

LIFE EXTRUCLEAN



With the contribution
of the Life
financial instrument
of the European
Union [LIFE13
ENV/ES/000067]

Proyecto LIFE
financiado por la
Unión Europea
[LIFE13
ENV/ES/000067]

<http://www.life-extruclean.eu>

4th
newsletter

LIFE EXTRUCLEAN

4th PROJECT NEWSLETTER

index

- 02 What is LIFE EXTRUCLEAN project about?
- 10 LIFE EXTRUCLEAN in the world wide web
- 15 LIFE EXTRUCLEAN - Objectives and Results up to now

- 08 About the LIFE+ programme
- 12 LIFE EXTRUCLEAN dissemination in the media
- 17 Future actions

What is LIFE EXTRUCLEAN
project about?



LIFE EXTRUCLEAN project aims to demonstrate the viability of the implementation of the supercritical fluids extraction (SFE) technology in the extrusion process involved in plastics recycling, leading to a recycled material free of hazardous contaminants and a recycling process with improved efficiency, in comparison with the current technology for hazardous plastic waste.

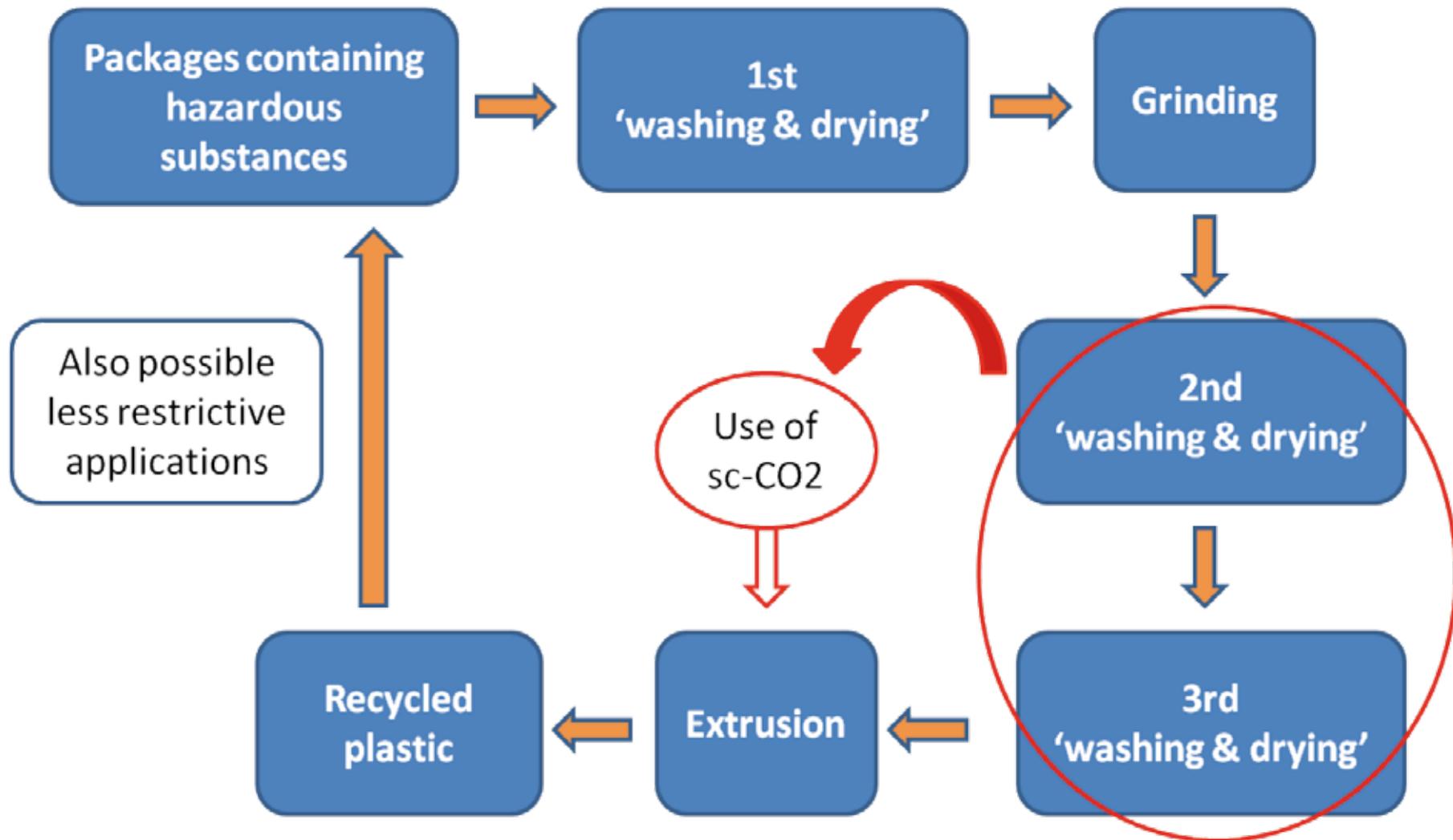
LIFE EXTRUCLEAN focuses on plastic packages that have contained dangerous substances, and therefore they become hazardous waste after use. The generally accepted method to eliminate the toxicity

of a hazardous container is its emptied and the 'triple rinsing and draining'. In the recycling line the packages gets a pre-rinse, are grinded in smaller pieces and cleaned by a series of washes (with different washing agents and surfactants) and subsequent rinsing and drying. After drying the material, it is processed through an extrusion line, getting a recycled material in pellet form. So, this process is characterized by a large water, cleaning agents and energy consumption, as well as large production of wastewater.

