

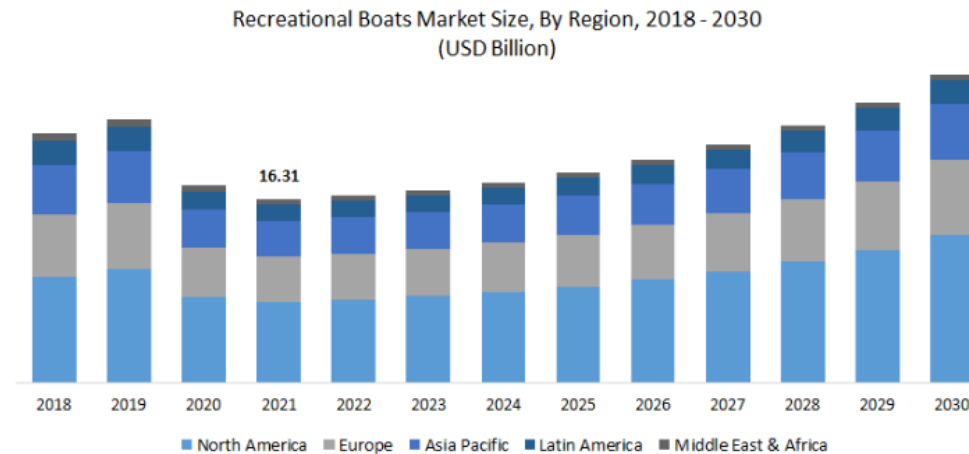


# RECREATIONAL & PLEASURE BOATS DECOMMISSIONING PROCESS

RCA Engineering offers solutions for the recycling of composite materials in the decommissioning of recreational boats made of glass fibers and/or carbon fibers. Currently there is a worldwide problem related to the abandonment of recreational boats. It is a problem that has become even more acute in times of economic recession. It is therefore necessary to find an urgent solution to reduce the potential environmental risks.

At RCA Engineering we understand that it is vital to integrate the circular economy into shipbuilding and scrapping processes to ensure the sustainability of the sector and the environment.

Since fiber-reinforced polymers (GRP) first became available for commercial application in the 1950s, the market and production of recreational boats built with GRP has grown at an impressive rate. According to market studies, the market is expected to continue to expand at a projected 6.5 to 7% per annum worldwide over the next few years. Although some boats are built from traditional materials such as metal and wood, GRP has totally dominated the mass market over the last few decades. It is estimated that boats built with composite materials have a useful life of about 50 years, a fact that already implies a significant number of abandoned boats creating a serious environmental problem of pollution.



Source: Polaris Market Research Analysis



## RECREATIONAL & PLEASURE BOATS DECOMMISSIONING PROCESS

In RCA Engineering we are an engineering company specialized in the recycling processes of composite materials where we offer solutions to the main producers, decommissioning companies and governmental institutions for decommissioning and promoting a circular economy of these materials providing a new use to them.

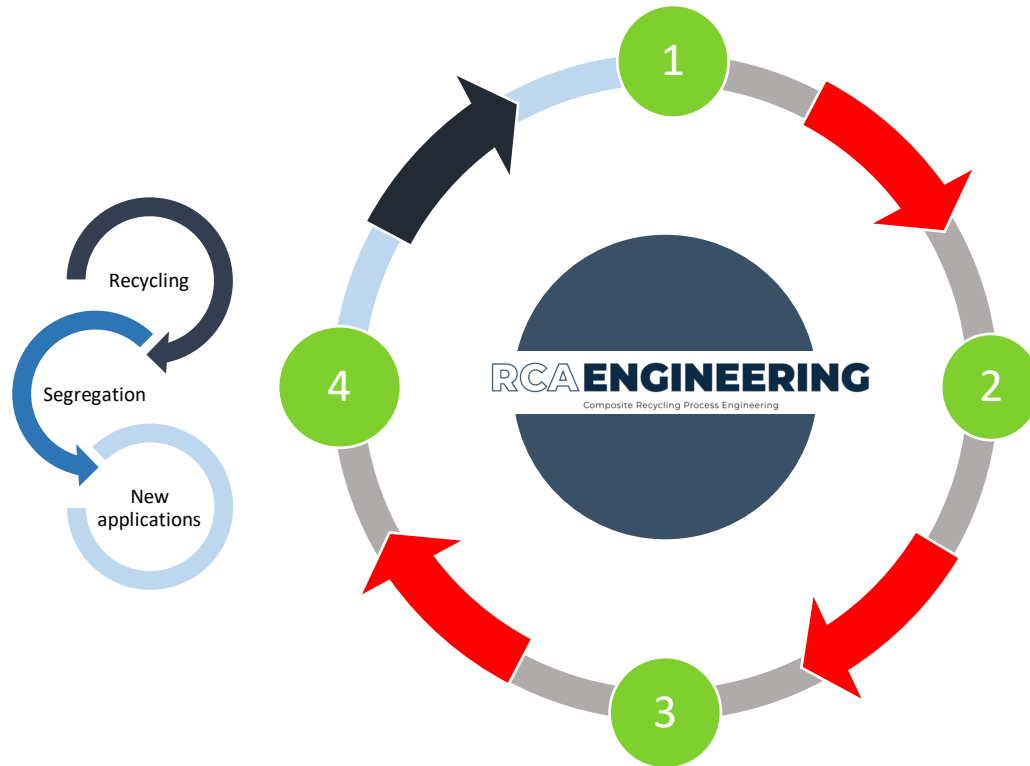


In RCA Engineering Recycling Projects offers:

- Minimise:
  - Landfill contamination
  - Process energy consumption
  - Waste
  - Emissions
  - Implementation time
  - Decommissioning time
- Maximise:
  - Recycling capacity production.
  - Circular economy
  - Environmentally friendly
  - 4.0 Industry



# RECREATIONAL & PLEASURE BOATS DECOMMISSIONING PROCESS



1

Transfer the boat to authorized recycling company

2

Removal of hazardous materials:

- Fuel
- Batteries
- Oil

3

Scrap metals:

- Aluminium
- Stainless steel
- Lead

4

Composite materials Recycling: RCA Engineering segregation process project giving new applications uses to:

- Glass, carbon and Kevlar fibres
- Vinylester, polyester and epoxy resins
- Core materials.