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Closed loop pallet system – production, implementation and recovery of pallet components made of mixed post-consumer plastics

RECYCLEDPALLETSYSTEM

The project involves the implementation of a new recycling and production process leading to a better quality plastic, a higher output (thus lower cost) and a better energy efficiency than existing processes. With this new technology and in the new production facility that is set up, ultimately 16 kilotons of waste material (equivalent to approximately 1% of the total EU market) will be annually reused in a high quality application, pallet components. During the project, the recycled pallet components will be field-tested by launching customers active in the pallet production industry and in the operation of European pallet pools. On basis of the tests, a thorough evaluation will be conducted during which the environmental impacts, costs and user experiences will be assessed and compared to currently used wooden pallets. Post consumer plastic waste is difficult to re-use in sophisticated applications, because it consists of different types of incompatible plastics and contains contaminations. Therefore, it is currently usually incinerated or recycled in lower quality applications with limited market application, such as artificial wood for garden furniture or parking poles.

Benefits

Providing a useful application for a highly challenging waste stream: producing high quality pallet components from mixed post-consumer plastic waste

Results

- Production of 10 million pallet blocks using 16 kilotonnes of plastic waste as feedstock by the end of the project;
- Up-scaling to 32 kilotonnes within 2 years after the project
- Avoiding the emission of 48 kilotonnes/a CO2 by the end of the project, 96 kilotonnes/a in 2015.
- Involvement of six large pallet (annual production > 800.000 pallets/a) as launching customers.
- Setting up a take-back, re-use and recycling system for the plastic pallet components, ensuring that the material loop is closed.

Partners and coordinator

Van Maren Systems BV [1]	Netherlands

Ecotech Marche srl [2]	Italy
Recycle Belgium bvba [3]	Belgium

Contact

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Budget

Overall budget: 1.719.990,00 € (EU contribution: 48,00 %)

Key documents

- Project Fact File [4]
  PDF 81.78 KB

In brief

Sector: Recycling

Duration: *10/08/2011* to *09/02/2014*

Contract number: ECO/10/277345

Website: http://www.vanmarensystems.com

Tags:
plastic
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