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KICK-OFF MEETING

FOR THE REVIEW OF THE

REFERENCE DOCUMENT ON BEST AVAILABLE TECHNIQUES FOR WASTE TREATMENT

SEVILLE

25 – 28 NOVEMBER 2013

BACKGROUND PAPER

INTRODUCTION

The Industrial Emissions Directive (IED) (2010/75/EU) lays down a framework requiring Member States to issue operating permits for certain installations carrying out industrial activities described in its Annex I (energy industries, production and processing of metals, mineral industry, chemical industry, **waste management**, and other activities).

The Directive stipulates that permits must contain conditions based on **Best Available Techniques** (BAT) as defined in Article 3(10) of the Directive, to achieve a high level of protection of the environment as a whole.

BAT reference documents (BREFs), such as the Waste Treatment (WT) BREF, serve as the reference for permit authorities within the procedure of issuing permits to installations. BREFs are also used by the industry concerned in preparing applications for operating permits. Additionally, BREFs are a source of information for other interested parties on ways to minimise the environmental impacts of industry.

BAT is a dynamic concept because new techniques may emerge, science and technologies are continuously developing, and new environmental processes are being successfully introduced into industry. Since the elements of BAT change over time, BREFs have to be reviewed and updated as appropriate.

This Kick-off meeting (KoM) will clarify the review process for the WT BREF so that TWG members are aware of the specific tasks needed to deliver a high-quality BREF review according to the agreed timetable.

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DISCLAIMER

This document should not be considered as representative of the Commission's official position. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the following information.

Acronyms used in this background paper

BAT: Best Available Technique
BAT-AEL: BAT-Associated Emission Level
BAT-AEPL: BAT-Associated Environmental Performance Level
BREF: Best Available Techniques Reference Document
BP: Background Paper
CEFIC: European Chemical Industry Council (Conseil Européen des Fédérations de l'Industrie Chimique)
CEWEP: Confederation of European Waste-to-Energy Plants
CWW: Common Waste Water and Waste gas Treatment
DN: Danmarks Naturfredningsforening
D1: First draft
EBA: European Biogas Association
ECHA: European Chemicals Agency
ECN: European Compost Network
ECM: Economic and Cross Media
EEB: European Environmental Bureau
EFR: European Ferrous Recovery and Recycling Federation
EIPPCB: European IPPC Bureau
ENE: Energy Efficiency
EoLV: End-of-Life Vehicles
EOW: End-of-Waste
ERFO: European Recovered Fuel Organisation
ESRG: European Solvent Recycler Group
ESWET: European Suppliers to Waste to Energy Technologie
EUCOPRO: European association for Co-Processing
EURITS: European Union for Responsible Incineration and Treatment of Special Waste
EUROFER: European Steel Association
FEAD: European Federation of Waste Management and Environmental Services (Fédération Européenne des Activités de la Dépollution et de l'environnement)
FMP: Ferrous Metal Processing
EUROMETAUX: European Association of Metals
FIR: International Recycling Federation
HOI: Hydrocarbon Oil Index
HWE: Hazardous Waste Europe
IED: Industrial Emissions Directive 2010/75/EU
I&S: Iron and Steel
KoM: Kick-off Meeting
LCP: Large Combustion Plants
LOW: List of Waste
MTWR: Management of Tailings and Waste-Rock in mining
MBT: Mechanical Biological Treatment
MSW: Municipal Solid Waste
NFM: Non Ferrous Metals
NOCs: Normal Operating Conditions
OTNOCs: Other Than Normal Operating Conditions
RDF: Refuse Derived Fuel
RoHS: Restriction of Hazardous Substances Directive
RoM: JRC Reference Report on Monitoring for IED installations

SA: Slaughterhouses and Animals By-products Industries
SRF: Solid Recovered Fuel
SVHC: Substances of Very High Concern
THC: Total Hydrocarbon
UK: United Kingdom
UWWTP: Urban Waste Water Treatment Plant
WFD: Waste Framework Directive
WI: Waste Incineration
WT: Waste Treatment
WEEE: Waste Electrical and Electronic Equipment

