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With the contribution of the
LIFE financial instrument
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Energ-Ice Project: the Polyurethane energy solution for the refrigeration industry

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THE PROJECT

Dow Italia, Afros and Crios (Cannon Group), and Federchimica are partners in the Energ-Ice Project funded by LIFE, the EU's financial instrument supporting environmental and nature conservation projects.

The Energ-Ice Project focuses on reducing the environmental impact of energy-using products, such as cold appliances, by taking action at the design stage, where the pollution caused during the product's life cycle can be best prevented.

The project is expected to showcase an innovative polyurethane foaming technology to insulate cold appliances (refrigerators and freezers) offering enhanced insulation using low GWP blowing agents (e.g. cyclopentane).

The household sector is one of the largest users of electrical energy in the European Economic Area, consuming 29% of total electrical energy.

Cold appliances account for about 20% of household energy consumption. The Directive 2006/32/EC on energy end-use efficiency and energy services calls for the vast potential on energy reduction and requires Member States to draw up National Action Plans to achieve a minimum of 9% final (end-use) energy savings from 2008-2016 on almost all energy use, including home use.

The cold appliance sector has potential for additional carbon footprint reduction. Many blowing agents commonly used in the manufacturing of insulating polyurethane foams for cold appliances still have a ozone depletion potential and a significant global warming potential.

The overall **Objectives** of the project are to demonstrate that:

- A new technology employing a hydrocarbons blowing agent can be used in Europe to improve the insulation properties of PU foams for cold appliances in a more cost-efficient way;
- The manufacturing of cold appliances, including the impact of end-use disposal on the environment can be much more environmentally friendly and sustainable than standard processes;
- The new technology will give scope for defining new standards for hydrocarbon blown foams with improved insulation properties superior to those employed today and giving current A/A+/A++ labelling;
- Energy consumption of cold appliances in Europe can be reduced up to 10% with respect to the best-available appliances produced today with a positive impact on the European and worldwide market.

The ENERG-ICE project started on January 1, 2010, and it will be ended by March 31, 2013.

Energ-Ice provides:

- **Energy efficiency**
- **Cost efficiency, quality and productivity**
- **Sustainability and GHGs reduction**

while producing an high-performing insulation PU foam using the low GWP and ZERO-ODP Cyclopentane blowing agent.