

The contribution of the RAWFILL project to the valorisation of landfill resources



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Kick off meeting – Liège – June 2017



Rawfill is about :

- The potential of a landfill for valorisation activities
- Volume and quality of waste that could be recovered
- The value of the land

Is Not about :

- How to recover materials
- The processes to be put in place to maximise the waste valorisation

Key factors of succes for LFM projects :

- Social aspects
- Consultation with local residents



Objectives of the Landfill Mining

- ✓ A new use of the **land** – land pressure
- ✓ Mining of 'new' **raw materials** – need of ressources
- ✓ Fighting soil and groundwater **contamination** – environmental risks
- ✓ Build **infrastructure** works
- ✓ Reduce the costs of the **after-care** activities of landfills
- ✓ Improve the visual aspects
- ✓ Produce green energy
- ✓ Reduce GHS emissions

12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



EU priorities

- Green Deal - Circular economy strategy
- Climate change
- Biodiversity
- SDGs
- End of waste status
- CRMs



Biodiversity



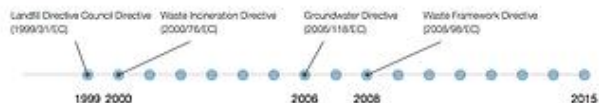
 **SUSTAINABLE DEVELOPMENT GOALS**



Indicator 15.3.1
Proportion of land that is degraded over total land area



Timeline of waste related directives in Europe



Legend



Amount of presently still operational landfills



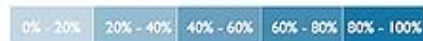
Distribution sanitary landfills (preceding and/or in compliance with EU landfill directive) / non sanitary landfills (in % of landfills)



Distribution USW/industrial landfills (in % of landfills, in amounts not weights)

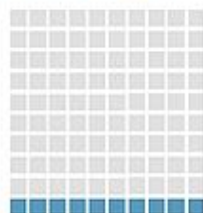


Estimated total amount of landfills (when data are indicated between (brackets) this implies it is an estimate based on the amount of municipalities multiplied by an average amount of 5 landfills per municipality)



Current landfill rate(%) i.e. share of landfilled waste versus total waste generated, excluding major mineral waste (EUROSTAT 2012 data)

