ENERCON

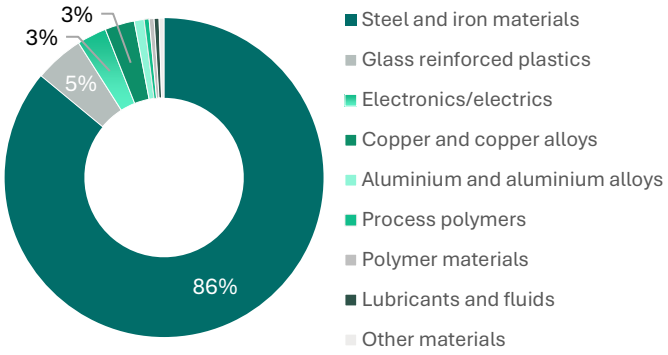
Life Cycle Assessment (LCA)

E-82 E4

Turbine Specification

Nominal power	3.00 MW
Service life	25 years
Hub height	78 metres
Wind class	I A
Annual energy production [1]	9,926 MWh
Tower type	Steel
Foundation type	Flat foundation

Material Composition [2]



LCA Framework [3]

Goal and Scope
Assessment of potential environmental impacts throughout the product life cycle (cradle to grave)

Functional unit
1 kWh of generated electrical energy delivered to the grid

Impact assessment method
CML, August 2016

Data sources and software
Primary data, industry-specific secondary data, LCA for Experts background data (2023.1)

No cut-off rules applied for Life Cycle Inventory

Environmental Impact Indicators

Acidification Potential, g SO_2-e	**0.01**
Global Warming Potential, g CO_2-e	**4.94**
Eutrophication Potential, mg PO_4-e	**1.71**
Photochemical Ozone Creation Potential, mg Ethene-e	**0.77**
Primary Energy Demand (renewable and non-renewable resources, net calorific value), MJ	**0.07**
Abiotic Depletion Potential (fossil), MJ	**0.06**

Other Environmental Indicators

Carbon footprint
409 CO_2
t CO_2-e/MW

Energy Payback Time
6.23
months

Return on Energy
48.2
times

Recyclability [2, 4]
85.0
%

1 | Site with capacity factor of 40% is assumed, including losses
2 | Turbine without foundation
3 | Principles according to ISO 14040/14044
4 | Based on industry-specific expert assessments of recycling rates

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Please contact **environment@enercon.de** for questions regarding ENERCON´s LCAs.