

Upcycling used food packaging



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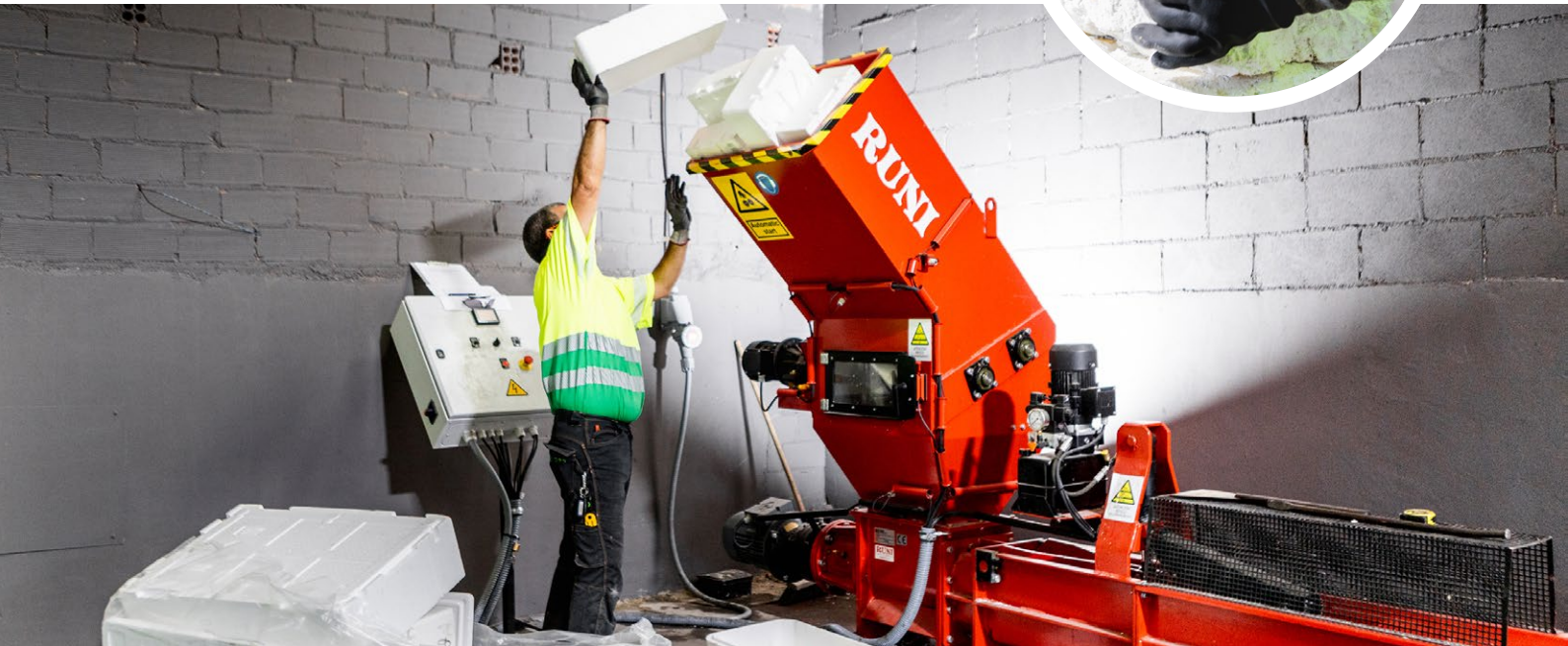


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The plastics sector faces additional challenges when producing food packaging in terms of health and safety standards. The European Food Safety Authority (EFSA) has only authorised PET recycled plastic to be used in direct contact with food products. The European Commission is now working with the EFSA to assess whether other recycled plastic materials could be allowed through better characterisation of contaminants.

One candidate material could be proposed to EFSA as part of the LIFE EPS SURE project. Petrochemical producer Total is field-testing a new recycling process to transform expanded polystyrene (EPS) from fish boxes into plastic clean enough for food contact packaging. If successful, the project will bring a new recycled plastic to the food market, broadening options for plastic converters and supporting EU efforts to protect public health through its food safety policy. “We are upcycling polystyrene packaging into new food containers,” says project manager Isabel Goyena. “This is unprecedented.”

The fish boxes have been collected from supermarkets across Catalonia. They have been washed, treated and shipped to a chemical reactor in which their molecular

building blocks will be torn apart. Mixing this recycled feedstock with fresh material LIFE EPS SURE plans to produce polystyrene sheets fit for new yoghurt pots and meal trays. “All the EPS waste going into the reactor is transformed into usable plastic,” says Ms Goyena. “We are still demonstrating the technology, but after mixing recycled expanded polystyrene with 70% virgin polystyrene, we envisage that the final compound will present the same quality as virgin polystyrene.”

Once production has been optimised, project partners will run health and safety tests on the plastic and apply to the EFSA to launch it on the food market. Ms Goyena says that demand for environmentally-friendly packaging is growing as shoppers pay increasing attention to the waste streams of their supermarkets. At present, alternatives are expensive. Expanded polystyrene is a notably bulky material that shops can only recycle in treatment plants nearby. The limited choice of recycled materials authorised for food packaging also restricts the applications of its second life. “Today it is a problem for supermarkets to dispose of expanded polystyrene fish boxes,” said Ms Goyena. “In Spain, most end up in landfills.”

Retail partner

LIFE EPS SURE is working with the major Spanish department store chain, El Corte Inglés, to broaden the options. “They are satisfied with our solution to close the cycle and are considering displaying their own brand on yoghurt pots and meal trays made with recycled polystyrene,” says Ms Goyena. If approved, this new plastic for food applications could boost recycling rates in a packaging sector dominated by single-use plastics. The demonstration project aims to collect 10 tonnes of EPS fish boxes from El Corte Inglés shops across Spain and use it to produce over four tonnes of recycled EPS. Ms Goyena expects that the recycling process could collect over 70% of fish boxes in circulation, reducing landfilling and damage to marine ecosystems.

Read more:

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