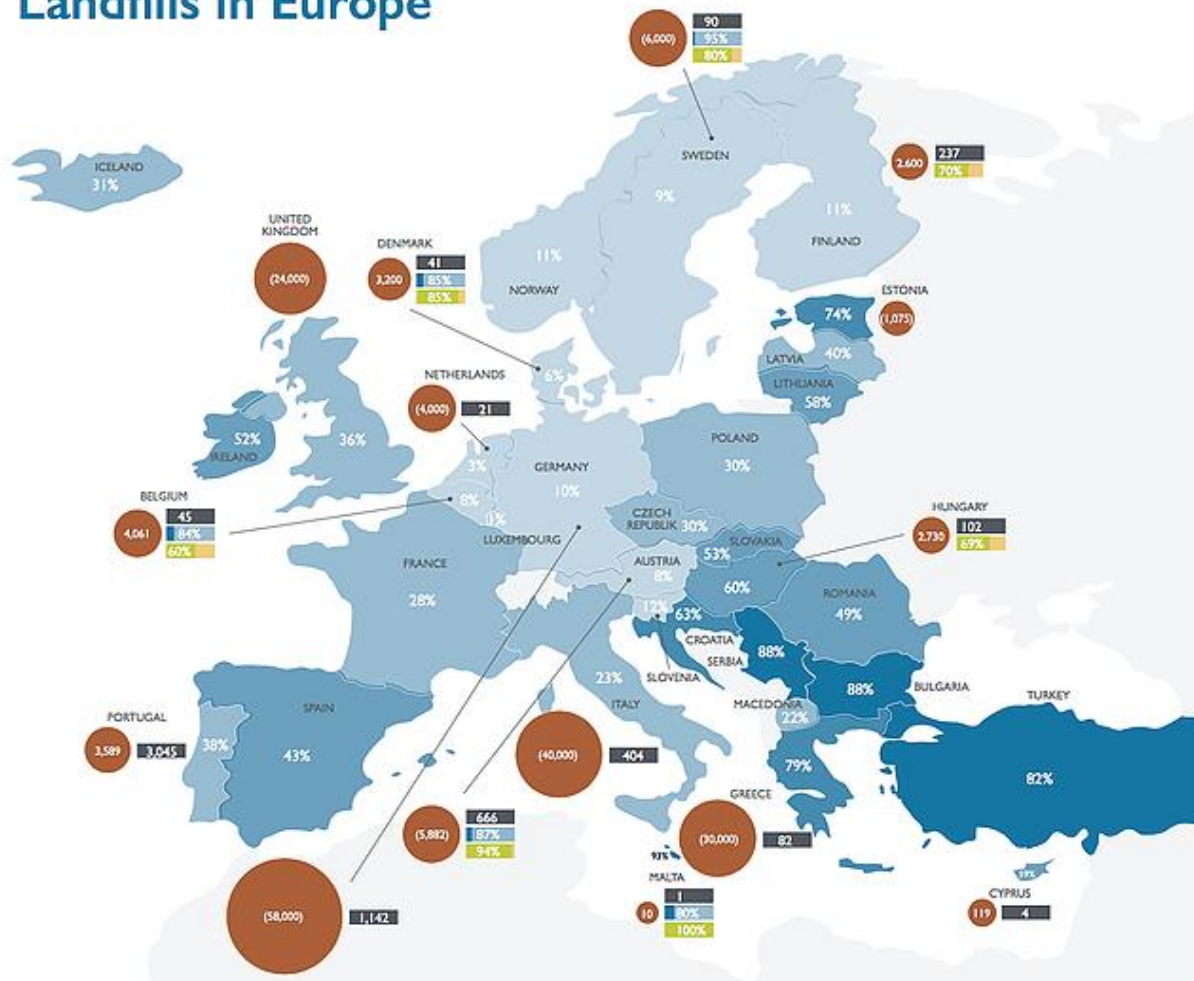
EU(28): 500,000+ landfills



Non sanitary landfills

Sanitary landfills

Landfills in Europe



+/- 100,000 landfills in the NWE Europe



RAWFILL : focus on developing **new methods** to **reduce the economic risk** of **LFM projects**, to identify the most **profitable projects**

The identified **problems in the management of landfills**:

- Lack of detailed information relating to the **economical potential of landfill sites** (quantity, quality, value of recoverable materials and of the land)
- The **costs of investigation methods** on landfill sites (which are high or even prohibitive)



Our contribution to encourage future profitable LFM projects :

