**LAN BREF frontloading survey**

A. General overview of the survey

The 18 areas for which information and opinions from the TWG are requested are listed below:

1. Scope

2. Emissions to water

3. Emissions to air

4. Auxiliary materials and chemicals consumption

5. Energy consumption

6. Water management

7. Circular economy – residues generation and management

8. Decarbonisation and greenhouse gas emissions

9. Emerging techniques and link with INCITE

10. Monitoring

11. Normal operating conditions and other than normal operating conditions

12. Confidentiality issues

13. Proposed structure of the BREF

14. Selection of sites for the data collection

15. Data collection procedure

16. Site visits

17. Permits

18. Any other relevant information

B. Content of the survey

Throughout this survey you will find a number of EU-BRITE initial proposals as well as some requests for information related to the proposals and bulk information on landfills.

These initial proposals are based on a comprehensive research study carried out by EU-BRITE on the

context of the landfill sector, with a particular focus on the existing environmental acquis, information

available through the European Industrial Emissions Portal (IEP)   and through several Member States' portals (e.g. Pollutant Release and Transfer Register (E-PRTR)). In addition, a number of permits issued to landfills were examined. Information on potential KEI has also been provided by ECHA.

**REQUEST FOR GENERAL INFORMATION**

Please provide a general overview of landfill sector, landfill operations and directly associated activities (e.g. spread and compaction, covering, waste water management, leachate management, landfill gas management, odour control, capping systems) using the text box below or uploading a file.

………

If there is some further information that you want to share, please upload your file(s).

Please indicate the number of landfills managed. If there is more than one type of landfill within an installation, please indicate them separately in the table.

*Example.*

*If an installation consists of a landfill for hazardous waste and a landfill for non-hazardous waste, the following*

*number of landfills should be reported.*

*Hazadous waste landfill: 1*

*Non-hazardous waste landfill (total): 1*

*Non-hazardous waste landfill (municipal): 0*

*Please note that we are asking about landfills and not about cells.*

*Example.*

*If an installation consists of a landfill for hazardous waste with 2 cells and a landfill for non-hazardous waste with 3 cells, then the following number of landfills should be reported:*

*Hazadous waste landfill: 1*

*Non-hazardous waste landfill (total): 1*

*Non-hazardous waste landfill (municipal): 0*

|  |  |
| --- | --- |
|  | n. landfill |
| Hazadous waste landfill | … |
| Non-hazardous waste landfill | … |
| Non-hazardous waste landfill (municipal) | … |

**1. SCOPE**

11. EU-BRITE proposes to cover in the LAN BREF activity 5.4 of Annex I to Directive 2010/75/EU of

the European Parliament and of the Council of 24 November 2010 on industrial and livestock

rearing emissions:

*5.4 Landfills, as defined in Article 2(g) of Council Directive 1999/31/EC of 26 April 1999 on the*

*landfill of waste, receiving more than 10 tonnes of waste per day or with a total capacity exceeding*

*25 000 tonnes, excluding landfills of inert waste.*

Please give your feedback in the box below.

……

12. EU-BRITE proposes to cover in the LAN BREF activity 5.6 of Annex I to Directive 2010/75/EU of

the European Parliament and of the Council of 24 November 2010 on industrial and livestock

rearing emissions:

*5.6 Underground storage of hazardous waste with a total capacity exceeding 50 tonnes.*

Please give your feedback in the box below.

……

13. EU BRITE proposes to cover in the LAN BREF hazardous waste and non-hazardous waste

landfills.

Please give your feedback in the box below.

…..

14. EU-BRITE proposes to cover the following landfill operations/phases in the LAN BREF:

* Waste characterisation and acceptance procedure
* On-site transport and handling of waste for disposal
* On-site transport and handling of materials
* Disposal and uniform distribution of waste
* Leachate management
* Landfill gas management
* Surface water management
* End-of-life cell capping
* Closure phase
* After-care phase
* Other(s)

Please give your feedback in the box below.

……

15. EU-BRITE proposes to cover in the scope of the LAN BREF the activity in point 6.11 of Annex I

to the IED (independently operated treatment of waste water not covered by Directive (EU) 2024

/3019) if the main pollutant load originates from the activity covered in points 5.4 and 5.6 of Annex I

to the IED, as addressed in recent BREFs.

Please give your feedback in the box below.

…..

16. EU-BRITE proposes to cover in the scope of the LAN BREF the combined treatment of waste

water from different origins if the main pollutant load originates from the activity covered in points

5.4 and 5.6 of Annex I to the IED, as addressed in recent BREFs.

