

Climate Assessment of casted Mud Box /Seawater Filters

The climate assessment of the casted Mud Box / Seawater Filters, quantifies the CO₂e emissions throughout its life cycle by comparing two scenarios over a 30-year vessel operational lifetime. In the Baseline scenario, three complete casted Mud Box units are required to cover this period, each manufactured, operated for 10 years, and then replaced. In contrast, the Lifetime Extension Scenario achieves the same 30-year service life by restoring a single casted Mud Box onboard using Wencon Coating systems through three scheduled treatments at years 5, 15, and 25, allowing the same unit to remain in operation throughout the vessel's full 30-year service life.

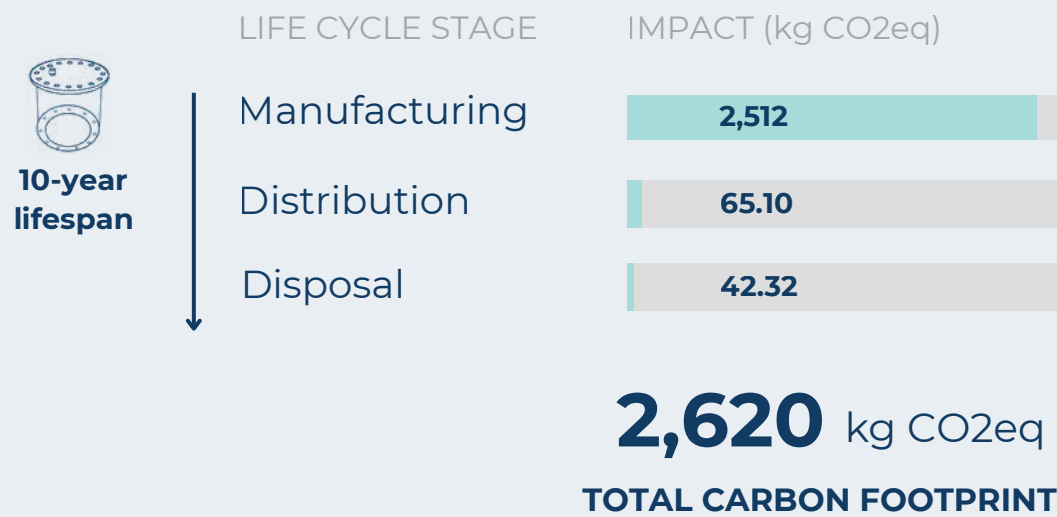


Climate Assessment made by ReFlow®

BASELINE SCENARIO

30-year lifespan using 3 new units (replaced every 10y)

