



## BOATCYCLE Project

Taking into account all data presented, the BOATCYCLE project aims to contribute to reducing the environmental impact that all abandoned boats could cause in the environment. By this way leakage, or spills, of solid or liquid waste contained inside abandoned boats would not constitute a source of pollution for terrestrial and submarine environment, contributing simultaneously to prevent expensive process costs related to the recovery and removal of the wastes.

Moreover, the BOATCYCLE project regards a boat as a waste in the same way that a boat is sold as a product. At the time a boat is abandoned a degradation process begins and each material has a different performance as a pollutant causing a direct global impact on the environment.



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# The Boat Scrapping Process

## 1. Introduction and situation of the end of life boats

During the past 35 years, the economic growth of the coastal countries of the European area and north of the Mediterranean sea has been exceptional, a fact that has helped fund the marine industry at very significant levels. We focused in the following selected socioeconomic indicators:

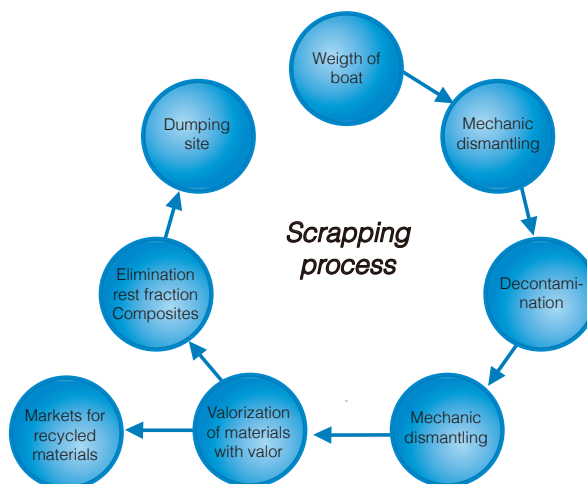
- I. Approximately 37,200 businesses in the whole boating industry and over 234,000 direct employees.
- II. Nearly 20 billion EUR of turnover (23.4 billion EUR before the crisis 2008-2009).
- III. Approximately 3,000 yards in the boatbuilding segment, employing over 46,000 people.
- IV. Approximately 6 billion EUR of turnover from boatbuilding.
- V. 36 million European people practice boating (sailing or motorboating).
- VI. Some 4,500 marinas provide 1.75 million berths in European waters (whether inland or on coastal areas).
- VII. EU boat ownership (per capita) is 1:164.
- VIII. 6,3 million boats are kept in Europe, with a vast majority of small boats.



▲ New yacht around on the rocks.

\* Source: ICOMIA Statistics Book 2010

The average lifespan for nautical boats is among 10 years for inflatable boats, 20 for yachts and 30 years for sailboats. These average data are obtained from different studies in Europe and other parts of the world, but the reality is that European nautical fleet currently exceeds 6 million boats and these are used annually by about 36 million users.





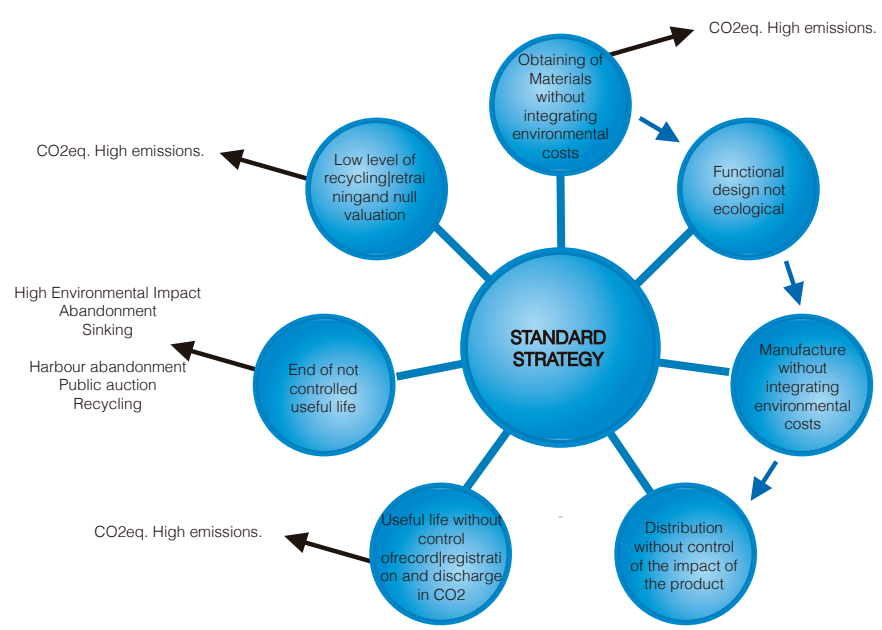
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Recent studies of disuse of nautical boats suggest that in the Euro-Mediterranean (EC. DG. Environment - Recovery of obsolete boats not used in the fishing trade Final report - 2011), the 0.01% of the current fleet goes unused each year 60,000 boats annually stop working in the euro Mediterranean area. Today, we don't have a management program for the boats out of use, legal and technically effective. At the end of their life, those boats fall into disuse and become objects that potentially become a residue difficult to manage. Consequently, it can generate an environmental impact.