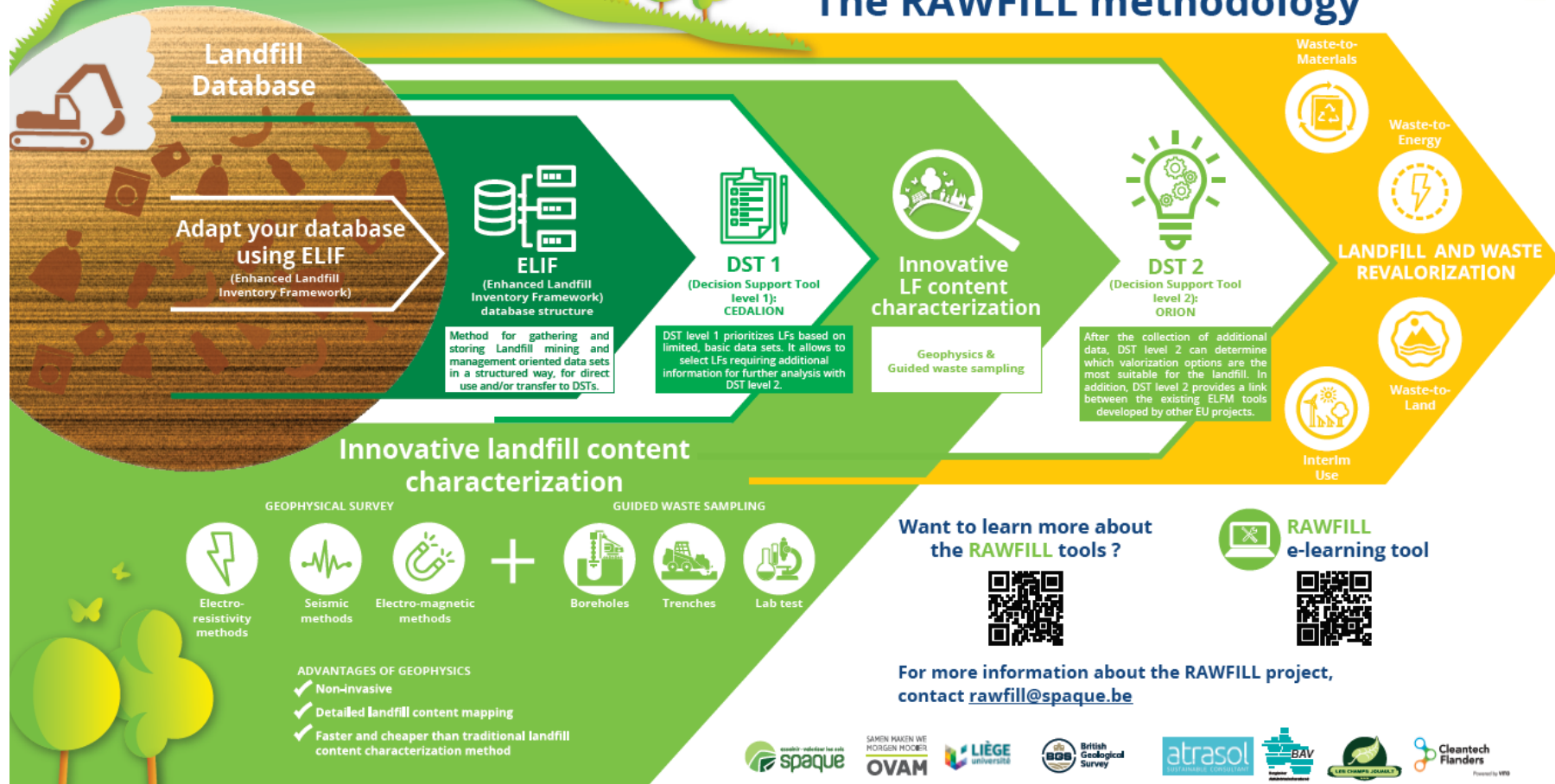
1. A common structure of inventories of landfill sites (ELIF) by integrating the economic potential of sites, social and technical indicators
2. An innovative investigation method of landfill sites (HADESS) by combining the traditional methods of soil sampling, treches, boring, etc. with modern geophysical methods (that will reduce the cost and the duration of studies and will give more detailed information about the content of the landfill site)
3. And two decision support tools (CEDALION and ORION) that will allow the selection of the most profitable LFM projects to encourage landfill owners and other SH to recover ressources and land

These methodologies were tested on 8 pilot sites.

How to start a profitable landfill mining project? How to valorize a landfill ?