Please give your feedback in the box below.

…

17. EU-BRITE proposes not to cover the waste treatment activity carried out on site, to avoid

overlaps with the scope of other IED BREFs.

Please give your feedback in the box below.

….

18. EU-BRITE proposes not to cover the waste incineration activity carried out on site, to avoid

overlaps with the scope of other IED BREFs.

Please give your feedback in the box below.

….

19. EU-BRITE proposes not to duplicate in the LAN BREF information already covered in the LCP

BREF and in the MCPD, but to instead cross-reference these documents where applicable.

Please give your feedback in the box below.

…

**2. EMISSIONS TO WATER**

21. EU-BRITE proposes to collect information on the characteristics of emissions to water (e.g. pH,

temperature, flow).

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

Which of the following parameters should be considered?

* Flow
* Temperature
* pH
* Conductivity
* Redox potential
* Other(s)

If you have selected ‘other(s)’ in the previous question, please indicate which parameter(s) should be

considered:

….

22. Please provide your feedback on the following pollutants proposed by EU-BRITE as key environmental issues (KEIs) for emissions to water. Please, for each pollutant, indicate whether you consider it to be a KEI for emissions to water. Also indicate the information requested for each pollutant if available. In this survey, a KEI is understood as an environmental issue that is considered so important for the landfilling activities and operations that it may be covered by the LAN BREF. Information about the KEI should be collected through questionnaires and/or as bulk information. The aim of collecting such information may then differ from one KEI to another (e.g. deriving BAT, BAT-AELs, BAT-AEPLs and/or benchmarks). The KEIs will be decided by the TWG at the Kick off Meeting.

Please, note the following while filling in the table:

It is possible to propose other pollutant besides than those proposed in the table. To do so, please

download the Excel file provided at the end of the table and fill it in with as many pollutants as

considered relevant. Please, enter a different line for each pollutant.

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Please indicate in the comments/additional information section, if applicable, the types of PFAS monitored. If there is any other pollutant that your delegation considers to be a KEI for emissions to water, please upload your proposal.

For each pollutant proposed, please indicate the information requested as per the EU-BRITE proposal if available (type of landfill, available data, monitoring frequency, type of monitoring, impact and any other additional comment).

**3. EMISSIONS TO AIR**

32. EU-BRITE proposes to consider odour emissions as a KEI.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

…

For which type of landfill should this KEI be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

When considering this pollutant as a KEI in the context of landfill operations, what aspect will it most likely impact?

* Environment
* Human health
* Biodiversity

33. EU-BRITE proposes to collect, during the BREF development process, information on measures

/techniques to prevent and/or to reduce diffuse odour emissions.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

…

**4. AUXILIARY MATERIALS AND CHEMICALS CONSUMPTION**

41. EU-BRITE proposes to collect, during the BREF development process, information on the

auxiliary materials used in landfill operations.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

…

Please provide a list of auxiliary materials and the landfill type and operations in which they are used.

….

42. EU-BRITE proposes to include the consumption of chemicals as a KEI.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

…

Please provide a list of chemicals and the landfill type and operations in which they are used.

…

For which type of landfill should this KEI be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

When considering this pollutant as a KEI in the context of landfill operations, what aspect will it most likely impact?

* Environment
* Human health
* Biodiversity

43. EU-BRITE proposes to collect, during the BREF development process, data and information on

the type, quantity, purpose, function and fate of chemicals used in landfilling operations under the

scope of the LAN BREF.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

…

44. EU-BRITE proposes to collect, during the BREF development process, data and information on

the possible substitution options involving alternative or less hazardous chemicals.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

…

For which type of landfill should this topic be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

45. EU-BRITE proposes to collect, during the BREF development process, data and information on

the recovery and reuse of auxiliary materials and chemicals in landfill operations.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

…

For which type of landfill should this topic be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

**5. ENERGY CONSUMPTION**

51. EU-BRITE proposes to collect, during the BREF development process, information on energy

consumption.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

…

Please provide the list of landfill operations that are the main energy consumers:

…

For which type of landfill should this topic be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

Would your organisation have reliable and representative data on the energy consumption of landfill sites?

* Yes
* No

How many hazardous waste landfills report on the energy consumption?

….

How many non-hazardous waste landfills report data on the energy consumption?

….

52. EU-BRITE proposes that the TWG identify, during the BREF development process, the

contextual information to understand and compare the energy consumption data collected.

