



# Life Cycle Assessment (LCA)

## E-44

### Turbine Specification

Nominal power	0.90 MW
Service life	20 years
Hub height	45 metres
Wind class	I A
Annual energy production <sup>1</sup>	2,977 MWh
Tower type	Steel
Foundation type	Flat foundation

### LCA Framework <sup>3</sup>

#### 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

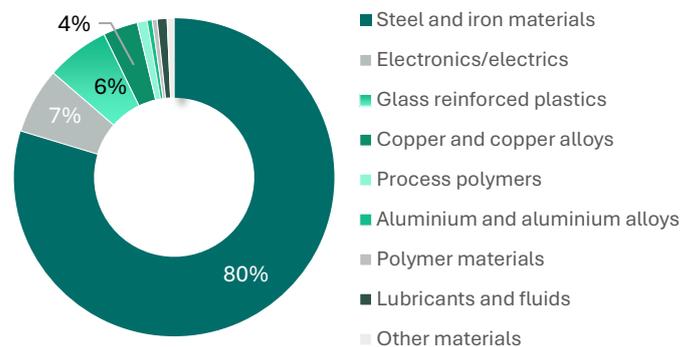
CML, August 2016

#### Data sources and software

Primary data, industry-specific secondary data, LCA for Experts background data (2023.2)

No cut-off rules applied for Life Cycle Inventory

### Material Composition <sup>2</sup>



### Environmental Impact Indicators

Acidification Potential, g SO <sub>2</sub> -e	0.03
Global Warming Potential, g CO <sub>2</sub> -e	7.71
Eutrophication Potential, mg PO <sub>4</sub> -e	3.10
Photochemical Ozone Creation Potential, mg Ethene-e	1.16
Primary Energy Demand (renewable and non-renewable resources, net calorific value), MJ	0.13
Abiotic Depletion Potential (fossil), MJ	0.10

### Other Environmental Indicators

#### Carbon footprint

**510**   
 t CO<sub>2</sub>-e/MW

#### Energy Payback Time

**8.46**   
 months

#### Return on Energy

**28.4**   
 times

#### Recyclability <sup>2,4</sup>

**83.2**   
 %

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