1 GENERAL INFORMATION

1.1 The Waste Treatment BREF

The original work on the Waste Treatments Industries (WT) BREF was conducted between 2002 and 2005 and the BREF was formally adopted by the Commission in 2006. The review of the WT BREF is the fourteenth review of existing BREFs to be launched. The reviews of the other existing BREFs are:

- Production of Cement, Lime and Magnesium Oxide
- Iron and Steel Production
- Production of Pulp, Paper and Board
- Manufacture of Glass
- Non-ferrous Metals Industries
- Ferrous Metals Processing Industry
- Tanning of Hides and Skins
- Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector
- Refining of Mineral Oil and Gas
- Intensive Rearing of Poultry and Pigs
- Production of Chlor-alkali
- Large Volume Organic Chemical Industry
- Large Combustion Plants

The elaboration of a new BREF on Wood-Based Panels Production and the review of the reference document on General Principles of Monitoring are also in progress.

1.2 Objectives of the WT BREF review

The WT BREF covers a number of different processes that deal with the treatment of a large variety of waste streams or groups of waste streams.

As recommended in the Chapter ‘Concluding remarks’ of the current WT BREF (see Section 'Recommendations for future work', p. 541), the quantitative information presented in the chapters ‘Current emission and consumption levels’ and ‘Techniques to consider in the determination of BAT’ needs to be significantly enhanced, and this will therefore be one of the main objectives of the review.

However, there is also the need to expand or include some additional sectors corresponding to the new waste treatment activities included in IED Annex I. Consequently, another important objective of the review will be the acquisition of robust information and data relating to the new subsectors that will be covered.

1.3 Process to review the WT BREF

The general timeline for the review of a BREF is given in the BREF Guidance[1] (see BREF Guidance Section 1.2.4) and further indications were agreed at the IED Article 13 Forum meeting of 6 June 2013[2].

The main milestones are summarised in the table below:

Table 1: Milestones for the review of the WT BREF

Step	BREF review milestones	WT BREF review
1	*Re-activation of the TWG*	*EIPPCB letter dated 24/06/2013*
2	*Nominations of TWG members*	*Deadline was 22/07/2013 (147 TWG members have been nominated so far)*
3	*Call for expression of initial positions*	*EIPPCB e-mail dated 29/07/2013: the deadline for sending initial positions to the EIPPCB was set at 20/09/2013. The compiled list of TWG initial positions is posted in BATIS (see section 0)*
4	**Kick-off meeting (KoM)**	25-28 November 2013
5	TWG members submit to the EIPPCB: a. list of good performing installation/plants participating in the data collection; b. number of plants per IED Annex I activity in each Member State c. list of techniques to populate the multiple choice questions in the questionnaire for the operator d. general information on averaging/frequency for continuous/discontinuous monitoring for each process	31 January 2014
6	Release of questionnaire for the data collection	March 2014
7	Collection of information, including subgroup proposals	A general deadline to provide new data/information specified at the kick-off meeting (KoM): **30 May 2014**
8	First draft of the revised BREF	Tentatively: end of 2014
9	Commenting period on the first draft	Tentatively: end of 2014 – mid-march 2015
10	Final TWG meeting	Tentatively: summer 2015
11	Final draft delivered to the IED Article 13 Forum meeting	Tentatively: winter 2015 – first quarter 2016

The timetable proposed above for the review of the WT BREF will be discussed at the KoM.

