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GYPSUM TO GYPSUM

Factors impacting the market share of Construction and Demolition (C&D) waste recycling solutions

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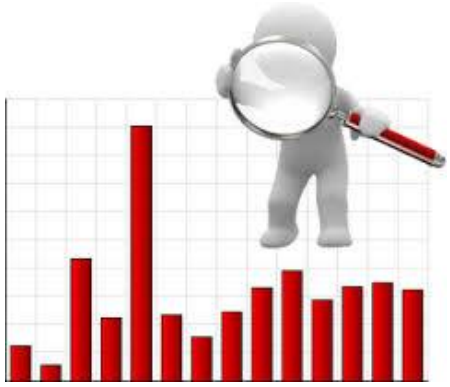
INTRODUCTION:

STATISTICS

different fractions

different end routes:

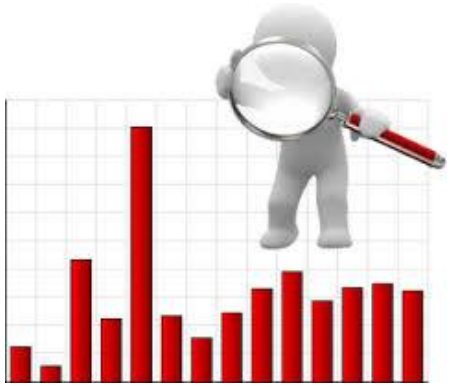


- RE-USE
- RECYCLING

INTRODUCTION:

STATISTICS → different fractions

STATISTICS → different end routes



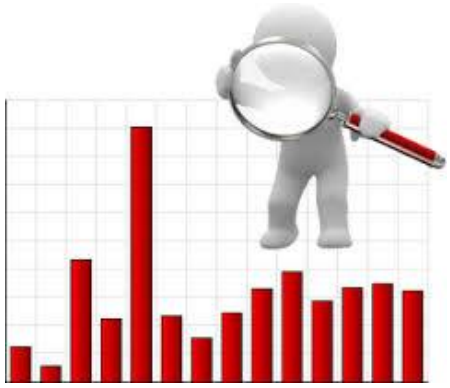
- RE-USE
- **RECYCLING**

✓ separating wastes at the source of generation
✓ sending them mixed up to a sorting facility

INTRODUCTION:

STATISTICS → different fractions

STATISTICS → different end routes

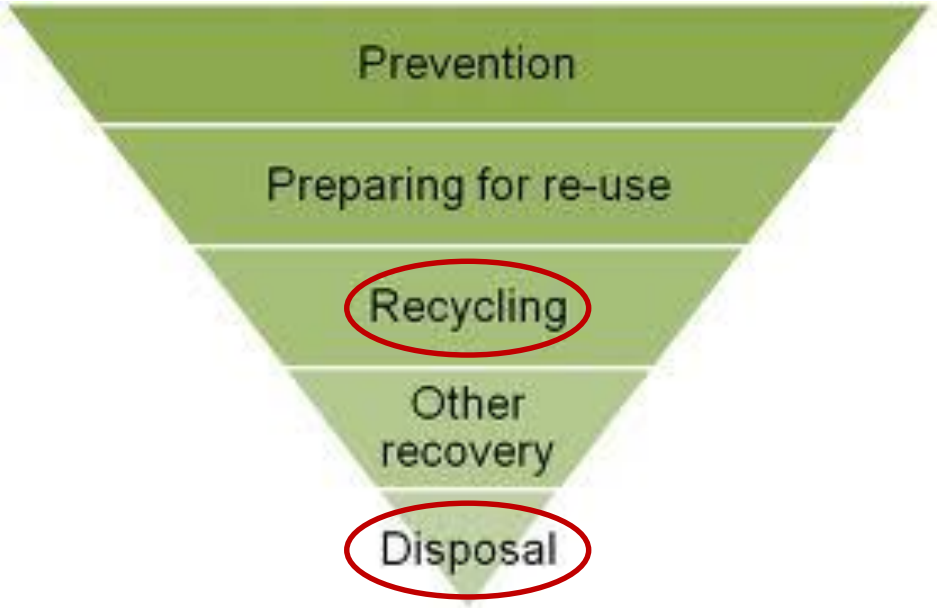


- RE-USE
- **RECYCLING**

Different possibilities that combined together with the characteristics of a specific region or country have a direct impact in the amount of C&D waste that is being properly managed.

