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
Contact

Van Maren Systems BV
Van der Helstlaan 20
1412 HK NaardenNoord-Holland
Netherlands

Contact point

Name: Mr. Jean-Marc Van Maren
E-mail: jvm@vanmarensystems.com
Tel: +31 35 6782723

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
- recycling

Related projects

- [EUFIR [5]] A European system for collecting and recycling discarded equipment from...
- [ACE [6]] ACE - ADVANCED PRE-COMMERICALIZATION OF ECO RUBBER
- [S.B.S. One [7]] Advanced technology for the production of non-existing unilayered pvc-free...
• [AGRIPORT][18] Agricultural Reuse of Polluted Dredged Sediments
• [BIOLIX][19] Bio-hydrometallurgical beneficiation of non-ferrous concentrate from...
• [BP SORTING][20] BP SORTING - BLACK POLYMER SORTING
• [RECYCLED FIBER][21] Bringing recycled fiber products to market based on composites waste
• [COFERT][22] CO2 capture and nutrients recycling using a patented algae system for bio-...
• [CYPROBELL][23] Cyprobell - Grey Water Recycling Plant
• [E-AIMS][24] E-AIMS - AUTOMATIC AND INDIVIDUALISED SORTING AND MANAGEMENT PROCESS OF E-
• [SLAG-REC][25] Eco-innovation in steelmaking: a new system for 100% recycling of...
• [ECOMETRE][26] ECOLOGICAL METAL RECYCLING
• [SEPARATE][27] Enabling market uptake of innovative separation and cleaning solutions for...
• [FILMSORT][28] Enhanced recycling of post-consumer film waste from light packaging by...
• [ECOIMPPACT][29] Environmental Conservation Obtained by Injection Moulded Pulp PACKaging...
• [ECO PROTECTION][30] Evolution of Continuous Production Technology and Trans- ferable...
• [FRIT-REC][31] FRIT-REC - INTEGRATED TECHNOLOGY FOR THE REUSE OF WASTE LIME FROM THE...
• [WPF][32] From Waste Paper to Furniture
• [OLAX][33] GLOBAL SOLUTION FOR RECOVERY AND REUSE OF THE INK WASTE OF THE
• [NUMIX][34] High performance Lightweight aggregate for concrete from the recycling of...
• [ECO-RUBBER][35] INNOVATIVE USED TYRES RECYCLING AND RUBBER SINTERING PROCESS FOR ECO-
• [EKOPAN][36] NEW ENVIRO-FRIENDLY ABSORBENT ACOUSTIC PANELS
• [PARILAS][37] PARILAS - QUALITY ALUMINIUM RECYCLING
• [NATURALISTA][38] POST-USED SHOES RECOVERY IN FOOTWEAR INDUSTRY AND OTHER APPLICATIONS
• [PROWASTE][39] PROWASTE - EFFICIENT UTILIZATION OF PLASTIC WASTE THROUGH PRODUCT DESIGN...
• [RECYTUBE][40] RECYTUBE - INCREASING THE USE OF RECYCLED CARBON NANOTUBE (CNT) COMPOUNDS...
• [RHUSES][41] Regenerating PVC Hoses and Sponsoring Eco-Sustainability
• [SATURN][42] Sensor-sorting Automated Technology for advanced Recovery of Non-Ferrous...
• [STAREC][43] Shredder residue and Tar-containing Asphalt RECycling
• [NATSTOCER][44] Sludge free-process for the production of innovative natural stone-like...
• [SUPERPET][45] Super-Clean PET flake process for high quality recycling of PET bottles
• [SUERTEX][46] Sustainable Flame Retardant Technical Textile from Recycled Polyester
• [T4T][47] Textiles for Textiles
• [THE DIAPERS PROJECT][48] THE DIAPERS PROJECT - A ZERO EMISSION GREEN PLANT
• [TIWNCLETES][49] Tyre Wire in Concrete Leading to Environmental Sustainability
• [RECTYRE][50] USED TYRES VALORISATION AS LIGHTWEIGHT FILLER FOR EMBANKMENTS
• [WS-REC][51] WS-REC - DESIGN AND CONSTRUCTION OF A WINDSCREEN RECYCLING LINE


Links