



How One Lifeboat Could Redefine the RNLI's Entire Fleet

OVERVIEW

For 200 years, the Royal National Lifeboat Institution (RNLI) has been the UK and Ireland's frontline of rescue at sea. Powered by donations, operated by volunteers, and guided by a single purpose: saving lives.

the RNLI joined the MS360 Impact Accelerator, using lifecycle assessment (LCA) to answer a new question: *how can the charity reduce its environmental footprint while maintaining uncompromising safety, speed, and service?*



“Without this study, it’s difficult to say where to put our efforts. With it, we can prioritise, and reduce the impact.”

Todd Gillingham
RNLI ES PMO & Resource Lead



THE CHALLENGE

The Impact Accelerator focused on the Atlantic 85, one of the RNLI's most widely deployed lifeboats.

The goal was to understand the full lifecycle impact of the vessel and identify impact hotspots and areas for reduction.

This study of the Atlantic 85 can then be used shape the design and procurement of the RNLI's future fleet.

APPROACH

Scope: Full cradle-to-grave LCA for an 18-year service life, from materials and manufacturing at the Isle of Wight ILC to operations, maintenance, and end-of-life.

Data Integration: Combined return-of-service logs, AIS tracking, and simulation data with factory energy use, material flows, and supplier inputs to create the RNLI's most complete impact model to date.

Validation: Modelled energy, materials, and fuel use at high resolution, with sensitivity testing across station duty cycles.

KEY RESULTS

Over an 18 year lifespan, an Atlantic 85 lifeboat generates approximately 135 tonnes CO₂e.

82% from fuel use

The surprise here was variability. Depending on the station, an Atlantic 85 could emit as little as 37 tCO₂e or as much as 220 tCO₂e in its lifetime.

18% from production

Mouldings alone accounted for a third of production impact (34%), largely due to carbon fibre and epoxy which made up roughly 60% of the mouldings footprint.

WHAT'S NEXT

The Atlantic 85 Mark 4 will move through prototyping in Q1 2026 and performance trials in Q2 2026, with every design choice benchmarked against the LCA baseline.

Beyond that, the RNLI will extend lifecycle analysis to its larger boats, starting with the Tamar-class, where operational impact is far higher but so is the potential for reduction.