AIM:

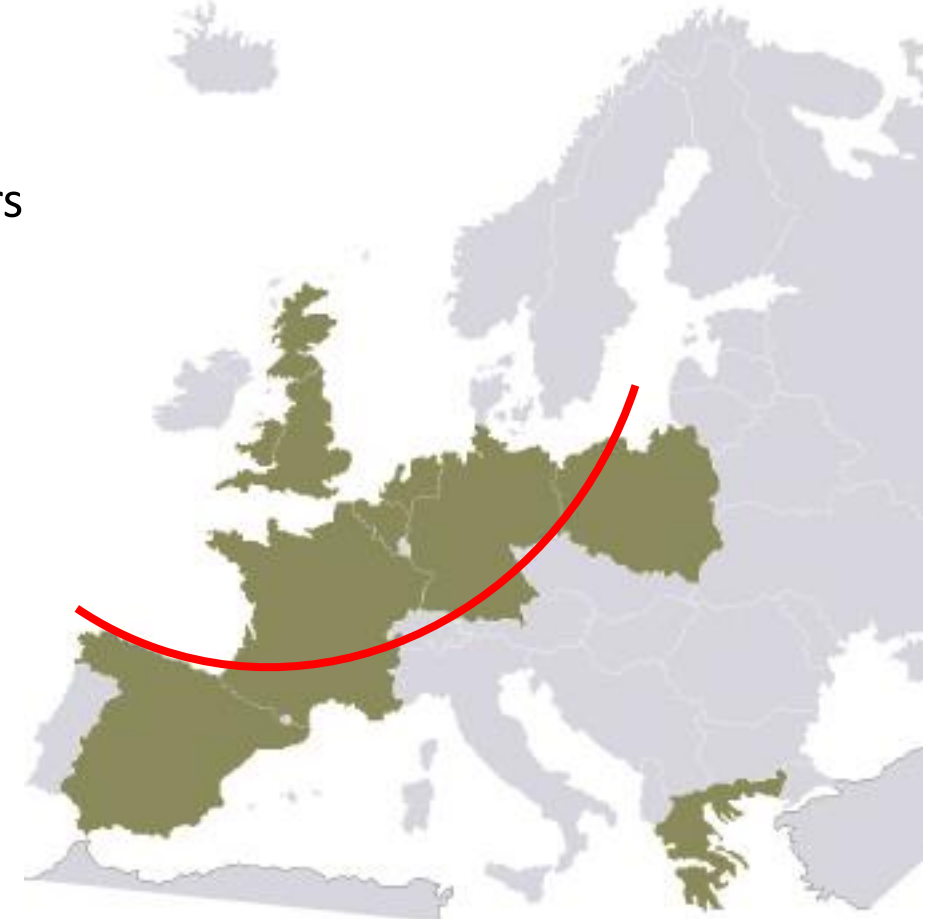
Focus on analysing the market share of C&D waste recycling solutions from a multi-criteria approach and valid for any country or region.



METHODOLOGY:

Input related to C&D waste management practices of different stakeholders:

- recycling centres
- public and private landfill owners
- waste management companies



RESULTS:

TECHNICAL	✓ Reach of the recycling system (R_{RS}) ✓ Level of segregation of a certain fraction from the rest of C&D waste (S_S)
ECONOMIC	✓ Competitiveness of the recycling solution compared to local landfills (CRS)
LEGISLATIVE	✓ Level of compliance with the existing regulation (CO) ✓ Legal alternative cheaper destinations for the waste (AS)
ENVIRONMENTAL	✓ Environmental focus (ES)

TECHNICAL

- ✓ **Reach of the recycling system (R_{RS})**
- ✓ Level of segregation of a certain fraction from the rest of C&D waste (S_S)

Reach of the recycling system (R_{RS})

Describes the share of the C&D waste that can be reached by the established recycling system in the market.

Geographical coverage

Recycling waste strategy

TECHNICAL

- ✓ Reach of the recycling system (R_{RS})
- ✓ **Level of segregation of a certain fraction from the rest of C&D waste (S_S)**

Level of segregation of a certain fraction from the rest of C&D waste (S_S)

The amount of a certain waste fraction that can be separated from the rest of C&D waste generated

On site

In a transfer station

ECONOMIC

✓ **Competitiveness of the recycling solution compared to local landfills (CRS)**

Competitiveness of the recycling solution compared to local landfills (CRS)

The relative competitiveness of the C&D waste recycling solution in a given country, compared to landfill disposal.

A recycling solution has been established

How competitive that solution is vs landfill disposal

LEGISLATIVE

- ✓ **Level of compliance with the existing regulation (CO)**
- ✓ Legal alternative cheaper destinations for the waste (AS)

Level of compliance with the existing regulation (CO)

This factor describes the share of the total C&D waste market that follows the existing regulations.

A driver for not following regulations is to have a lower economic cost for the disposal of the waste.

LEGISLATIVE

- ✓ Level of compliance with the existing regulation (CO)
- ✓ **Legal alternative cheaper destinations for the waste (AS)**

Legal alternative cheaper destinations for the waste (AS)

Describes the share of C&D waste market for which legal alternative solutions exist, that are cheaper than landfills.