[1] Commission implementing decision (2012/119/EU) of 10 February 2012 laying down rules concerning guidance on the collection of data and on the drawing up of BAT reference documents and on their quality assurance referred to in the Industrial Emissions Directive 2010/75/EU (IED): http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:063:FULL:EN:PDF

[2] 'Work programme for the exchange of information under Article 13(3)(b) of the IED for 2014, section 4. Consequences for the working methods of the TWGs'

1.4 Objectives of the Kick-off meeting

The main aim of the KoM is to agree on the main issues that the review of the WT BREF will focus upon, including:

1. the scope of the BREF and BAT conclusions (see Section 2.1);
2. the BAT Conclusions structure and BREF structure (see Section 2.2);
3. the key environmental issues and related data collection (type and format of the data/information that are needed for the review, sector-specific template(s) for collecting and reporting information), see Sections 2.3 and 2.4;

This main aim will be facilitated by:

1. getting to know each other as members of the TWG for the review of the WT BREF
2. discussing the initial positions expressed by the TWG members in September 2013;
4. identifying specific contributors for data/information;
5. setting deadlines for the provision of new information (see steps 5 and 6 in Table 1 above); and
6. agreeing a forward plan for the whole project (see steps 4 to 11 in Table 1 above).

As a result of this KoM, the review process for the WT BREF will be clarified so that the EIPPCB can present the planned work schedule and the TWG can be assigned clear tasks.

In particular, conclusions should be reached on the nature and extent of the information to be collected during the review, as follows:

- on the strategy to develop, distribute and collect templates for data and information collection;
- on ways to ensure the representativeness of the data set needed to derive BAT conclusions.

Discussions will also include a process for the TWG to identify where relevant and make clear in the BREF:

- what are considered ‘normal’ and ‘other than normal’ operating conditions for the activities under the scope of the BREF;
- what the measures are to prevent or, where this is not practicable, to reduce pollution under other than normal operating conditions (such as start-up or shutdown, bypassing of abatement systems).

The KoM will also provide the opportunity to inform TWG members on issues that need to be treated consistently among BREFs, in particular:

- ways to deal with potentially confidential business information and sensitive information under competition law, conflicts of interests and related matters;
- the interactions with other BREFs (both ‘horizontal’ and ‘vertical’ ones);
- the specific tool that the TWG will use to collect, exchange and analyse information. In particular, the BATIS system will be presented to the TWG as well as the procedures to submit information identified at the KoM.

During the KoM, there will be time to discuss the TWG members' positions. The discussions will necessarily be kept general, and discussions will not enter into deep technical debates. For example, positions on techniques and on whether a particular technique is BAT will not be

discussed at this stage, as answers to questions of this nature need to be informed by the upcoming data collection exercise. However, the initial positions expressed on BAT will be assessed by the EIPPCB to inform the first draft of the WT BREF along with the other information collected (e.g. data from the questionnaires, other contributions).

1.5 Structure and overview of this background paper

In response to the call for expression of initial positions (EIPPCB e-mail dated 29/07/2013), TWG members submitted 1185 initial positions covering a range of issues that will be looked at during the review of the WT BREF. These initial positions form the basis of the information used to develop this background paper, structured according to the indications given in the BREF Guidance.

In order to facilitate the discussion during the KoM, the TWG initial positions have been analysed and grouped according to their similarities. As a result, they have been categorised into subject groups described in the next chapters.

Items grouped in Section 2 represent the issues to be discussed at the KoM. Although it is not anticipated that the subjects indicated in Section 3 will be discussed at the meeting the EIPPCB will provide some clarifications when useful to the discussion.

This background paper examines initial positions identified by the members of the TWG for the review of the WT BREF (Step 3 in Table 1 above). These initial positions will be addressed during the review process (as long as the supporting information is made available by TWG members during the course of the work) in order to update the original BREF. Initial positions regarding similar issues have been grouped together as items, which in turn form certain subject groups.

