

**Registered Office**

Herrmann-Debrouxlaan 40  
1160 Brussel – Belgium

**Foundation of Public Utility**

VAT BE 406.568.867

**Research Centres**

Boeretang 200  
2400 Mol – Belgium

Chemin du Cyclotron 6

1348 Ottignies-Louvain-la-Neuve – Belgium

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## PREDIS Milestone 44 LCA Case Study Input to WP2.pdf

### Authors\*

Monique Van Geel

### Information Owner\*

Norbert Maes

### Approval information for current revision\*

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# PREDIS

## Milestone 44

## LCA Case Study Input to WP2

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### Callum Eldridge

Galson Sciences Limited  
5 Grosvenor House  
Melton Road  
Oakham  
Rutland LE15 6AX  
United Kingdom

Email: [ce@galson-sciences.co.uk](mailto:ce@galson-sciences.co.uk)

Tel: +44 1572 842 693



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Contributing author(s) Helene Nonnet (CEA), Samuel Walling (University of Sheffield), Eros Mossini (Politecnico di Milano), Thierry Mennecart (SCK-CEN), Laurence Stamford (University of Manchester)		Pages 4

#### Abstract

Description of the input data for the PREDIS WP2 Life-Cycle Assessment (LCA) case study provided by WP6 on the treatments of IRIS ashes.

#### Coordinator contact

Maria Oksa  
VTT Technical Research Centre of Finland Ltd  
Kivimiehentie 3, Espoo / P.O. Box 1000, 02044 VTT, Finland  
E-mail: [maria.oksa@vtt.fi](mailto:maria.oksa@vtt.fi)  
Tel: +358 50 5365 844

#### Notification

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## 1 Milestone Description

Milestone 44, associated with Work Package 6 ‘Innovations in solid organic waste treatment and conditioning’ has been completed on 25.08.2022.

The justification for the readiness is described below and complies with the Grant Agreement Description of Action noting verification by the M6.6 Report.

The readiness of the milestone was reviewed and agreed upon by Thierry Mennecart (SCK CEN) as WP6 Leader.

## 2 Milestone Content

The topic of Work Package 6 (WP6) of the PREDIS project is Innovations in solid organic waste treatment and conditioning. This Work Package includes participation in Life-Cycle Assessment (LCA) case study being undertaken in Task 2.5 as part of Work Package 2. The purpose of this Milestone, MS44, is to provide input from WP6 to the LCA case study being undertaken as part of Task 2.5.

A meeting between the respective leads for WP6, the LCA case study and this Milestone was held to identify which processes to target for the case study. The outcome was the decision to focus on treatment of ashes arising from the IRIS process, which is being pursued within WP6 with three technologies:

- Hot-Isostatic Pressing (HIP) at the University of Sheffield
- Encapsulation in Geopolymer at Politecnico di Milano
- Compaction at CEA

Within the PREDIS project, each of these conditioning technologies is being developed using the same reference waste – inactive ashes from the IRIS process developed at CEA. The common starting point enables the processes to be compared against each other from an LCA perspective which is not possible for the full range of technologies pursued in WP6 due to the diversity of input waste types.

A questionnaire was developed to collect information salient to the LCA case study and circulated to the groups developing treatment technologies and to CEA for information about the IRIS process. The questionnaire collected data about the values for raw material inputs, energy inputs, waste loadings, secondary waste streams and final product characteristics. To help explain the questionnaire, increase uptake and discuss any key issues, a meeting was held between participants of the questionnaire.

The returned questionnaires were synthesised into a spreadsheet recording the data provided by the experimentalists, an excerpt of this sheet is shown in Figure 2.1. In some places the required data were not available and assumptions needed to be made to derive representative values. Where this occurred, the source and derivation of the presented values was recorded. Part of the sheet was also used to scale the processes to equivalent volumes to make them comparable. The spreadsheet and underlying questionnaires were shared with the LCA case study team lead as well as being made available in the PREDIS [Teams group](#) for Task 6.7.

