



Against the Wind:

Finding Green Solutions for the Disposal of Fiberglass Boats

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The Growing 'Fiberglass Dilemma'



The New Frontier: Vessel Recycling



Technological Recycling Processes

- Pure Materials Recovery (Physical Processing, Grinding, Separation of “recyclate”)
- Microwave Pyrolysis (Chemical Recovery, Melting and Separating of Materials in the Absence of Oxygen)

Valuable Components

- Polyester Fibers
- Liquid Resin
- Oil/Wax Additives

Much Different from Traditional Boatyard “Recycling”

Lessons From Abroad



Ongoing Efforts

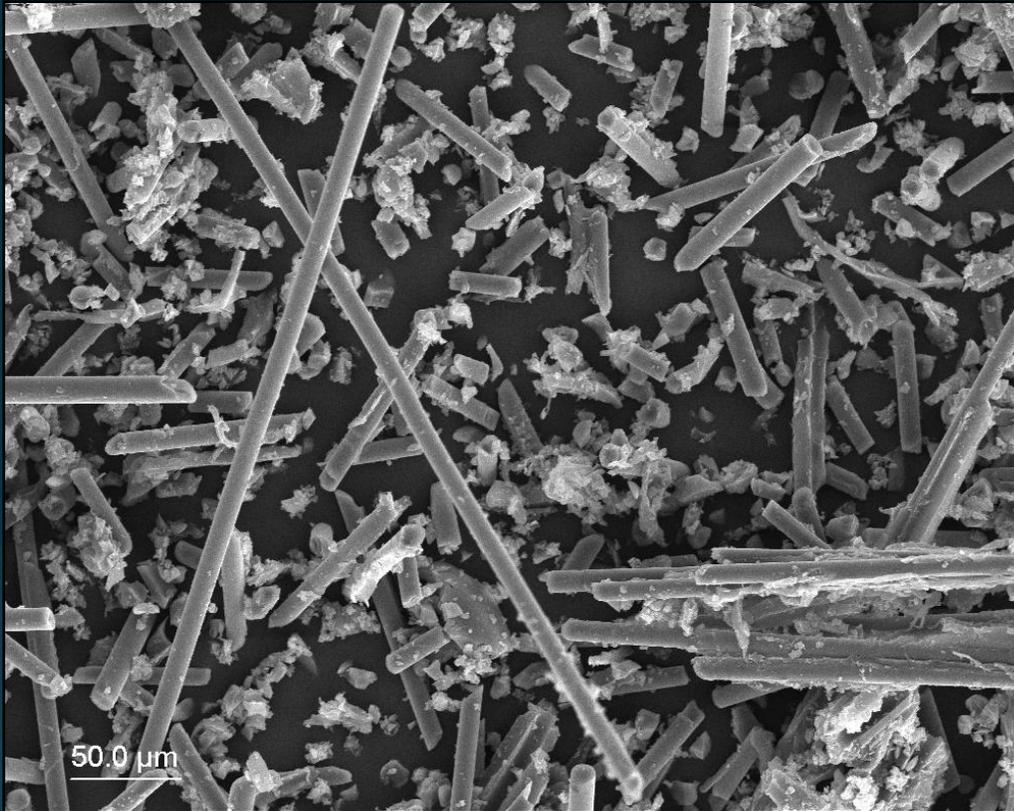
-BOATdigest Program (EBI, European Commission)

-APER Recycling Network (52 sites in France, 4,000 hulls recycled since 2009)

-Japan Marine Industry Association Recycling Project (6,000 hulls recycled since 2000)

-First International Yacht Recycling Conference held November, 2015

Creating a Recycled Fiberglass Market



Create value from a “low value” material

Cultivate sustainable options for reuse

Collaborate with other fiberglass industries

Build capacity through investment

Fostering a New Maritime Industry



Share the Responsibility

- Stimulate funding through tax/fee systems

Develop a Supportive Policy Framework

- Help promote sustainable practice on State & Federal levels

Utilize Preexisting Marine Industry Infrastructure

- A perfect solution to the boatyard "off season"

Potential for Rhode Island



Applying national average rate of vessel retirement in R.I. : 1,392 FRP vessels / 1 year

(NMMA: 2014)

16% of all RI households own a registered boat

(NMMA: 2008)



Rhode Island Mattress Recycling Plan



- Producer Participation
- Established Fee Structure
- Proposed New Facilities
- Public Education Initiative
- Defined Performance Goals

Challenges Ahead



A Growing Wave of End-of-Life Boats,
Abandoned & Derelict Boats

Environmental Consequences

The End of the Landfill

A Shrinking Profit Line for Manufacturers

How Can Disposal Influence Design?

Moving Forward: Next Steps