Each individual item in this background paper is presented in a table that is structured as follows:

Table 2: Explanation of how the items in this background paper are presented

Summary of initial positions	This cell contains a summary of the TWG members' initial positions. The full text of the position is not usually provided. For more details on the initial positions (in particular the underlying rationale), please refer to the compiled list of initial positions (see section 0). At the end of each item summarising a group of positions, a list of codes identifies the TWG member(s) (e.g. Member States, industry associations, environmental NGOs) and the related position(s) relevant to the item. The position codes are mentioned as far as possible. As an example, (Austria 1) refers to the position from Austria renumbered 1 by the EIPPCB in the compiled list.
New information identified	This cell identifies if the information: a) has already been provided (usually with the initial position sent); or b) has already been identified and will be provided later in the review process; or c) has not yet been identified by the initial positions.
EIPPCB assessment	This cell contains the EIPPCB assessment on which the proposals are based.
EIPPCB proposal	This cell contains the EIPPCB proposal(s) to develop or resolve the issue.

1.6 Before coming to the meeting

If a TWG member considers that issues other than the ones proposed in Chapter 2 need to be discussed at the KoM, s/he is invited to address the request to the WT BREF review team (e-mail JRC-IPTS-EIPPCB-WT@ec.europa.eu) **before 8 November 2013**. Such a request must also include a rationale for each new item proposed.

TWG members are invited to bring to the meeting at least the following documents:

- a paper copy of this background paper;
- the compiled list of initial positions posted in the BATIS forum for WT BREF[3];
- the original WT BREF (adopted by the European Commission in August 2006);
- the BREF Guidance (Commission implementing decision 2012/119/EU); and
- the guidelines for the expression of the positions on the review of the WT BREF (dated 29/07/2013) and the documents attached (proposal of BAT conclusions).

[3] See folder Forums > Waste Treatments Industries > Review of the Waste Treatment BREF 2013 - > 02 Expression of initial positions

2 ITEMS FOR DISCUSSION AT THE KICK-OFF MEETING

2.1 SCOPE

This section steers the proposed discussion on the scope of the WT BAT conclusions and includes proposals from the EIPPCB. An updated proposal for the scope of the BAT conclusions is presented in Annex I. A proposal for the scope of the entire BREF, based on the scope for the BAT conclusions, is also presented in this section.

2.1.1 Interface with other legislation and other BREFs

Summary of initial positions	• Landfill Directive (1999/31/EC):
	  o include landfilling in the WT BREF (EURITS 390),
	  o exclude landfilling from the BREF scope (France 928, Germany 949),
	  o clarify where landfilling is covered and/or how water emissions treatment is considered (EUROFER 410, Sweden 1124).
	• Underground storage:
	  o include underground storage for recovery (e.g. backfilling with bottom ash) (Germany 957, FIR 740, FEAD 669),
	  o exclude underground storage from the BREF scope (HWE 1033).
	• Waste Framework Directive (2008/98/EC):
	  o use in the WT BREF definitions and references of IED and WFD (CEFIC 121, EURITS 398, Belgium 89, CEWET/ESWET 167, Czech Republic 194, France 890), including the concept of ban on the mixing of hazardous waste (Denmark 206),
	  o clarify by-products criteria and waste (Sweden 1121, EUROFER 408)
	• Clarify links with the Directive on waste electrical and electronic equipment, 2012/19/EU, and the Directive on end-of-life vehicles, 2000/53/EC (FEAD 715)
	• Clarify the inclusion/exclusion of a waste treatment plant associated to UWWTP under Council Directive 91/271/EEC (UK 1179), waste water treatment in general, including external industrial waste water treatment and liquid/sludgy waste treatment (Belgium 60, Ireland 1098, EUCOPRO 324, Netherlands 1108)
	• BAT conclusions are without prejudice to the animal by-product regulation (Regulation (EC) n. 1069/2009) (FEAD 593)
	• Treatment in shredder of metal waste [5.3(a)v, 5.3(b)iv]:
	  o should be covered (Ireland 1103)
	  o should be excluded as long as it is covered in special regulation in EU, EoLV (2000/53/EC), WEEE (2012/19/EU), RoHS (2002/95/EC) (CEFIC 116),
	• Delivery, unloading storage, shredding of e.g. old cooling device and emissions of CFC should be considered as hazardous waste stream (Germany 935, France 797)
	• References to other BREFs, clarify:
	  o boundaries between WT and WI BREF (e.g. for thermal processes such as pyrolysis, gasification, immobilisation of wastes, incineration of specific waste streams), relationship with MTWR (Netherlands 1108, Sweden 1131, EUROFER 413, EEB/DN 256, 258, 265, 266, 267, 268, 269, UK 1185);
	  o boundaries (and priority/consistency when defining BAT) between vertical/sectorial BREFs such as e.g. EFS, CWW, LCP, LVOC, IS, NFM, etc. and the WT BREF (e.g. by including a scheme) (CEFIC