The project contemplates two case studies according to the origin of the

plastic packaging waste: industrial products packages and phytosanitary products packages.

LIFE EXTRUCLEAN process will allow lower environmental impact of the process, reaching at least the same efficacy in the hazardous character elimination of the recycled material.

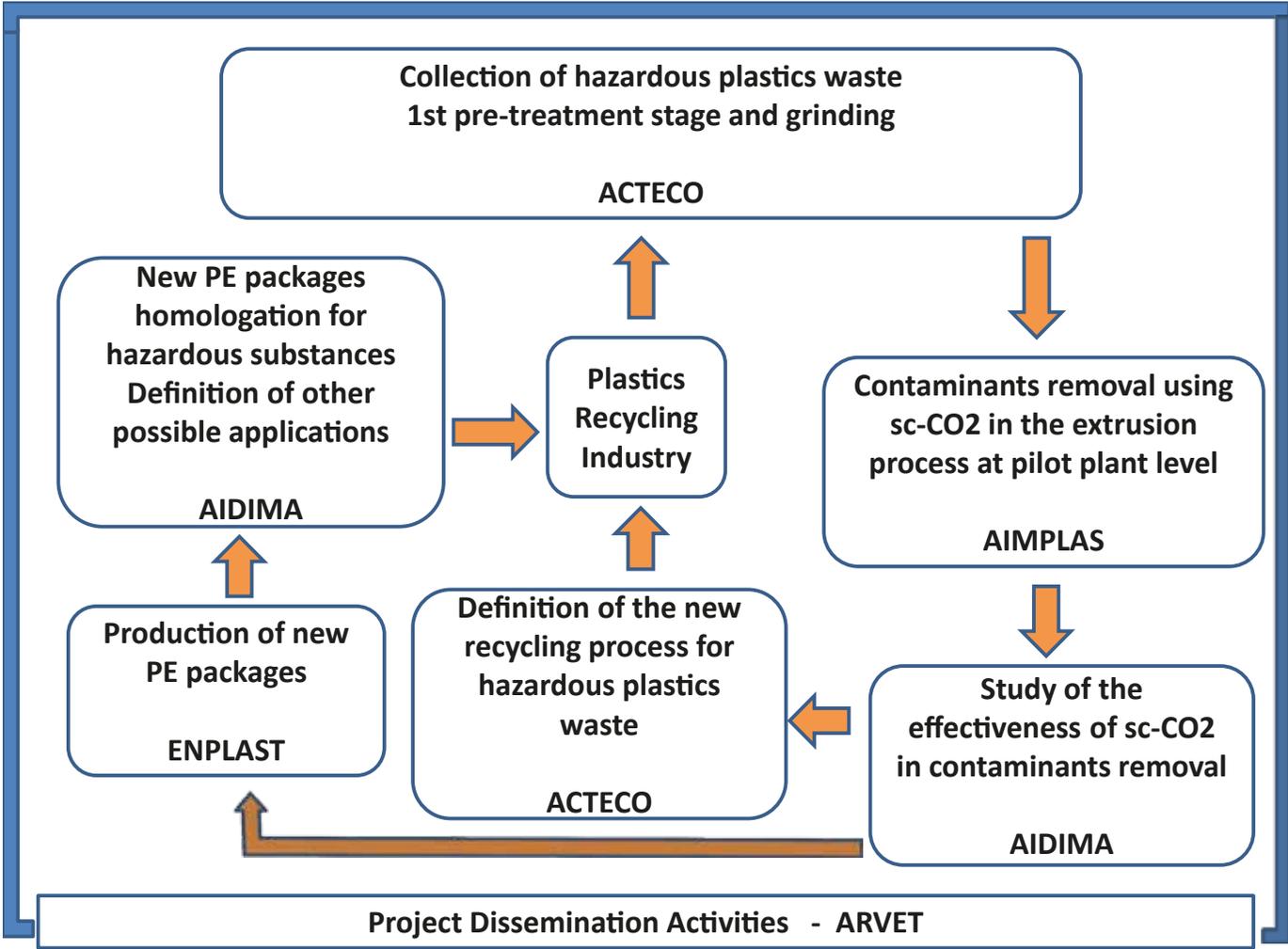


Life cycle of LIFE EXTRUCLEAN

The project consortium is formed by the following specialized companies and centres:

- **AIMPLAS:** Asociación de Investigación de Materiales Plásticos y Conexas in Valencia, Spain.
- **ACTECO:** Acteco Productos y Servicios S.L in Alicante, Spain.
- **AIDIMA:** Asociación de Investigación y Desarrollo en la Industria del Mueble y Afines in Valencia, Spain.
- **ARVET:** Agrupación de Exportadores de Transformados in Valencia, Spain.
- **ENPLAST:** Enplast S.A in Madrid, Spain

An overview of the LIFE EXTRUCLEAN partners and their role in the project is shown below:



Overview of the partners and their role in the project

About the LIFE
+ programme



The LIFE programme is the EU's funding instrument for the environment and climate action. The general objective of LIFE is to contribute to the implementation, updating and development of EU environmental and climate policy and legislation by co-financing projects with European added value.