Today, in spite of the great advances in waste management in Europe, there is great need for specific legislation related to management, scrapping and recycling of boats. The cataloguing of boats out of use as waste can even be considered by the Code of the European Waste Catalogue (EWC) as non-special waste when contains non-toxic or hazardous elements and as special residue when they do contain toxic or hazardous elements. Anyway, as waste is to be managed properly.

The International Labour Organization (ILO), the International Maritime Organization (IMO) and the United Nations Environment Programme (UNEP) have developed guidelines for the recycling of their boats, and work in coordination on this issue to avoid useless interactions or overlaps. There are also other regulations at state or regional level across Europe to try to regularize the situation. As an example we can set the protocol that "Generalitat Ports" has defined to complete the formalities and proper management of a boat stranded in a port area. (Decret 206/2001, 24 of july, approved REGULATORY Port Police of the Generalitat Catalonia). The abandoned vessel is subjected to public auction and if not acquired, it is scrapped after low effective and complex administrative procedures.



Strategy of manufacture with the aim of doing center in the market and without control of the environmental impact in the rest of its lifecycle

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With this scheme, we want to represent the standard process of manufacture of boats that is intended to target the market without taking into consideration the environmental impacts generated during the vessel lifetime and especially at the end, when it comes into disuse and they must be scrapped. From the selection of materials for manufacturing to the end of its life, the boat that integrates more sustainable ecodesign, generates high environmental impact, emissions CO<sub>2</sub> etc. Another factor to consider is that there is no official control system (registration) of boats according to their life stage or those which have entered into disuse. This greatly hinders the administrative and technical control of boats and their location and, in addition, prevents the proper management so as to anticipate trends towards the aging of the fleet, dropouts and the need for scrapping in order to develop sound waste management methods.

The European and international research projects about scrapping of boats out-of-use as well as management of nautical residues show that boat builders do not play any management action on the products that are produced at the end of boat useful life. On the other hand, it is now clearly necessary to properly manage the process of scrap and craft at the end of boat useful life.

## 2. The Boatcycle project

BOATCYCLE it's a LIFE+: Environment Policy and Governance Project designed to reduce the environmental impact of the nautical industry on the marine ecosystems through the development and application of new methodologies. Our mission is to improve the whole life cycle of the boats: from their conception, design and manufacture to their optimum valorization as a residue through their long and difficult useful life.

The main strategic activities of the project include a diagnosis of nautical activity in mature areas such as the catalan coast. An exploration of the life cycle of most typical boats that exist in the European fleet, also the handling and management of boats sit idle and waste generated, technology applications to deliver value to the waste and eventually open a communication program to the European sector.

## 3. The boat scrapping process

Derived from our experience and knowledge gained in the project management Boatcycle on obsolete boats, we find that in Europe we have the following realities:

- I. When a boat comes into disuse is not easily detected and remains abandoned and their wastes become a risk of contamination which is latent for a long time.
- II. There is no efficient control of the number of boats that annually enters into disuse in Europe and what their final destination is.
- III. There are no companies specialized in the waste management and nautical boat scrapping.

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Making ecological boats and showing as responsible and respectful to the environment are key axes for a better future of the sector and its relationship to the marine environment.