	96, 97, 104, 105, 110, 111, 118, EUROFER 411, 414, 415, 416, 418, Sweden 1120, 1165, 1166, CEWEP/ESWET 176, Eurometaux 430, 433, 442 443, FEAD 594) • Clarify link with hazardousness of waste, safety and Seveso directives (Denmark 203, 207, CEFIC 122)
New information identified	• CWW and NFM BREFs (currently in draft form), I&S BREF • A Flemish study on processing of external industrial waste water and liquid/sludgy industrial waste stream is available • General proposal on the waste treatment processes commonly used in Germany
EIPPCB assessment	• The recommendation 1. in the current BREF (p. 541 'Recommendations for future work', point 1) also calls for a clarification on WT BREF scope. • When a directive contains relevant technical requirements for a given activity, the BREFs series does not cover this activity (e.g. landfilling). • The processes and techniques described in the WT BREF should deal only with IED installations permitted to treat 'waste' (i.e. according to the Waste Framework Directive or its predecessor directives) and at least one input stream to these installations is categorised as waste (regardless of its source). • The hazardousness of the waste will not be questioned or established, but only used as input information in determining BAT conclusions. • Article 1.2 of the Landfill Directive (1999/31/EC) stipulates that: *"In respect of the technical characteristics of landfills, this Directive contains, for those landfills to which Directive 96/61/EC is applicable, the relevant technical requirements in order to elaborate in concrete terms the general requirements of that Directive. The relevant requirements of Directive 96/61/EC shall be deemed to be fulfilled if the requirements of this Directive are complied with."* It is therefore considered that the WT BREF does not have to cover the landfill activity (point 5.4 of Annex I to IED is out of the BREF scope). • The temporary storage of hazardous waste that falls within both the Landfill Directive and activity 5.4 of IED Annex I is outside the BREF scope (as it is excluded from point 5.5 of IED Annex I). • Nevertheless, on- or off-site pre-treatment activities (for waste to be sent to landfill) or post-treatment (for waste generated by a landfill and treated in a waste treatment plant) may be within the BREF scope if they fall within one of the activities 5.1, 5.3, and 5.5 of IED Annex I. • Directive 2006/21/EC on the management of waste from extractive industry clearly states that filling excavation voids (e.g. of salt mines) with waste other than waste from the extraction is covered by the Landfill Directive (Article 10.2). Therefore, consistent with the above, underground storage and/or backfilling activity (underground recovery) are considered outside the BREF scope (point 5.6 of Annex I to IED is outside the BREF scope). • Surface impoundment activities are also regarded as being regulated by Directive 2006/21/EC and/or the Landfill Directive (1999/31/EC) and so activity 5.1 (k) of Annex I to IED is outside the BREF scope. • The WT BREF will cover treatment of liquid waste. This treatment occurs e.g. when water to be treated is transported by truck to a waste treatment plant outside the boundary of the site where it is produced without physical technical connection, e.g. no pipeline or sewage is present. This type of plant is permitted to treat liquid waste and falls therefore within points 5.1 or 5.3 of IED Annex I. If a technical connection (e.g. pipeline) is present, then these plants are not (necessarily) permitted to treat waste and are not covered in the WT BREF (they may be covered under the CWW BREF or under BREFs dealing with activity 6.11). The recommendation 5 in the

