



SEA-MATTER - Revalorization of coastal algae wastes in textile nonwoven industry with applications in building noise isolation



Expedient	LIFE11 ENV/ES/000600	Date	01-SEP-2012 to 28-FEB -2015	Location	Comunidad Valenciana
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Consortium	Università degli Studi di Perugia Dipartimento di Ingegneria Civile ed Ambientale Instituto de Ecología Litoral Asociación de Empresarios Textiles de la Comunidad Valenciana				
Objective	<p>The 'SEA-MATTER' project aims to demonstrate and validate the re-use of coastal algae and seaweed accumulations as raw material in the composites industry. It seeks to demonstrate and implement wet-laid technology for converting these materials into reinforcement structures for composites products. It also hopes to improve marine waste collection systems. Starting with the acquisition of the raw waste material, the project will consider the establishment of a new model for the collection, transport and management of algae and seaweed wastes. Current methods and technologies will be reviewed and alternative approaches assessed to identify more environmentally-friendly options. The project plans to take marine wastes to its wet-laid plant to demonstrate successful conversion into composites for the building industry. A dilute slurry of water and fibres will be deposited on a moving wire screen and drained to form a web. The web will be further dewatered, consolidated by pressing between rollers, and dried. This wet-laid reinforcement structure will be processed together with different proposed renewable, non-toxic polymeric matrices by means of a compression moulding system to obtain the final products. The beneficiary expects that the wet-laid process will allow different fibres to be intimately blended to give a tailored product that exhibits the optimum properties of each fibre type. The resulting composites will be validated as acoustic/noise isolation panels for buildings.</p>				
Expected results	<p>Expected results</p> <ul style="list-style-type: none">• Implementation of an effective and clean collection and transport system for algae and seaweed accumulations;• Reduced beach erosion;• A reduction of at least 15% in the landfilling of marine biomass waste;• Reduced management costs associated with marine biomass for coastal municipalities;• The successful demonstration of wet-laid technology to develop useful nonwoven materials from marine biomass;• Demonstrated valorisation of the resulting composites as an environmentally-friendly material for producing sound-insulation panels for buildings; and• The project will also contribute to the better application of the EU Directive on waste disposal and the Framework Directive on Wastes.				