Cleaner Greener Production Programme

Phase 3

Project Summaries

BETTER BUSINESS IN A BETTER IRELAND

Sustainable design, manufacture, use and recycling of plastic mussel floats

JFC Manufacturing

Mussel floats are put into the sea with some netting hanging from them on which mussels are grown. BIM and other organisations may provide incentives to fishermen to upgrade their floats to improve the crops and to reduce the visual impact on the environment of the current models. The floats have to withstand rough seas, rising tides etc. One of the failings of the current floats in the market is that they collapse in stormy weather and the mussels that are growing are lost. JFC will pump air into the float up to a pressure of one bar. This ensures that the unit will not collapse until it is submerged to a distance in excess of twenty feet which is unlikely. Due to this improvement in buoyancy the floats can be put further out to sea which has the effect of increasing the yield harvested by the fishermen. Under CGPP JFC will evaluate the substitution of 10%, 20% and 50% of the virgin materials used to manufacture the float with recycled materials. If this is feasible without changing the properties of the moulding it will again divert plastics from landfill and substitute a percentage of virgin materials. The floats will be 100% recyclable at the end of their life and it is expected that the floats will have a longer life span than competitors due to design, tests undertake and an thicker wall. These floats will replace alternative competing floats that have foam pumped into them to improve buoyancy. This is a major challenge at end of life as foam is so difficult to recycle. Under the Cleaner Green Production programme JFC would like to create a closed loop process for taking back old mussel floats and supplying a superior float. The floats being taken back will be cleaned and granulated before being transported to JFC to optimise the transportation. JFC will use the recycled plastic in one of the following products, New mussel floats, lobster pots or corri pipe. The fishermen currently have old floats (see Photo) and the new superior float aims to replace the ones currently in use. A 200L float has to be developed for shallow or better-protected inlets

Vapour Compression Distillation combining innovative components for highly energy efficient water purification and recovery.

Ship Company Ltd

Ship Company Ltd. has identified an innovative approach to development of a small to large scale Vapour Compression Distillation system, which will use a novel rotational heat exchange unit combined with a lower energy pump for the required compression, and will be applicable to all exit streams from the factory.

Extended life cycle of GPS tracking system

CELtrak

This project will reduce the environmental burden of our product by: using less raw material, using more benign WEEE compliant raw materials and consumables, reduced energy use during its life cycle (EuP energy directive), incorporate optional solar powered module, and extend the life cycle of the product by leasing it (product-service-systems concept), and designing it to be up-cycled/ upgraded

A Silicon Single-Chip Humidity-Temperature Sensor

Cratlon

Cratlon has filed patents on an innovative single-chip version, a semiconductor humidity and temperature sensor that can be used in industrial, commercial and residential areas for energy saving, environmental control, improved air quality, and elimination of sick building syndrome.
The goal of this project is to achieve a first working prototype of the chip. Achieving this would give Cratlon huge potential for creating high-value employment in Ireland and for export sales worldwide to Controls companies.

Supply Network Shannon – Waste and Energy Minimisation (WEM) in the Mid-West region of Ireland

SNS

A database of materials inputs and waste outputs will be establish for a minimum number of 35 companies both from within SNS and including other companies located in the Mid-West region. The companies have the option of both a waste stream review and an energy review. After the initial assessment level, there are a number of optional stages of assessment available to businesses. Depending on their requirements, a company has the options of a full waste audit, a full energy audit and/or a carbon footprint analysis, which would combine elements of both waste and energy audits. Reports and recommendations will be issued to the company for each particular level of assessment completed. The entire process is prioritised towards waste minimisation, with the key objective to minimise wastes and energy use within company processes. Reports will contain recommendations and sugggestions for waste and energy-use minimisation mechanisms.

Further details:

Lisa Sheils
Cleaner Greener Production Programme
Environmental Protection Agency
Dublin Regional Inspectorate
Richview
Clonskeagh Road
Dublin 14

Tel: 01-2680100
E-mail: l.sheils@epa.ie

Dr. Brian Donlon
Cleaner Greener Production Programme
Environmental Protection Agency
Dublin Regional Inspectorate
Richview
Clonskeagh Road
Dublin 14

Tel: 01-2680145
E-mail: b.donlon@epa.ie