	current BREF (p. 541 'Recommendations for future work', point 5) is therefore clarified. • The techniques to prevent/reduce emissions to water generated by any waste treatment plant will be assessed in the WT BREF regardless of the possible involvement of contracted staff or an external company in the process (e.g. in the washing of drums). • Technical definitions from other legislation could be consistently used, but, in general, neutral technical terms are preferred when possible. • WFD Article 18 refers to the BAT concept, as does other legislation (e.g. WEEE directive). It is not appropriate to reinforce or explain in the BAT conclusions scope any legal cross-references of these legislative acts. • Explicit exclusions of by-product criteria will be added to the BREF scope, in addition to the exclusions of end-of-waste criteria and product specifications. • The BREF Guidance clarifies that there is no priority among BAT conclusions of different BREFs, but consistency is sought throughout the BREF series. Where possible and necessary, reference will be made to the EFS, CWW, WI or other vertical BREFs. No suggestions for the work of other BREFs (e.g. to WI on incineration) can be included in the WT BREF. The scope of the BAT conclusions, following the standard text structure, will contain a table of other relevant BREFs (see Annex I of this document and Section 1.2). • MTWR BREF is a non-IED BREF. It will be reviewed under the Mining Waste Directive 2006/21/EC. Since it has a different legal basis, it will be located in a separate place within the WT BREF scope when explaining boundaries with other BREFs. • Urban WWTPs are outside of the BREF scope; however, associated waste treatment installations that fall into one of the categories of IED Annex I (e.g. sludge anaerobic digestion exceeding the threshold of 5.3.b) are within the BREF scope. • The directives on EoLV (2000/53/EC), WEEE (2012/19/EU), RoHS (2002/95/EC) do not cover all the related waste processing stages and BAT for waste treatment are in some cases mentioned but not identified in those directives. The dismantling and first depolluting stages (macroscopic separation of components) are outside the BREF scope, while repackaging (5.1.d) is within the BREF scope. However, these activities may be captured by the IED if 'directly associated' to IED activities. The BREF will cover the most relevant/common activities among the directly associated ones. • References to new or updated legislation will be updated in the WT BREF. • As plants directly associated with other installations will also be within the BREF scope, the title has been changed to Waste Treatment (WT) BREF. • A revised version of the scope for the BAT conclusions of the WT BREF is proposed in Annex I.
EIPPCB proposal	• To include in the BREF scope: activities listed in points 5.1, 5.3, 5.5 of IED Annex I, with the exception of those indicated below and in the next sections. • To exclude from the BREF scope: landfilling, surface impoundment (5.1.k), underground storage and underground recovery. • To not explain or reinforce in the BAT Conclusions scope any legal references to EU legislative acts (factual references to EU legal acts can be made in the rest of the BREF, where deemed necessary). • To include in the BREF scope: the treatment of liquid waste, but to exclude installations/plants covered under the CWW BREF or other BREFs dealing with activity 6.11. • To insert in the BAT Conclusions scope section: a table listing other

	BREFs where other relevant activities are dealt with. • To list in the BAT Conclusions scope: the relevant interfaces with other legislation and with the MTWR non-IED BREF. • To exclude from the BREF scope: the dismantling and first depolluting phases (macroscopic separation of components) of end-of-life vehicles and waste electric and electronic equipment, but to include in the BREF scope the repackaging of hazardous waste (5.1.d). • To change the title of the BREF to 'BREF for Waste Treatment' (also 'Waste Treatment BREF' or 'WT BREF').