If they are more expensive than landfills they will not be established.

Alternative solutions may be found all over a country or only in certain areas or regions

ENVIRONMENTAL

✓ Environmental focus (ES)

Environmental focus (ES)

Describes the share of the C&D waste market, where environmental factors determine the destination of the waste

The waste owner may choose to treat waste in the most environmental friendly way no matter the cost, which generally will drive to the recycling solution.

CONCLUSIONS:

- A total of six factors that influence the existence of a market for C&D waste recycling solutions have been identified
- They help to detect the causes that may limit the recycling solutions in a certain region
- Further analysis is needed for determining the range of variation of the factors, as well as the major sub-factors and procedures for better estimating each value.
- The combination of these factors into one single equation is being fine-tuned

Acknowledgement:

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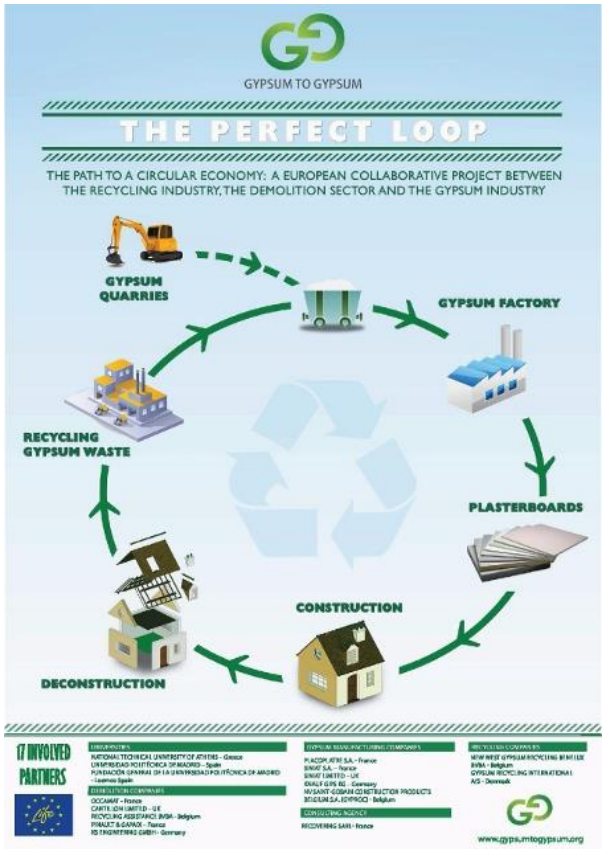
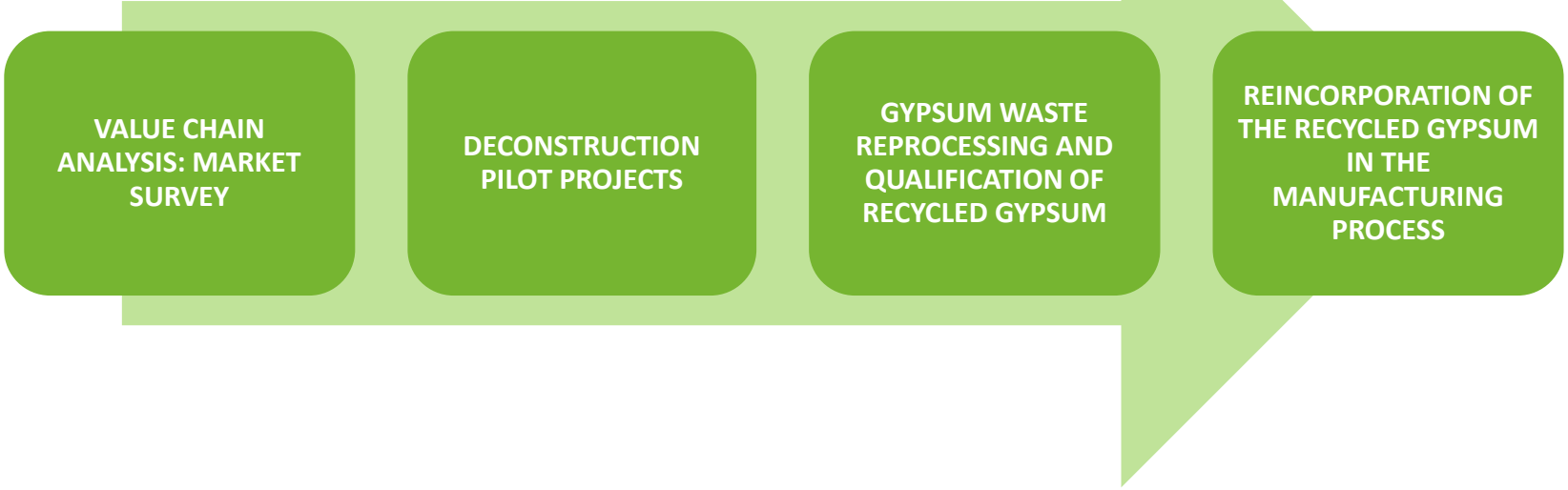
OBJECTIVES:

