

PROJECT SUMMARY

Title of Project: Innovative and environmentally friendly products from recycling of the different components of the refrigerator	
Local Company: B.E.M Enterprises Limited	
Main Collaborating Institution: University of Mauritius	
Project Leader: Mr Thierry MALABAR	
Research Collaborator(s)	
Name	Organisation
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Technical Abstract	
<p>With the arrival of more energy efficient refrigerators on the market, old refrigerators, which are “energivore”, are reaching their end-of-life (EOL) and these need to be properly recycled. However, there is no proper recycling facilities actually in Mauritius, which can deal with these refrigerators in an environmentally safe manner; as same is composed of various materials. If not recycled properly, these old refrigerators can represent a major source of harmful pollutants for our environment and eco-system. For example, the refrigerant in the cooling circuit, the CFCs gas and other blowing agents in the foam, which represent a risk to the world global warming.</p> <p>Hence the aim of BEM Enterprises which specializes in the E-Waste management in collaboration with the University of Mauritius (UoM), to implement a proper procedure for the recuperation and disassembly of unused refrigerators.</p> <p>This collaboration is axed on the recycling and valorization of discarded refrigerators where the challenge is to implement an efficient and sustainable recovery systems for the secondary materials to be processed locally. The foam will be mixed up with other municipal solid waste (MSW), such as old mattresses, old wooden pallets, etc... in order to manufacture Refuse-derived fuel (RDF) which can be used as a substitute to fuel. The metal will be turned into zorba for the metallurgy industry, the glass into glass powder for manufacture of glass tiles and the plastics into plastic chips/pellets. Thus not a single material will end up in landfills or in the nature.</p>	
Key Words: Refrigerator, Energy, Environment, E-Waste, CFC, Recycling, Valorisation, RDF	