

Posters

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## **The Greening Industry for Recycling of Wood Waste: Environmental and Marketing Strategical Approaches for Sustainable Development**

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Nowadays there are billions of tons of wood waste that should be considered as an environmentally international problem. Until today the majority of wood waste is either landfilled or incinerated. One of the realistic solutions to this problem is the development of new artificial materials to replace natural wood. The first replacement of natural wood was plastic lumber, followed by solid artificial wood, and now a new family of porous artificial wood (PAW). The new PAW is based on the mixture of virgin or/and waste plastics and natural wood wastes (such as sawdust or woodflour, byproducts of furniture and construction industry). To succeed industrially, the PAW must survive a scaling up from the laboratory into commercial processes and to find a commercially viable marketing niche. The filling of the gap between the engineering and the business areas must take into account the environmental and social effects and implications.

This paper discusses two marketing strategies dealing with artificial wood products: the consumer and the industrial markets. In the consumer market, the compelling reason for people to make a purchase is not to obtain an ecological product but to acquire a product with better quality or price. On the other hand, the strategy to be competitive in the

industrial market is quite different. Indeed, companies with a compelling social effect will have an advantage and a better position in this sector. Also, the government, which is part of this market, is interested in the well being of society.

The new family of PAW uses conventional equipment and processes that are inexpensive and environmentally friendly. A major environmentally advantage of PAW is that it reduces deforestation and forest degradation by replacing natural wood. Interesting that greening PAW industry resolves not one, but two present solid waste problems: recyclable plastics (as binder) and wood waste (as filler). Our proprietary PAW process and products use novel approaches to create more marketable products. Conventional tools can transform porous artificial wood into useful construction projects because it can be cut, nail, or screw it. Being a good thermoinsulator, PAW has another very important technical advantage over solid artificial wood because of its porous structure (similar to that of natural wood) provided by environmentally friendly commercial blowing agents. The markets for PAW are mainly outdoor items such as aquatic structures (decks, buildings, boardwalks), highway products (noise barriers, guardrail posts), furniture and material handling products (pallets). In all of these applications, artificial wood lasts a very long time, much more than natural wood. This means the material will not end up in landfills as quickly. When industrially produced, PAW end-use products should have a positive greening impact on the society. All the ecological advantages cited above integrate business systems with the environment in order to achieve sustainability.