

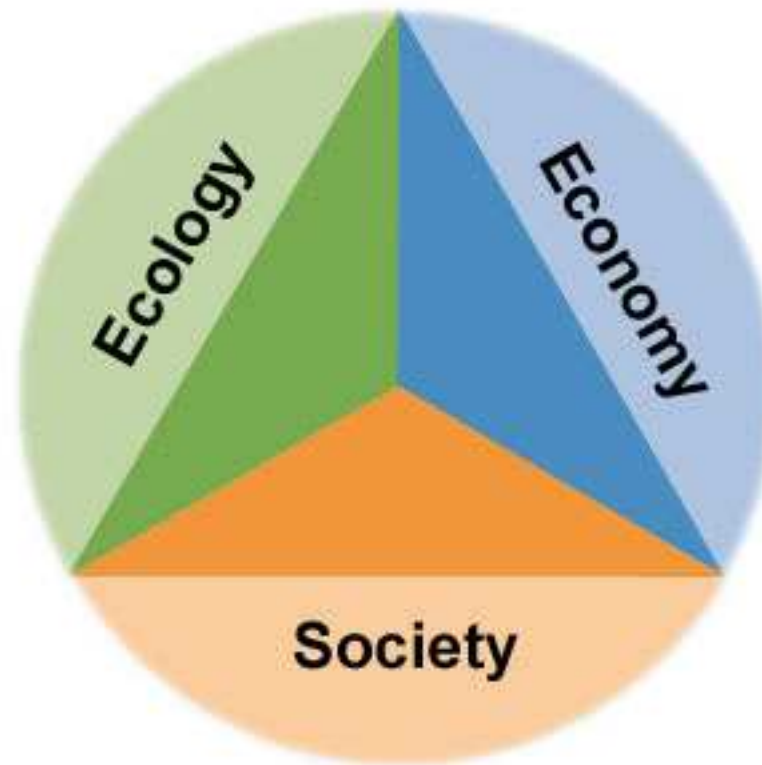


Light and Sustainability



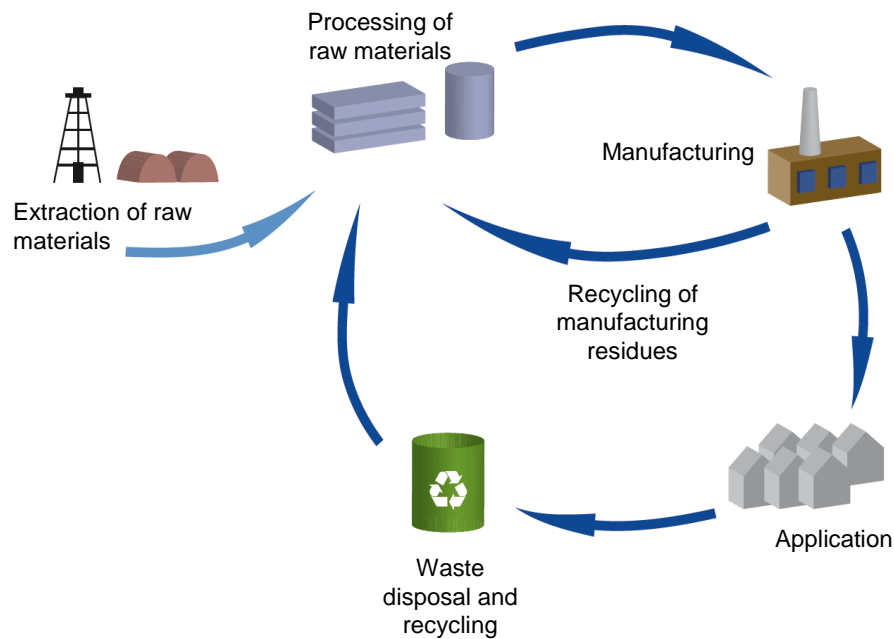
Sustainability

The conflicting priorities of three essential aspects of life



Ecobalance

Cradle-to-grave analysis



- Measures and assesses a product's environmental impact over its entire life cycle - "from cradle to grave"
- Goal: analysing environmental influences already during the development stage in order to reduce them in the course of the product's life cycle
- Life cycle assessment (ecobalance) based on the international ISO 14.040 standard is a recognised and reliable tool for systematic analysis of products' environmental impact.

