WATER REVOLUTION FOUNDATION

SPEIRA

Innovative solution: VIA Maris NJORDAL

July 2024

Introduction

The study is part of a larger project by Water Revolution Foundation focused on assessing suppliers' solutions for improved sustainability in the yachting industry. Using LCA methodology, the study compares the impact of traditional aluminium yachts (VIA MARIS 5083) with Speira innovative scenario where yachts are built using VIA Maris NJORDAL.

This document offers a brief summary of the LCA study.

Approach & Data

The LCA was conducted in accordance with the ISO 14040 and ISO 14044 by ALEA SRL (Università di Modena e Reggio Emilia Spin-Off) with third party peer-review by LCA Working Group (research group of UNIMORE). Collected data include input and output flows relating to materials, transport, energy, products, and emissions. Data quality evaluation based on parameters such as age, reference technology, process, calculation methods, and measurement irregularities. Data categorized into specific data (from surveys or literature), selected generic data (from databases), and proxy data (estimates and averages). Specific data used for most processes, while generic data from Ecoinvent v.3.9 used for raw materials, fuels, and electricity production. Transport modelled based on means of transport and distances. SimaPro 9.5 used for the study.

Functional Unit

The declared functional unit (F.U.) is 1 ton of produced aluminium.

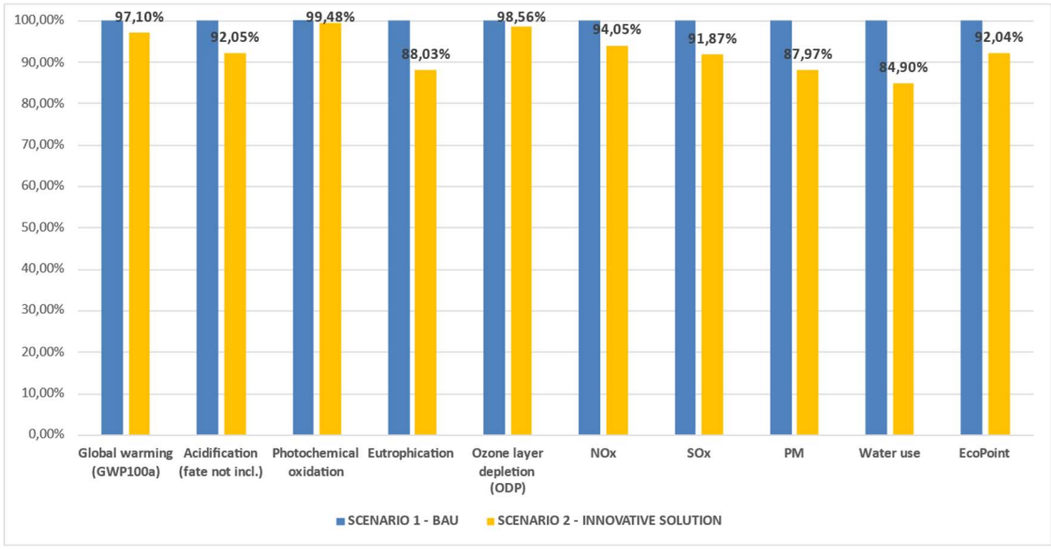
System Boundary

Divided into three phases: Upstream processes (from cradle to gate), Core processes (manufacturing from gate to gate), and Downstream processes (from gate to grave). No allocation procedure performed, as Speira provided all data regarding system production.

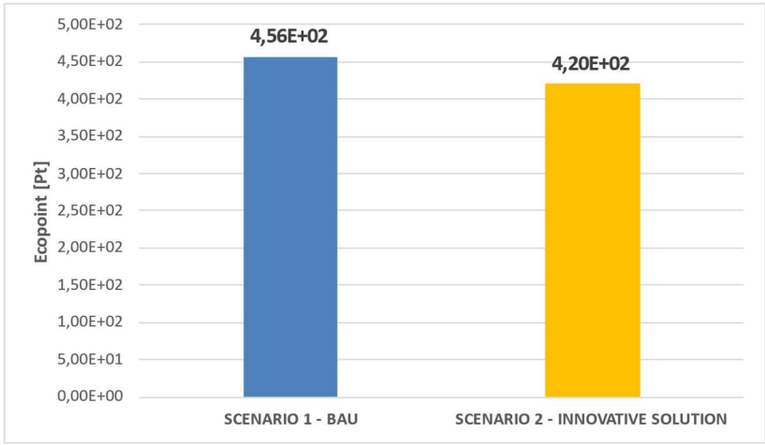
Conclusions

Speira innovative aluminium solution significantly reduces environmental impacts across most categories, with reductions reaching up to 15%. This shows a marked improvement compared to traditional aluminium. The only category with minimal change is photochemical oxidation, which is closely linked to primary aluminium production.

LCA Impact Category Results (Business-As-Usual vs Innovative solution)



Comparison between the results of the Scenario 1- Traditional VIA Maris 5083 (BAU) and Scenario 2- Innovative VIA Maris NJORDAL (Innovative Solution).



Summary of the single score (Ecopoint) assessed scenarios. Scenario 1 is business as usual (VIA Maris 5083), and scenario 2 is the innovative solution (VIA Maris NJORDAL). The higher the Ecopoint value, the higher the potential environmental impact.

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info@waterrevolutionfoundation.org
+31 (0) 20 290 00 63
Diemerzeedijk 27-A, 1095 KK Amsterdam, Netherlands