(Contextual information includes type of energy used/produced (including fuel types) in the installation, monitoring methods and calculations, landfill configuration and defined boundaries, size and depth of the landfills and waste characteristics).

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

For which type of landfill should this topic be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

**6. WATER MANAGEMENT**

61. EU-BRITE proposes to include water management (consumption, drainage system, treatment

and discharge) as a KEI.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

For which type of landfill should this KEI be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

Would your organisation have reliable and representative data on the water consumption and water

discharge of landfill sites?

* Yes
* No

How many hazardous waste landfills report data on the water consumption and water discharge?

….

How many non-hazardous waste landfills report data on the water consumption and water discharge?

….

Would your organisation have information on techniques/measures applied to reduce water consumption and waste water discharge?

* Yes
* No

Would your organisation have information on the water management techniques applied at the site in terms of water intake, surface and groundwater flows, water collection and discharge, etc.?

* Yes
* No

Would your organisation have information information on applied measures/techniques to prevent or

minimise diffuse emissions to soil and groundwater?

* Yes
* No

When considering this topic as a KEI in the context of landfill operations, what aspect will it most likely

impact?

* Environment
* Human health
* Biodiversity

62. EU-BRITE proposes that the TWG identify, during the BREF development process, the

contextual information needed to understand and compare the specific water consumption and

waste water discharge data collected through the questionnaires.

(Contextual information includes applied techniques, landfill operations, methods used for monitoring and calculation, water reuse, water recycling rate, site configuration and defined boundaries, level of data aggregation, meteorological data, surrounding topography, landfill topography).

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

For which type of landfill should this topic be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

**7. CIRCULAR ECONOMY - RESIDUES GENERATION AND MANAGEMENT**

71. EU-BRITE proposes to collect, during the BREF development process, information on the

generation of residues and their recovery.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

For which type of landfill should this topic be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

What kind of residues are generated in the landfill operations?

….

Would your organisation have reliable and representative data on the generation of residues and their

recovery on landfill sites?

* Yes
* No

72. EU-BRITE proposes to collect, during the BREF development process, contextual information

on the use of waste with unique properties (e.g. on-site drainage layers, ramp or berm construction).

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

**8. DECARBONISATION AND GREENHOUSE GAS EMISSIONS**

81. EU-BRITE proposes to collect, during the BREF development process, information on

techniques related to the reduction of greenhouse gas emissions from the relevant landfill

operations covered by the scope of the LAN BREF (e.g. landfill gas capture, prevention of landfill

gas emissions, landfill gas uses, electrification).

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

For which type of landfill should this topic be considered?

* Hazardous waste
* Non-hazardous waste: municipal
* Non-hazardous waste: other than municipal

Would your organisation have reliable representative data on green house gas emissions?

* Yes
* No

How many hazardous waste landfills report data on green house gas emissions?

….

How many non-hazardous waste landfills report data on green house gas emissions?

….

Please provide information, if available, on techniques to reduce green house gas emissions from the

relevant landfill operations.

….

If preferred, please upload a document with the available information on techniques to reduce green house gas emissions from the relevant landfill operations.

82. EU-BRITE proposes to collect, during the BREF development process, information on on-site

combustion plants (e.g. firing landfill gas) and their characteristic (e.g. rated thermal input), and

information on the use of heat generated (e.g. direct or indirect leachate evaporation).

* Agree
* Partially agree
* Disagree

Please provide the rationale for your opinion:

….

83. EU-BRITE proposes that the TWG identify, during the BREF development process, the

contextual information to understand and compare the collected data.

(Contextual information includes type of energy used/produces (including fuel types) in the installation, monitoring methods and calculations, landfill configuration and defined boundaries, size and depth of the landfills and waste characteristics).

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

**9. EMERGING TECHNIQUES AND LINK WITH INCITE**

91. EU-BRITE proposes to collect, during the BREF development process, information and

performance data on emerging techniques (ET) applicable to the activities covered by the LAN

BREF and associated with the KEIs to be agreed at the kick-off meeting.

(e.g. emissions to air and to water, consumption of energy, water, raw materials, decarbonisation,

chemicals)

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

**10. MONITORING**

101. EU-BRITE proposes to collect, during the BREF development process, data related to

monitoring of emissions (e.g. to air and to water) and consumption levels (e.g. water, energy).

