



LIFE EPS SURE - Expanded PolyStyrene
Sustainable REcycling: From EPS waste to
food contact PS final market

LIFE16 ENV/ES/000258



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Project description:

Background

Expanded polystyrene (EPS) has very good insulation properties, which are useful for packaging food. Some 335 000 tonnes/year of EPS is used for food packaging in the EU. Only 25% of this is recycled, 30% is incinerated, and the rest is landfilled. The low recycling rate is due to the difficulty in removing food residues and odours from used polystyrene. EU waste management policy calls for increased rates of plastic recycling, so new solutions are needed for treating contaminated EPS waste, in particular when used to package fish.

Objectives

The LIFE EPS SURE project aims to provide an innovative methodology and a set of technological solutions to manage waste EPS fish boxes. The recycled material will have properties similar to virgin polystyrene for food contact packaging and will be used to produce yoghurt cartons and milk bottles.

Specific project aims include:

- Defining a model to collect, wash and recycle EPS fish boxes into food-grade polystyrene in a technically-viable and economically-profitable way;
- Implementing procedures to collect 10 tonnes of EPS fish boxes from El Corte Inglés shops across Spain;
- Demonstrating the EPS recycling process, to obtain 4-5 tonnes of recycled polystyrene with different concentrations of recycled material, and to

- produce 40 prototypes of food contact packaging; and
- Transferring and replicating the process in other EU countries with similar problems (e.g. Greece, Italy and the United Kingdom).

The LIFE EPS SURE project is fully aligned with priorities established in the EU Waste Framework Directive and the Circular Economy Package, namely:

- Reduction of landfilling across EU: the project aims to remove the 70% of EPS landfilled in Spain, and 50% of EPS landfilled in Greece, Italy and the UK;
- Increased recycling rates before 2025, when 60% of plastics will require recycling: the project aims to provide a 100% EPS fish boxes recycling rate; and
- Supply of valuable secondary raw materials: the project will deliver polystyrene for food contact packaging, thereby reducing by 90% energy consumption and CO2 emissions.

Expected results:

- Production of 4-5 tonnes of recycled EPS from used fish boxes;
- 40 prototypes of food contact packaging made from the recycled EPS;
- A set of good manufacturing practices (GMPs) with guidelines for implementing the proposed process. The GMPs will be adapted to legal and operational requirements in Greece, Italy and the UK;
- A clear plan to raise EU stakeholders' awareness of the environmental impacts of landfilling of EPS fish boxes and the environmental benefits of introducing the LIFE EPS SURE process; and
- A detailed plan for the replication of the proposed process across the EU.

Results

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Environmental issues addressed:

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator

CICLOPLAST,S.A

Type of organisation

NGO-Foundation

Description	Cicloplast is a non-profit organisation, established in 1996, which promotes the recycling of plastics. It brings together plastics industry companies, manufacturers of raw materials and recyclers, and helps them fulfil their environmental obligations with regards to waste management.
Partners	TOTAL PETROCHEMICALS IBÉRICA, S.L.U., Spain Asociación Nacional de Poliestireno Expandido, Spain EL CORTE INGLÉS, SA, Spain COEXPAN S.A.U., Spain

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Administrative data:

Project reference	LIFE16 ENV/ES/000258
Duration	01-JUL-2017 to 30-JUN -2020
Total budget	1,467,074.00 €
EU contribution	870,934.00 €
Project location	Cataluña(España)

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