Life Cycle Stage Impact Contribution



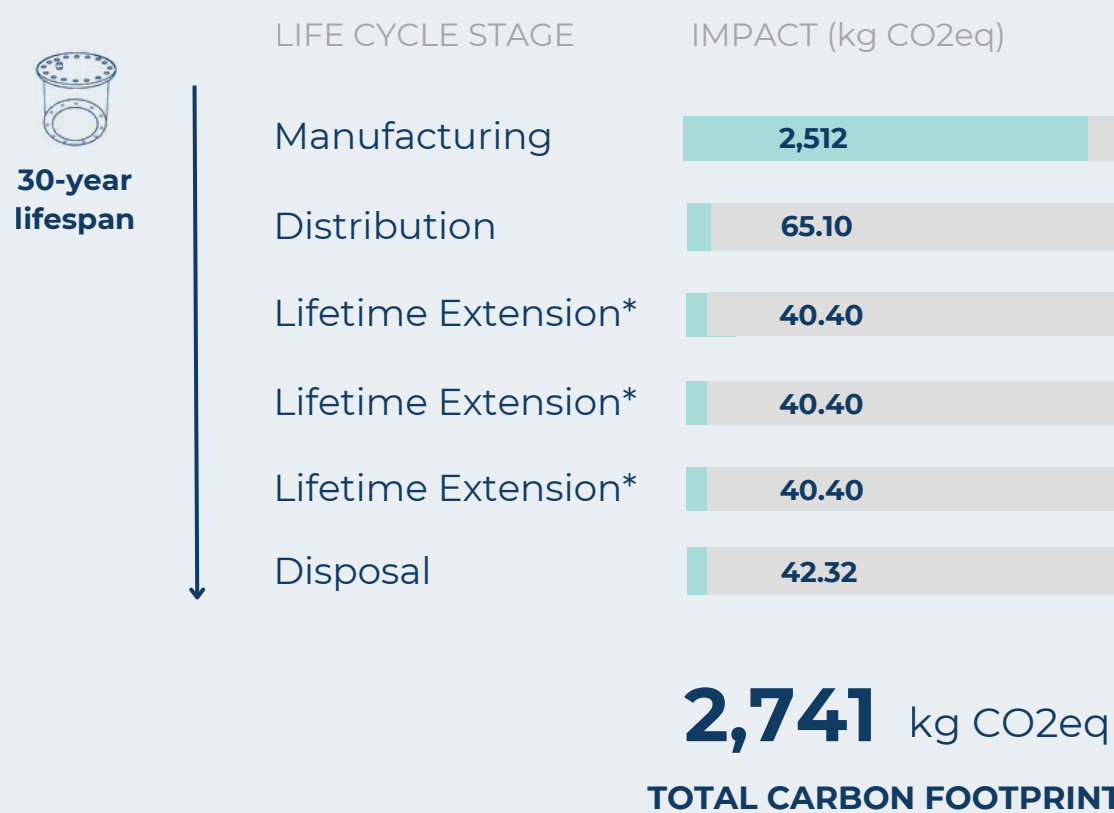
Casted Mud Box carbon footprint across a 30-year vessel lifespan.



LIFETIME EXTENSION SCENARIO

30-year lifespan using 1 unit with 3 reconditioning cycles every 10y

Life Cycle Stage Impact Contribution



Lifetime Extension:*

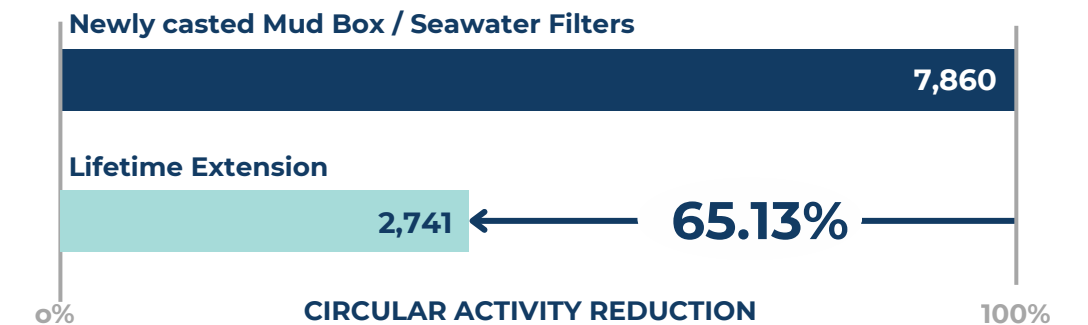
After 5 years of service, the unit undergoes reconditioning using Wencon protective layers, extending its operational lifetime by an additional 10 years. Subsequent reconditioning cycles take place at years 15 and 25, further prolonging the functional lifespan of the Mud Box to cover the vessel's entire 30-year operational period while preserving its original structure. Transport of coating materials and all reconditioning activities are included within this scenario.

METHODOLOGY

Methodology: ReFlow Climate Assessment
 Database: Ecoinvent 3.10
 IA Method: ReCiPe 2016 v1.1. Midpoint method, H.
 Assessed by: ReFlow ApS - ClimateHub

RESULTS:

Carbon Footprint Reduction



EMISSIONS SAVED OVER A VESSEL'S 30-YEAR LIFESPAN

65.13%
EMISSIONS SAVED

5,119 kg CO₂eq

CARBON FOOTPRINT AVOIDED THROUGH CASTED MUD BOX LIFETIME EXTENSION

The above data is based on a lifecycle screening performed by ReFlow (re-flow.io) and includes limitations and assumptions. For a full list of limitations and assumptions please contact Wencon ApS