- Transforming the European gypsum demolition waste market to achieve higher recycling rates
- Initiating the path to circular economy for the plasterboard market



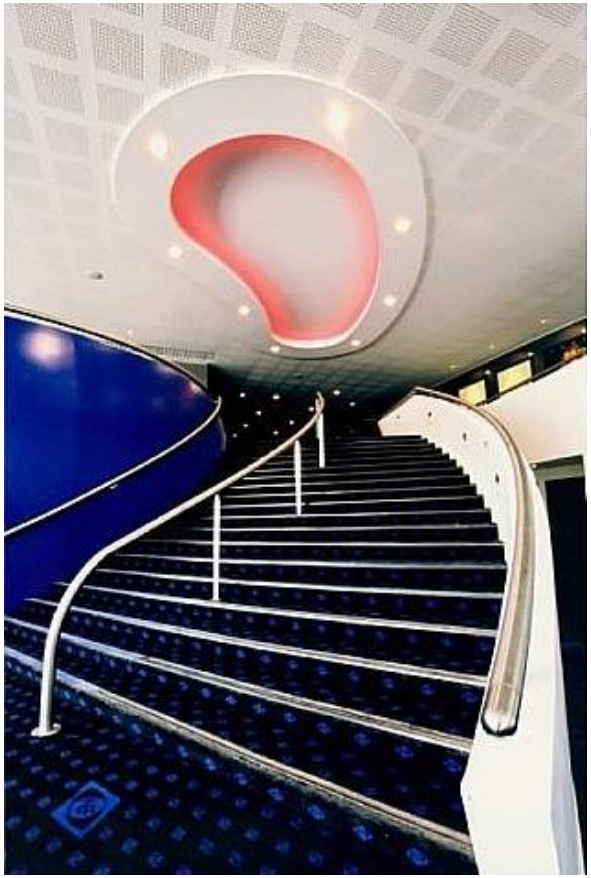
- 17 involved partners, different fields of expertise for a unique collaborative project between the recycling industry, the demolition sector and the manufacturing industry

- An integrated supply chain approach:



EXPECTED RESULTS

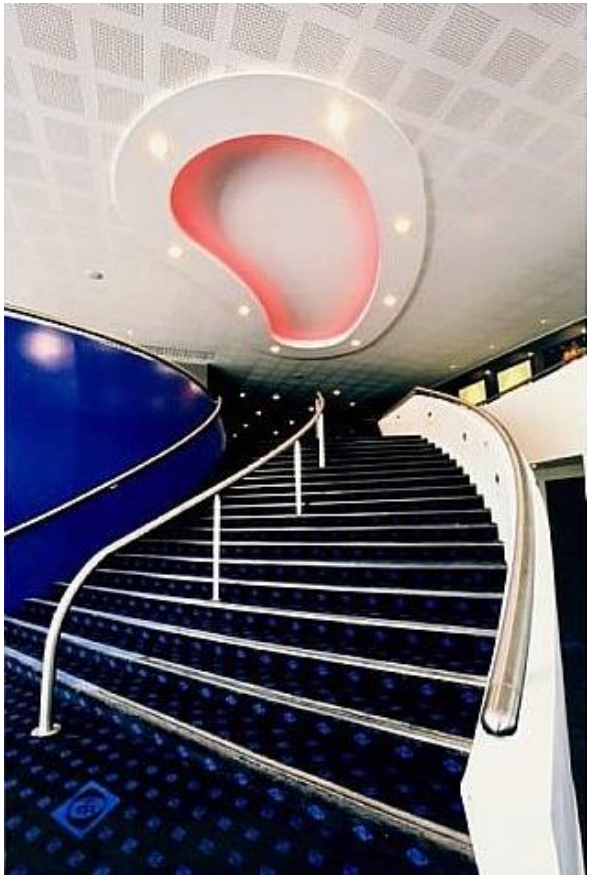
- European Handbook of best practices **for controlled deconstruction of gypsum system and for the audit of building**
- European specification/qualifications **for recycled gypsum**
- Establishment of **the end of waste status** for gypsum



EXPECTED RESULTS

- Assessment of the optimal European average percentage of recycled gypsum that could be incorporated in the production process

- Assessment of the **environmental footprint** of gypsum waste recycling



THANKS FOR YOUR ATTENTION!

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