2.1.2 Further clarifications of activities within scope and consistency with the IED

Summary of initial positions	• The definition of the scope boundaries of the revised WT BREF need to be clear (Denmark 223)
	• Temporary storage of hazardous waste:
	  ○ Adopt complete formulation of point 5.5 Annex I to IED (Denmark 209)
	• IED activities:
	  ○ agree with aligning the BREF scope to IED terminology (Denmark 219, HWE 1051),
	  ○ exclude oil re-refining or other reuses of oil [5.1(j)] (CEFIC 117),
	  ○ include disposal or recycling of animal waste [6.5] (Denmark 204)
	• Waste stream: include tyre recovery (Denmark 216), water liquid base (EUCOPRO 324, Netherlands 1108), gypsum recovery (Denmark 225), wood waste (UK 1180), digestate (France 839)
	• Include washing drums on-site by an external company (Belgium 79)
	• Clarification of meaning of recovery of components used for pollution abatement in activity 5.1(h) (EUROFER 425)
	• Include integrated scrap installations (EEB 237)
	• Agree with the scope (FEAD 716, FIR 786)
	• No discussion of source generating the waste (CEFIC 123)
	• Treatment of contaminated soils:
	  ○ include in-situ treatment of contaminated soils, including phytoremediation (Denmark 224, Belgium 77)
	  ○ clarify whether it is included or excluded (Netherlands 1108)

New information identified	• CWW BREF (currently in draft form) and other horizontal BREFs • US-EPA document with technology status table (http://www.clu-in.org/download/remed/phytotechnologies-factsheet.pdf) • Danish focus tool in BATIS
EIPPCB assessment	• The scope of the BREF includes a list of types of waste treatment but not types of waste streams. It may be possible to set BAT conclusions according to waste input but only if the necessary evidence is given by the data collection. Some clarifications are also given in Section 3.2. • 5.1 (h) recovery of components used for pollution abatement could be e.g. regeneration of activated carbon, sodium bicarbonate • 5.1 (j) is in the BREF scope as it deals with 'preparing for reuse' (both by re-refining and other treatment) of a waste rather than the reuse itself.

	• The remediation of *in-situ* polluted soil (i.e. not excavated) is considered to be outside the scope of the BREF; this solves also recommendation 2 in the current BREF (p. 541 'Recommendations for future work', point 2). • The smelting of scrap metal is not under activity 5 of Annex I to IED and it is covered by e.g. the NFM, FMP, and IS BREFs. • Point 6.5 of Annex I to IED has a different basis to point 5.3 and is already covered in another BREF (SA BREF). The WT BREF will cover anaerobic digestion plants falling under point 5.3, regardless of the origin of the waste. • Some processes may be included in the BREF scope but the data collection may reveal that a very limited amount of plants is present and/or no sufficient data are delivered. In this case, no conclusions will be proposed. • See the general updated proposal for the scope of the BAT conclusions in Annex I below and the BAT conclusions structure discussion for inclusion of specific waste streams. • The scope of the WT BREF will mirror the scope of the BAT conclusions (see proposal in Annex I). In addition, to help the readability and user-friendliness of the BREF, the BREF scope will present an updated clarification on exclusions (e.g. exclusions of direct recovery in IED installations and quality assurance), an updated mapping table (e.g. linking processes, waste streams main examples, Annex I activities, interfaces with other BREFs and/or legislation, see p. xxix of the current WT BREF), and a disclaimer clarifying that it is not a legal advice to the reader.
EIPPCB proposal	• To include in the BREF scope as general list of waste treatments (see Annex I): o the loading, unloading and handling of waste; o the temporary storage of waste; o the blending and mixing of waste; o mechanical treatment of waste (this includes part of the treatments of waste to be used as fuel, shredding of metal waste), o biological treatment of waste, o physico-chemical treatment of waste, o combined treatment of waste (this includes part of the treatments of waste to be used as fuel, e.g. mechanical-biological treatment of biological waste). • To exclude from the BREF scope: the smelting of scrap metal and its directly associated activities as covered under the NFM BREF. • To include in the BREF scope: the shredding of metal waste from EoLV and WEEE. • To exclude from the BREF scope: the remediation of *in-situ* polluted soil. • To mirror the BAT conclusions scope in the BREF scope, but to add in the BREF scope some further explanations, e.g. update the mapping table of p. xxix in the current BREF scope.