- IV. The present rules for management of the boats out of use is diffuse or nonexistent.
- V. The number of boats that come into disuse annually in European countries is approximately between 80.000 and 60.000 units (EU. DG Environment - Final report Recovery of obsolete vessels. 2011).

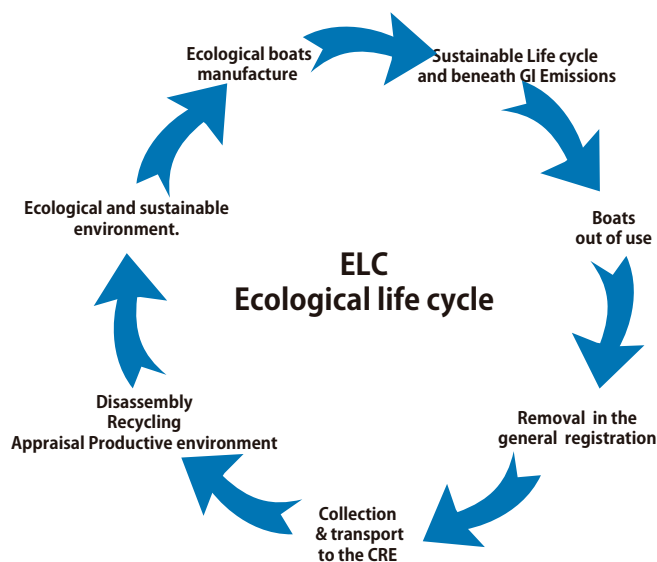
The results in the scrapping of 3 standard boats were as follows:

Type of boat	Length	Scrapping time	Operators	Cost
Pneumatics	4,80m.	2 hours	3	450€
Yacht	7,50m.	7 hours	4	650€
Sailboat	9m.	8 hours	5	1600€

## 4. Best practices of boat scrapping

In view that nautical scenario expected for the next 10 years becomes more complex, and that gradually the fleet sailing in Europe comes into disuse because they have reached the maturity of life, the following actions are suggested to minimize the environmental impact of a boat not in use or abandoned.

- I. Addressing to authorities in charge a message stating thereby the intention to stop using a boat.
- II. In the case of a boat already abandoned, the communication should be addressed to local authorities thereby stating the intention to collect and manage the boat abandoned.
- III. Provide a licensed waste contractor to correct the ship scrapping and waste management.
- IV. Get a certificate of destruction by the authorized agent.



*Ideal flow in an efficient management system for out-of-use boats in Europe.*

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## 5. Needs and recommendations

The recommendations and needs that the marine industry has to achieve in a more sustainable and competitive global market increasingly demanding environmental issues are:

- I. Despite the boat recycling is not, today, an economically profitable activity, if it integrates environmental and ecological consequences it will be very positive and necessary in a context of progress and quality of life.
- II. Improving the legal framework at European level, coupled with a logical and fair tax policy, will be helpful to bring order to the management of the boats out of use.
- III. The creation of specialized centers for boats recycling and adaptation of infrastructures to the existing recycling, will also be necessary to achieve environmental responsibility to the marine industry must overcome to become more sustainable.
- IV. It is necessary to promote research for the revaluation of synthetic composites that are major water waste by 80% of the scrapping process.
- V. Primar innovation in green design will also be a factor. Therefore it is important to implement ecodesign in the development of new marine products made from organic components, more sustainable throughout their life cycle and also during scrapping and material recycling.

## 6. More information and contacts.

*Life-Boatcycle Project*  
[www.life-boatcycle.org](http://www.life-boatcycle.org)

*Federación Europea de Industrias de la Navegación*  
[www.europeanboatingindustry.eu](http://www.europeanboatingindustry.eu)

*The International Council of Marine Industry Associations*  
[www.icomia.org](http://www.icomia.org)

*European Boating Association*  
[www.eba.eu.com](http://www.eba.eu.com)

*Marine Pollution Convention*  
[www.marpoltraingin.com](http://www.marpoltraingin.com)

*Asociación de Empresas Náuticas*  
[www.adin.org](http://www.adin.org)

*International Marine Organization*  
[www.imo.org](http://www.imo.org)

*Asociación Nacional de Empresas Náuticos*  
[www.anen.org](http://www.anen.org)

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