LIFE began in 1992 and to date there have been four complete phases of the programme (LIFE I: 1992-1995, LIFE II: 1996-1999, LIFE III: 2000-2006 and LIFE+: 2007-2013). During this period, LIFE has co-financed some 4,171 projects,

contributing approximately €3.4 billion Euros to the protection of the environment and climate.

The European Commission (DG Environment and DG Climate Action) manages the LIFE programme. The Commission has delegated the implementation of many components of the LIFE programme to the Executive Agency for Small and Medium-sized Enterprises (EASME). External selection, monitoring and communication teams provide assistance to the Commission and EASME. The European Investment Bank will manage the two new financial

instruments (NCFE and PF4EE).

The LIFE EXTRUCLEAN project has been funded by the European Union LIFE+: 2007-2013 in the area of Environment Policy and Governance.

LIFE EXTRUCLEAN in the
world wide web



Updated information about LIFE EXTRUCLEAN is available through the link <http://www.life-extruclean.eu/>, our **Twitter @lifeExtruclean** and our **Facebook fan page of LIFE EXTRUCLEAN**.



LIFE EXTRUCLEAN
dissemination in the media



The project partners have been doing different dissemination activities in the last months.

LIFE EXTRUCLEAN has been presented in different events, being the more prominent the following:

Circular Economy Workshop (May 2016)

The 17th May 2016, the Recycling World Day, took place the workshop 'Circular Economy. Waste as resources' in Valencia (Spain). This workshop, organised by i.ambiente, included a series of specialized presentations, including AIMPLAS' presentation 'Chances for Improving Recycled Plastics', where **LIFE EXTRUCLEAN** project was presented to the attendees. In addition, a poster of the project was also shown during the day.



Workshop for Innovation in the Chemistry Industry (May 2016),

A workshop addressed to companies of the Chemical Sector was celebrated in Valencia the last 26th May. The event was arranged by CÁMARA VALENCIA, REDIT and QUIMACOVA, in collaboration with the main I+D+I funding agents at both regional and national level (IVACE and CDTI respectively).

AIMPLAS was present in workshop and **ACTECO** was in charge of presenting LIFE EXTRUCLEAN project with the oral presentation 'Development and placing on the market of a new recycling system for packaging of hazardous substances'.



XIV National Congress of Materials (CNMAT), Spain (June

16) LIFE EXTRUCLEAN project was presented the 8th June in the XIV National Congress of Materials, celebrated this year in Gijón (Spain). It counted on an extensive assistance (more than 360 attendees), and it is addressed to the scientific and technological community working on materials, including companies, universities, technological centres, etc. Specifically, **LIFE EXTRUCLEAN** was presented in a session titled 'Raw Materials for a sustainable future: Materials and Recycling', which objective was to provide scientific knowledge to favour a transition towards a more solid and circular economy through concepts like valorization and recycling.



LIFE EXTRUCLEAN - Objectives
and Results up to now



The project has demonstrated the effectiveness of the new technology for decontamination of hazardous plastic waste at pilot plant scale, being more effective than traditional decontamination process. During the first half of the project, EXTRUCLEAN technology was set at pilot plant level and the decontamination process was optimized using polyethylene jerricans contaminated in a controlled way with simulant liquids representative of the different contaminants in hazardous plastic waste. Results showed percentages of global reduction of the simulants up to 80%, according to the case study (packages for industrial products or packages for phytosanitary products). Afterwards, a comparative study between traditional and EXTRUCLEAN technologies showed that EXTRUCLEAN can remove about a 70% more of contaminants than the traditional process. These

decontamination levels are foreseen to be kept after the scale-up of the new technology.

The project partners met in April 2016 to put in common the results obtained and plan the last phases of the industrial

scale-up of the new technology, the assessment of the effectiveness at large scale and the new packages production using the EXTRUCLEAN recycled material. In this last stage, the validation tests of the new packages will also be carried out.



LIFE EXTRUCLEAN partners during the last technical meeting in ACTECO, Spain 27th April 2016

Future actions



In the last months of the project, work is focused on finishing the industrial scale-up processes, involving the use of the new technology at ACTECOS's facilities and the production of jerricans made from the new recycled polyethylene. The new packages will be validated for the transport of hazardous substances and miscellaneous. Other aspects like the economic viability and the reduction of the environmental impact with the production and use of the new packages will also defined in the last stage.

LIFE EXTRUCLEAN

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Beneficiaries - Associated



<http://www.aidima.es>



<http://www.arvet.es>



<http://www.acteco.net>



<http://www.enplast.es>

<http://www.life-extruclean.eu>