

In collaboration with Igne?s



Belgian roadmap towards the end-of life recreational craft and composites

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2. Roadmap highlights

3. Short term challenges & current activities

Preliminary study – legal study - roadmap

- The number of boats registered in Belgium is around 93,000 (of an estimated 6 million pleasure craft of the EU).
- The stock of boats has sharply risen in the period the 1970s to 1990s. => with a lifespan between 20 and 50 years a while generation of boats is coming into their EoL phase.
 - Estimated aggregated **quantity of composite materials** for boats registered in Belgium is estimated to be **between 100K and 170KT**.
 - Scenario 1: 2% of EoL boats/year : 2.1K T composite materials /year
 - Scenario 2: 5% of EoL boats/year 8.6K T composite materials)/year
- If there are are too few recycling solutions available: material flows will be diverted towards incineration with energy recovery or may even illegal dumping / orphan boats (<-> circular economy)
- Technical solutions may exist but if the material flows are too small/uncertain/unprofitable the market will not yield investments in recycling capacity.

Composite46%Iron elements28%Woods15%Dangerous product6%Other5%

Implication along a pleasure craft lifecycle



	Design and build	Use and maintain	Manage end of life (EOL)
Issues	Current boat designs don't consider yet enough the impact of EOL treatment.	Existing fleet is in varying states of maintenance, low obligation/incentive to maintain crafts	Some boats are abandoned in harbours (dry or water docks), parking or even in public areas. Sometime the craft owner is unknown
Question to address	How to encourage sustainable supply and boost eco design so life duration is prolonged and EOL treatment is made easier ?	How to encourage the user/owner responsibility, the good maintenance and the operational lifetime extension of pleasure crafts	How to develop an industrial economic viable activity to allow a sustainable and as circular possible EOL treatment. What about orphan boats?



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Implementation roadmap to set-up the conditions for this value chain to emerge articulated in 4 areas



Circular Economy industry/market

Includes deliverables likes:

Technical and operational specifications arising from the stimulation of the circular economy (eco-design, life extension & end-of-live recovery)

Identification of players aiming at building industrial capacities (supply, logistics, recycling...)

Identifying and onboarding other sectors with same type of in flow to manage to implicate in this processes to optimize efficiency (e.g. EOL windturbines)

Registration & follow-up processes

Includes deliverables like:

Design and implement link with **registration** and control processes

Design and implement processes to follow-up boats maintenance situation

Design and implement incentive actions to maintain or transfer vessel ownership to avoid pollution and extend life duration



Includes deliverables likes

Identify potential governance models (considering regional, national competencies, possibly with a broader scope at EU level with collaborations between countries on some aspects)

Define best model (obligation for boat owner/manufacturers) vs incentive and financing schemes

Designing and deploying the the regulatory environment



Communication

Includes deliverables likes:

communication approach to sensitize and mobilize the stakeholders along the implementation roadmap

Developing content and material in the different implementation milestones

Communication on milestones and progress in creative, study, evaluation and deployment

Domain	Period 1	Period 2	Period 3	Period 4
Circular Economy Industry/ market (1) Design & Build	Understand & Scar	n Define & prioritize		
(2) Use & Maintain(3) Manage end-of-life			Circu	ular Economy is live
Registration & follow-up	Inventory database 8	cross check Legal framework		
		Get d	ata and owner authori	Maintain database
Governance & solution model	Design draft solutio	n prove a draft busines	SS	
			Operational organization is set	Solution is is live
Communication	Strategy plan	Design communic	cation plan	Implementation



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Short term Challenges

- Setting the scene for the design of a shared/coherent solution in Belgium (aligned on supra/international initiatives)
- Assessing market preparedness and needs:
 - Technical feasibility aspects (material recycling; use of recycled materials; ..)
 - Economics viability aspects (price, volume, transport, etc.)

Current activities

Interactions with :

- **Public authorities** (regional and federal) to bringing the development of circular economy solutions for pleasure craft on the agenda.
- Industrial actors (techno-economic dimension) to understand the issues/opportunities, operational and market constraints (price, legal, etc.) and the economic feasibility of a recycling solution.



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- Many of the challenges faced in Belgium ... are faced in other member states
- To name a few:
 - Identification of boat owners
 - Financing EoL phase (legacy boats new boats)
 - Transportation cost issues (hubs and spokes / pretreatment facilities, ...)
 - Building adequate recycling capacity
 - Guaranteeing predictable material flows (addressing competition from waste disposal alternatives)
 - Design for reuse, recycling, etc. (e.g. via standards,...)
 - Seize of market for recycled product and competition with virgin material
 - Risk of regulatory shopping when substantially different approaches co-exist
 - Outreach to other products with similar composite materials (blades from windmills)
- Collaborate coordinate / inspire exchange / building on eachothers strengths



Thank you for your attention!