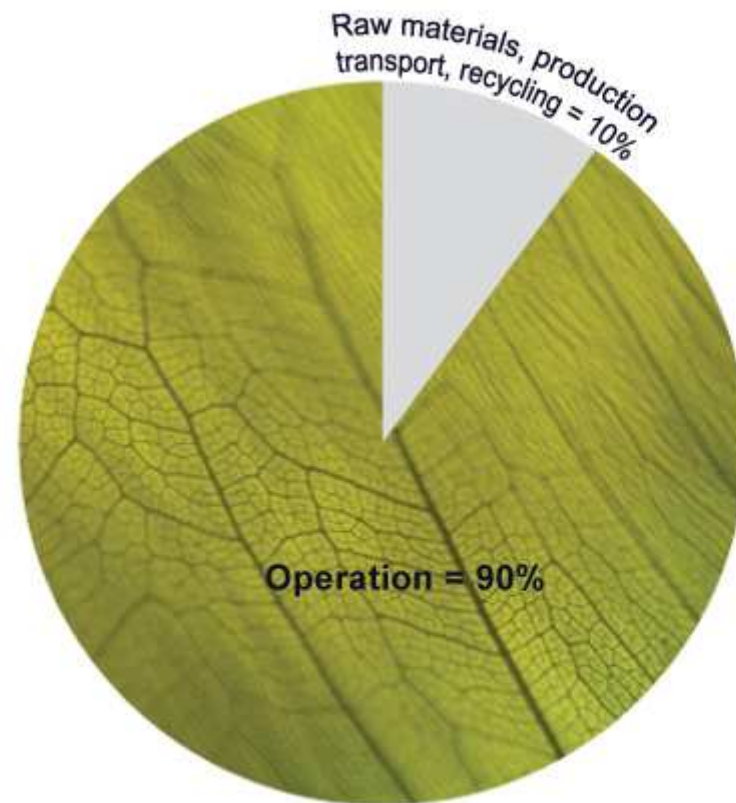
Life cycle assessment – ecobalances of luminaires

The lighting solution has the greatest environmental impact (90%)

From raw materials to waste disposal

Systematic analyses of luminaires have shown that energy consumption during operation is a decisive factor for the environmental impact of luminaires.

Operation provides by far the greatest scope for saving both the environment and costs. 90% of the energy used by a luminaire is consumed during its operation. The proportion of energy accounted for by raw materials, production, transport and recycling is just 10%.



Lighting and sustainability

90% of energy is consumed during product application



Use of materials

1 %

- Compliance with REACH and RoHS
- Use of recycled and recyclable materials
- Reduction of hazardous substances



Manufacturing

7 %

- ISO 14.001
- Ökoprofit Dornbirn



Transport

1 %

- Double stacking

Biggest factor!



Lighting solution

90 %

- Green Building, Minergie, LEED, DGNB, ÖGNI, BREEAM
- Compliance with EuP, CE, ENEC
- ISO 12646, EN 15193



Recycling

1 %

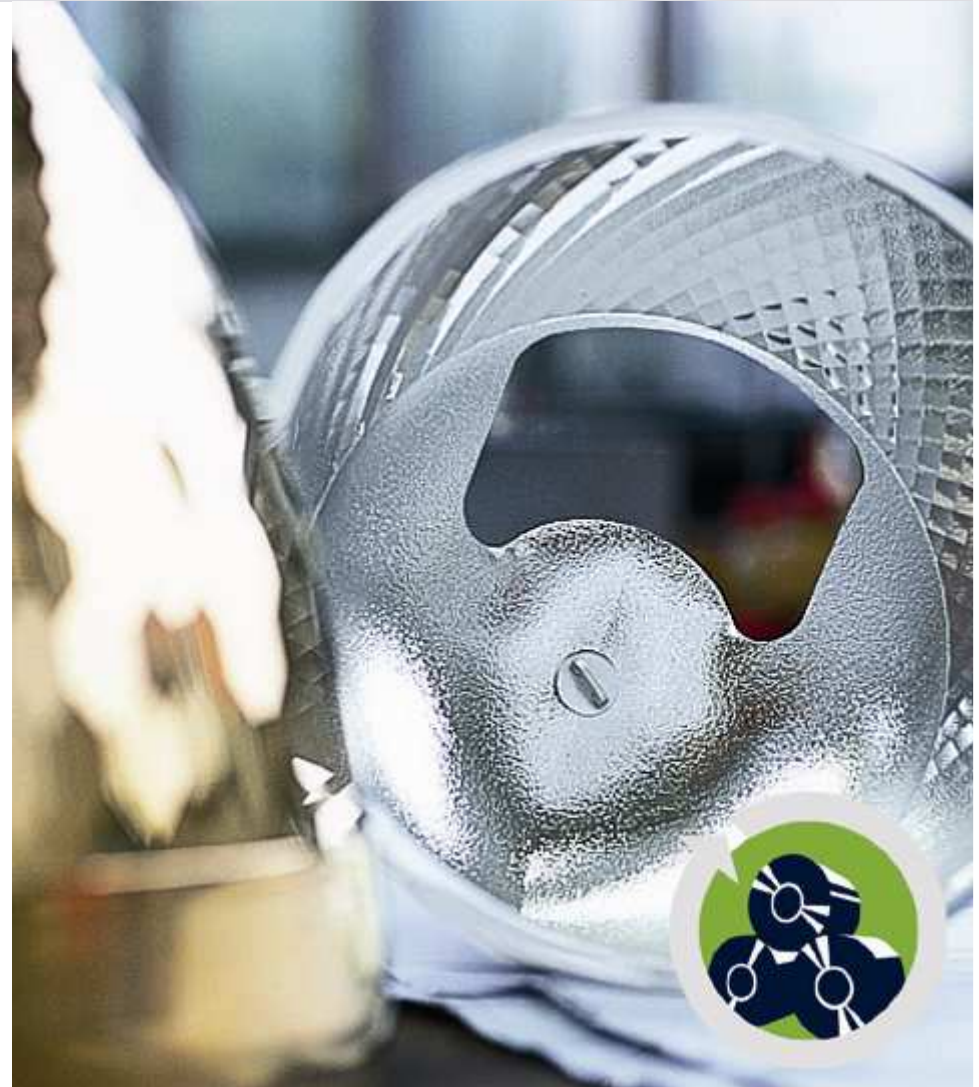
- Compliance with WEEE, Batteries Directive and Packaging Directive

