACTURING PROCESS

- Review its business model to minimise production surpluses
- Improve cutting efficiency to minimise offcuts and therefore reduce the amount of material used and production waste.

- Adopt advanced manufacturing technologies (3D printing) to optimise the use of materials.
- Use manufacturing processes that consume less energy and water.
- Drastically reduce the chemicals and/or petrochemicals involved in the production process.
- Draw up a plan to reduce production-related waste

OPTIMISING WASTE RECOVERY

- Set up sorting systems, and raise awareness and encourage employees to respect them.
- Maximise the reuse and recycling of waste generated during the manufacturing process (e.g. off-cuts).

THEY DID IT

ACTIONS RESULTING FROM APPLICATIONS FOR THE SILMO 2023 CSR PRIZE

OPTIMISING THE MANUFACTURING PROCESS

- Business model based on production to order to avoid surplus stocks – MYKITA
- Reducing the amount of material used with 3D injection printing – NEUBAU EYEWEAR
- Development of an eco-friendly product range, one of the requirements of which is a 20%

reduction in energy consumption in production processes – BOLLÉ BRANDS

OPTIMISING WASTE RECOVERY

- Recovering off-cuts from the manufacturing process and converting them back into raw materials – NAONED EYEWEAR