The RAWFILL methodology



Video RAWFILL – general presentation

<https://youtu.be/MAuwXjKkj30>

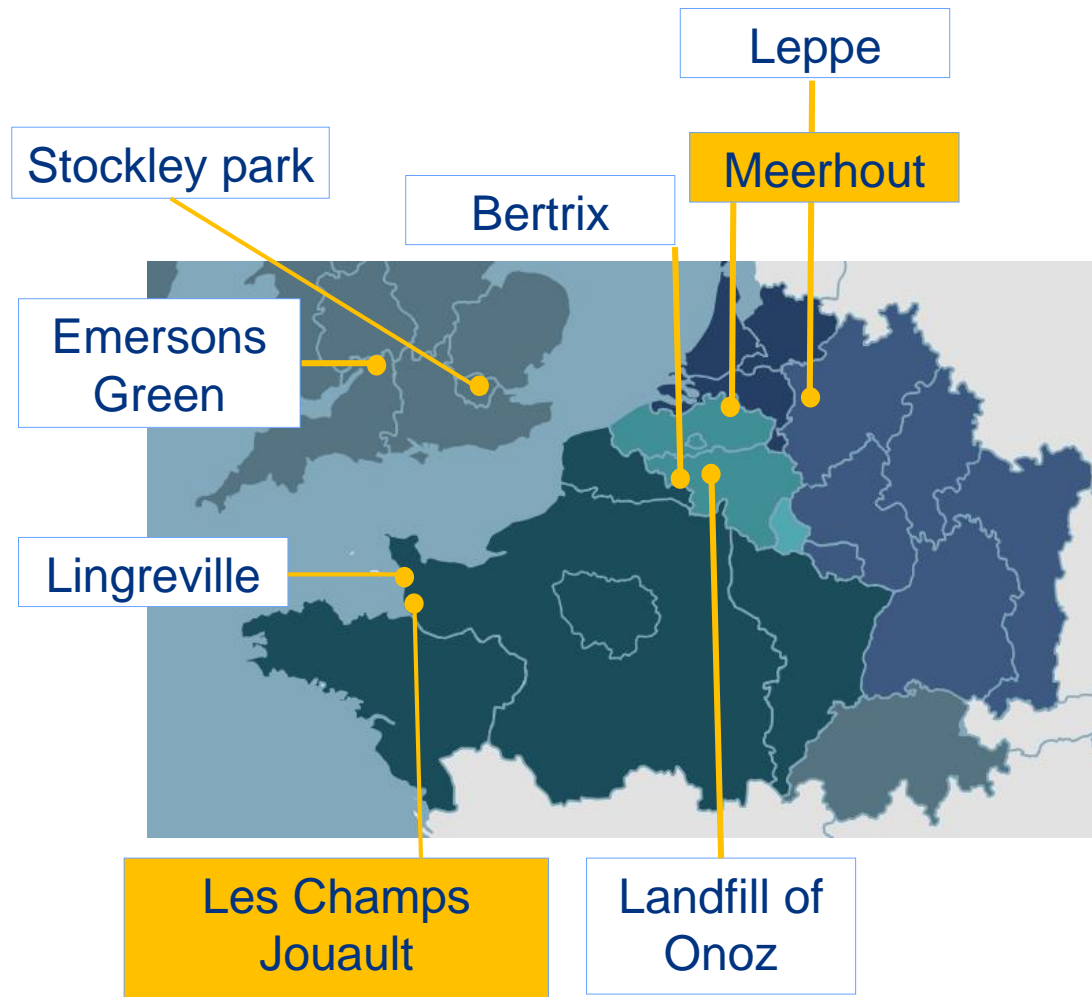
8 pilot sites:

Belgium : Meerhout, Onoz, Bertix

France : Les Champs Jouault, Lingreville

UK: Stockley park, Emerson's Green

Germany: Leppe landfill site



- Lead partner of the RAWFILL project
- a public company from the Wallonia Region, Belgium – active in the field of landfills & brownfields.
- key references in conception, rehabilitation, after-care works, inventories, characterization studies, etc.



Long term effects

- E-learning tool

<https://www.rawfill-elearning.eu/en/>

- E-library
- Landfill Miner Guide

RAWFILL project unites 8 partners from 4 EU regions with complementary expertise:



LFM

- recover buried resources and space
- Find on which sites we will have to set it up , under what conditions



- Maximise the profit
- Reduce the risks of operations

LFM : will no longer be an option

www.nweurope.eu/rawfill

Interreg



EUROPEAN UNION

North-West Europe

RAWFILL

European Regional Development Fund

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Wallonie

Thank you!