

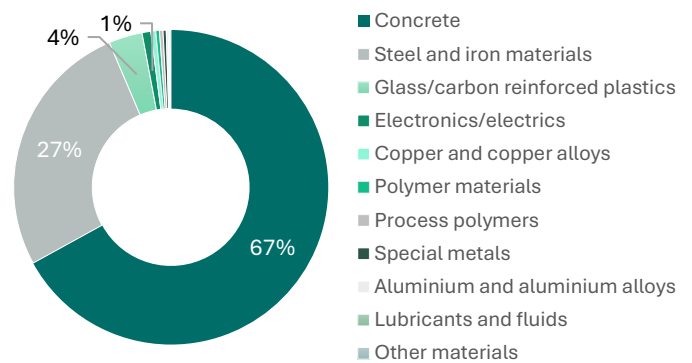
Life Cycle Assessment (LCA)

E-175 EP5 E1

Turbine Specification

Nominal power	6.00 MW
Service life	25 years
Hub height	162 metres
Wind class	S A
Annual energy production ¹	22,881 MWh
Tower type	Hybrid
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

Environmental Footprint (EF) 3.1

Data sources and software

Primary data, industry-specific secondary data, LCA for Experts background data (2025.2)

No cut-off rules applied for Life Cycle Inventory

Environmental Impact Indicators

Acidification, mmol of H ⁺ -e	0.02
Climate Change total, g CO ₂ -e	4.97
Eutrophication (freshwater), mg P-e	0.02
Photochemical Ozone Formation (human health), g NMVOC-e	0.01
Primary Energy Demand (renewable and non-renewable resources, net calorific value), MJ	0.08
Resource Use (fossils), MJ	0.06

Other Environmental Indicators

Carbon footprint

474 
t CO₂-e/MW

Energy Payback Time

6.64 
months

Return on Energy

45.2 
times

Recyclability ^{2, 4}

89.6 
%

¹ | Based on design wind speed 7.8 m/s, including losses

² | Turbine without foundation

³ | Principles according to ISO 14040/14044

⁴ | Based on industry-specific expert assessments of recycling rates