Lighting and sustainability

1% of energy required relates to use of materials

Zumtobel prefers to work with reusable or recycled materials and, in compliance with applicable regulations, strictly avoids the use of hazardous substances.

- Use of large quantities of aluminium (80% recyclable) and steel (90% recyclable)
- Use of halogen-free cables
- Climate neutral production of printed media (PEFC certified)



Lighting and sustainability

7% of energy required relates to manufacturing

By February 2010, all Zumtobel plants in Europe will have been certified according to the ISO 14.001 environmental management system. Furthermore, Zumtobel is committed to observing strict regulations regarding environmental protection as well as occupational safety and health, which by far exceeds legal provisions.

Since 1996, the Dornbirn plant has each year been awarded the Ökoprofit certificate.



Lighting and sustainability

1% of energy required relates to transport

Intelligent logistics concepts help optimise transport according to environmental and economic criteria.

By introducing the double-stacking system, utilisation of trucks could be considerably improved, and the trucks' CO₂ emission could be reduced by up to 40%.



Lighting and sustainability

90% of energy is required for luminaire operation

Humanergy Balance =
Sustainable lighting solutions for a balance between the environment, energy and the individual.

The combination of energy-efficient lamps, components and luminaires with intelligent control systems – including the integration of daylight – allows integral lighting solutions that help save resources.



Lighting and sustainability

Sustainable lighting solutions by Zumtobel

Efficient light sources



DALI el. ballast



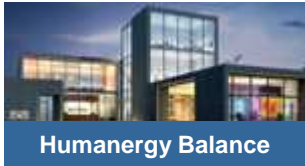
Efficient luminaires



Intelligent control



Sustainable lighting design



Humanergy Balance

VIVALDI

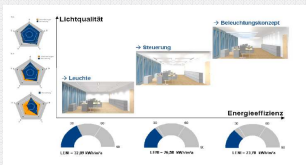


ELI-LENI calculator

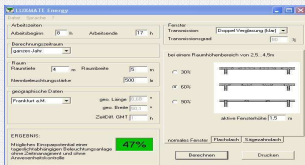


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Solutions suggested



LM Energy



Design tools

Lighting and sustainability

1% of the energy required relates to waste disposal and recycling

Even during the luminaire development process, Zumtobel focuses on using recyclable materials and avoiding hazardous substances. Thanks to qualified disposal of manufacturing waste in compliance with applicable laws, ecological concerns can be minimised.

Example: thanks to new cardboard bale presses used in the plants in Germany and France, packaging volumes could be considerably reduced.



Lighting and sustainability Summary

Lighting and sustainability

- **Sustainable lighting solutions by Zumtobel cannot fail to impress with a perfect balance of energy efficiency and lighting quality – Humanergy Balance.**
- **For Zumtobel, sustainability means taking environmental, economic and social aspects into account when it comes to the organisation's products, lighting solutions and processes.**
- **Thanks to integral lighting design, innovative systems and products, continuously optimised by Zumtobel over their entire life cycle with respect to their environmental compatibility and the efficient use of resources, the demand for sustainable lighting solutions can be satisfied.**

www.zumtobel.com/sustainability

Contact



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