

Gypsum to Gypsum (GtoG): The European Life+ project that aims to transform the gypsum waste market

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POLITÉCNICA



GYPSUM TO GYPSUM

WORLD CONGRESS AND EXPO ON RECYCLING

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PROJECT INFORMATION

GYPSUM TO GYPSUM

- **LIFE11 ENV/BE/001039**
- **LIFE+ Environment Policy & Governance in 2011:**
EU's financial instrument supporting environmental, nature conservation and climate action projects throughout the EU
- Duration: **36 months** (01.01.2013 – 31.12.2015)
- Budget: **3,566,250.00 €**
- EU Contribution (50%): **1,783,123.00 €**



PROJECT INFORMATION: CONSORTIUM



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Coordination: **EUROGYPSUM**
THE VOICE OF THE EUROPEAN GYPSUM INDUSTRY

Promoted by the Gypsum European Industry, in order to enhance general awareness at an European level about the benefits to the environment as well as the improvement of social aspect related with construction .

17 partners involved in the value chain:

Demolition companies, Gypsum Industry, Gypsum Recyclers, Consultant and Research centers.



PROJECT INFORMATION: CONSORTIUM



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Deconstruction consultants
Recycling companies
Plasterboard manufacturers

Project coordinators:



Research center



OVERALL AIM OF THE GtoG PROJECT



GYPSUM TO GYPSUM

To transform the gypsum demolition waste market

To reach higher recycling rates of gypsum waste, thereby helping to achieve a resource efficient economy.

Closed-loop recycling for gypsum products will only happen if:

- **Deconstruction techniques** are applied for all demolition or refurbishment projects;
- **Sorting of waste** is done at source - avoiding C&D mixed waste;
- Processing is carried out according to **clear standards**;
- Reincorporation of the recycled materials in the production process is carried out with **innovative techniques**.

GtoG PROJECT SPECIFIC OBJECTIVES



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- To demonstrate the feasibility and **advantages of deconstruction** versus demolition.
- To **qualify** gypsum waste.
- To reincorporate **up to 30%** of recycled gypsum (both pre and post-consumer).
- To develop **European criteria for recycled gypsum** to establish the EoW status.
- To **reassess the percentage of recycled gypsum in the GPP** for wall panels (currently, 5%).
- To assess the **carbon footprint** and methods to mitigate it.



Deconstruction of gypsum-based systems



Gypsum waste processing (recycling)



Recycled Gypsum

A. Preparatory Actions:

- A.1. Value Chain analysis in terms of deconstruction methodologies, economics of logistic and recycling

B. Implementation Actions:

- B.1. Eco-efficiency of deconstruction/segregation: Technical/Economic/market feasibility
- B.2. Valorisation of deconstruction waste.
- B.3. Towards sustainable lightweight systems

C. Monitoring Actions:

- C.1. Monitoring of the impact in the value chain (cradle to cradle approach)

D. Communication and Dissemination Actions:

- D.1 Communication and dissemination.

E. Project Management and Monitoring of the project progress:

- E.1 Coordination and monitoring
- E.2. After Life Communication Plan

ACTION A – PREPARATORY ACTIONS



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Analysis of current practices:

- Deconstruction practices
- Recycling
- Plasterboard manufacturing practices



Technical-Economic-Legislative-Environmental criteria

DELIVERABLES

DA1. Report: Inventory of current practices (September 2013)

DA2. Report: Inventory of best practices (December 2015)

ACTION B – IMPLEMENTATION



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European pilot projects (deconstruction – recycling – reincorporation of the recycled gypsum) in BE, FR, UK and DE.

1. Pre-deconstruction audit and deconstruction of gypsum-based construction systems.
2. Waste Acceptance criteria - Gypsum waste processing according to – Recycled gypsum quality criteria
3. Demonstrate, at industrial level, the optimized value chain (up to 30% recycled gypsum content in new plasterboard)

DELIVERABLES

DB1: EU Handbook: best practices in deconstruction (March 2015)

DB2: EU manual for best practices in audit (March 2015)

DB3: Guidance on gypsum waste acceptance criteria (June 2015)

DB4: Report: Production process parameters (July 2015)

ACTION C - MONITORING OF THE IMPACT OF THE PROJECT ACTIONS



- Definition of Best Practice Indicators
- Monitoring of deconstruction-recycling-reincorporation practices (validating the effectiveness of the indicators applied in the pilot projects)
- Road map and proposal of procedures for the implementation of a sustainable value chain.

DELIVERABLES

DC1. Report: Best practice indicators for deconstruction, recycling and reincorporation (July 2015)

DC2. Report: Specifications for recycled gypsum end-of-waste

DC3. Technical handbook and outline roadmap

SOCIO-ECONOMIC EXPECTED IMPACTS



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- Makeover of the demolition industry;
- Influence the local authorities behaviour to encourage deconstruction of buildings;
- Increase sustainability credentials of gypsum products in the local economy;
- Push towards collection of plasterboard waste in the local areas;
- Improve the conditions for the uptake of a gypsum recycling market.

THANK YOU VERY MUCH



<http://gypsumtogypsum.org/>



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