



Repsol Reciclex® Polyol: Boosting Polyurethane Circular Economy

PROJECT DESCRIPTION

Repsol is committed to achieving net zero emission by 2050. As part of this commitment to sustainability, the company has built the first plant in Spain to chemically recycle polyurethane foam at their Puertollano Industrial Complex.

With this new process, Repsol will produce Repsol Reciclex® polyols, closing the loop for end-of-life mattresses by giving them a new life. These polyols can be incorporated into regular processes for new foam production, thus closing the cycle of the circular economy of this material.

This project is result of a partnership with RAMPF Eco Solutions, a German company with expertise in chemical solutions for producing recycled polyols from different polyurethane waste.

How is this done?

1. The waste manager collects the end-of-life mattresses and takes them to dismantling facilities where they separate the springs, textile parts, latex and polyurethane foam.
2. The polyurethane foam is then sorted and any suitable foam for recycling process is compressed into bales and sent to recycling facilities.
3. Finally, the polyurethane waste is ground, fed into a reactor, and converted into Repsol Reciclex® circular polyol, through a chemical process in an acid solution.

PROJECT IMPACT

Repsol's Puertollano site can process 2,000 tonnes of polyurethane waste from end-of-life mattresses. This is equal to ~200,000 mattresses that lined up in a row would measure up to ~380 kilometers in length!

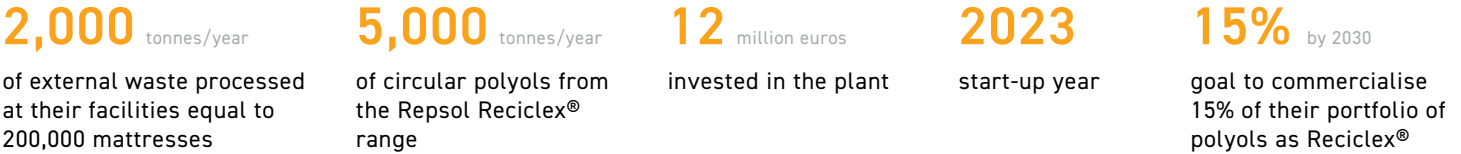
Some of the benefits of this project for circularity are:

- Recycling alternative for polyurethane, a material that currently has a very low rate of recovery, thus decreasing the amount that ends up in landfills.
- One of the pioneers in Europe and the first plant with these characteristics in Spain.
- Opening new markets to offer clients innovative and more sustainable solutions, like circular polyols.
- Lower consumption of virgin raw materials, and therefore, leading to resource savings.
- Reduction of direct and indirect CO2 emissions versus using virgin raw materials, thus supporting the goal of reaching net zero emissions by 2050

This innovative solution is critical for the flexible PU foam industry because it provides customers with a circular solution that has a lower carbon footprint than its fossil counterpart.

Repsol's partnership with industry stakeholders shows their dedication to transform their industrial complexes and turn them into multi-energy hubs capable of producing products with a low, zero, or even negative carbon footprint.

THE PROJECT IN FIGURES



ABOUT REPSOL

Repsol is a Spanish multinational energy and petrochemical company based in Madrid. It employs ~24,000 people worldwide and operates in all areas of the oil and gas industry with a renewable energy business unit.

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