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

102. EU-BRITE proposes to collect, during the BREF development process, data on substances

/parameters monitored by process/source during the different landfill operations.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

103. EU-BRITE proposes to collect, during the BREF development process, information on the

standards used and on the monitoring frequency.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

**11. NORMAL OPERATING CONDITIONS AND OTHER THAN NORMAL OPERATING CONDITIONS**

111. EU-BRITE proposes to collect, during the BREF development process, information on ‘normal’

operating conditions and ‘other than normal’ operating conditions for the landfilling operations

under the scope of the LAN BREF.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

112. EU-BRITE proposes the TWG identify, during the BREF development process, ‘normal’ and

‘other than normal’ operating conditions for the different landfilling operations under the scope of

the LAN BREF.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

**12. CONFIDENTIALITY ISSUES**

121. EU-BRITE proposes, during the BREF development process, not to consider data collected as

CBI.

* Agree
* Partly agree
* Disagree

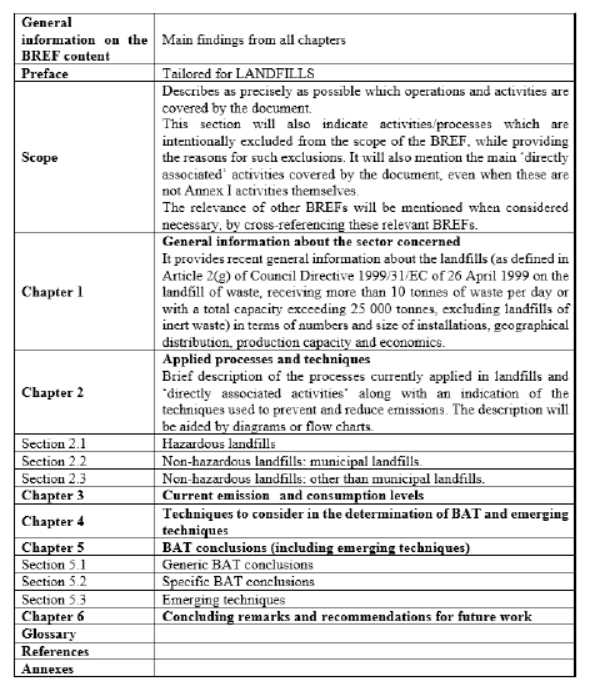
Please provide the rationale for your opinion:

….

**13. PROPOSED STRUCTURE OF THE BREF**

131. EU-BRITE proposes to use the following structure of the BREF:

….



Is this proposed structure acceptable to you?

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

Please upload your alternative proposal for the structure of the LAN BREF

….

**14. SELECTION OF SITES FOR THE DATA COLLECTION**

141. EU-BRITE proposes that the TWG submit proposals, during the BREF development process, of

well-performing (including best-performing) landfill installations to participate in the data collection.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

**15. DATA COLLECTION PROCEDURE**

151. EU-BRITE proposes to follow the established BREF process for the collection of site/plantspecific

data via questionnaires including the following:

* the preparation of the draft questionnaire by EU-BRITE followed by the commenting of the
* TWG;
* the organisation of a questionnaire workshop to finalise the
* questionnaire;
* the testing of the draft final questionnaire by a selected (small) number of
* sites;
* the preparation of the final questionnaire by EUBRITE;
* the distribution of the final questionnaire through Member States’
* representatives;
* the filling in of the questionnaires by the sites/plants’
* operators;
* the collection of the filled-in questionnaires by Member States’
* representatives;
* the quality check of the filled-in questionnaires by MS’ representatives (possibly) with the
* help of a checklist;
* the submission of the quality-checked questionnaires to EU-BRITE by MS’ representatives.
* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

152. EU-BRITE proposes to collect data for the reference years 2024, 2023, 2022 or, if such data is

not available, for the last 3 years for which data is available.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

Data available

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2024 | 2023 | 2022 | 2021 | 2020 | 2019 | 2018 |
| What year's data is available in your  organisation? |  |  |  |  |  |  |  |

**16. SITE VISITS**

161. EU-BRITE proposes that the TWG suggests landfills for site visits, during the BREF

development process.

* Agree
* Partly agree
* Disagree

Please provide the rationale for your opinion:

….

**17. PERMITS**

171. Please, upload representative landfill permits held by your delegation.

Please upload representative hazardous waste landfill permits.

Please upload representative non-hazardous waste landfill permits.

Please upload representative other kind of landfill permits.

**18. ANY OTHER RELEVANT INFORMATION**

181. Please let us know any other information you consider relevant for the BREF drafting process

at this stage.

….

182. Please upload any other information you consider relevant for the BREF drafting process at

this stage.

….