2.1.3 Quality of the output from waste treatment

Summary of initial positions	• Definition and/or composition of output are needed, e.g. regarding RDF, SRF, EOW, separated collection, standards, processes, further use, Substances of Very High Concern (SVHC) contained, etc. (Austria 1, 7, 12, 13, 24, 32, 44, Denmark 215, EEB 234, 239, 240, ERFO 288, 289, 290, 291, 292, 302, FEAD 630, 646, Germany 937, 938, 941, 944, 945, 946, 958, 962, 971, 973, 983, 984, 992, EEB 241, 242, 251) • Include output specification, referring to standards if existing, linked with the further destination of the output and/or with end-of-life criteria (Austria 1, 7, 16, 44, EEB 240, 248, 250, Denmark 215, ERFO 279, 288, 289, 290, 292, 302 FEAD 648, 649, 655, 656 Germany 934, 941, 944, 945, 947, 961, 971, 972, 973, 983, 984, 992, 993 EURITS 384, 394, Netherlands 1110, 1112, EBA 444, 454, ECN 500) • Exclude output specification (HWE 1055, 1057) • Input quality should be clearly defined in order to differentiate between the possibilities for use of the output after treatment, e.g. compost, fuels, landfill, etc. (Germany 937, 938, 950, 962, 977, 996, France 804, Austria 11, 24, 32, 38) • Include the use of output monitoring system (Germany 946) • Exclude end-of-waste criteria and product specifications (EUCOPRO 383) • BAT conclusions should not address end-of-waste criteria, product specifications (EUCOPRO 383, EURITS 400, FEAD 685) • Ensure consistency between BREFs and corresponding acceptance criteria (EUROMETAUX 426)
New information identified	• ECHA chemical safety reports • Germany: general proposal on the waste treatment processes commonly used in Germany
EIPPCB assessment	• The implications of the quality of the output of a waste treatment installation are twofold: o The destination and acceptance of the output is dealt with by other legislation (e.g. established landfill criteria, compost standards, acceptance criteria in incinerators, etc.). This topic is outside the WT BREF scope; o The potential effect of the output quality on the emissions released by the WT installation (and then the techniques to implement to reduce these emissions), due to the process used to achieve the requested output quality, may be relevant to the WT BREF. This will be taken into account by means of the questionnaires and assessed in order to set appropriate BAT-AELs. • The quality of the input has two implications for the BREF scope: o The knowledge of the composition of the waste input is an important issue in order to ensure that the waste will be treated in the proper way while controlling emissions; o Choice restrictions in waste input with a view to obtaining a certain quality in the output is not part of the WT BREF scope; • The environmental impact of the waste <u>use</u> is dealt with at the installation/location where the waste is used and not at the installation where the waste is produced. In the BREFs where waste is used, there are BAT conclusions related to the use of waste (e.g. if waste is used in co-incineration plants, BAT conclusions can be found on the use of waste as fuel in BREFs such as LCP or CLM). • The data collection will include information on the quality of waste input and output in order to take into account their potential correlation with emissions when deriving BAT conclusions. • Techniques to improve the implementation of the waste hierarchy within the

	installation will be considered (e.g. shift to higher ratio of recovered waste). • Waste definition, end-of-waste criteria, management of waste streams all derive from waste policies and are dealt with under the relevant European and/or national regulations. The BREF concerns the waste treatment step of the waste management chain and how installations can reduce their emissions/consumption. In order to avoid overlaps with discussions on waste policy, the EIPPCB proposal is to consider the 'output quality' only in relation to its correlation with the emissions/consumption of the concerned installation producing the output itself. This is in line with what was already decided in the scope of the current WT BREF (i.e. Quality Assurance is outside the scope of the current BREF) and confirmed in the definition of 'techniques' in the BREF Guidance (section 2.3.7).
EIPPCB proposal	• To exclude from the BREF scope: end-of-waste criteria, product specifications and by-products criteria. • To include in the BREF scope: waste input and output quality only to the extent that they are correlated to the emissions and consumption of the installation concerned (information to be requested in the questionnaire). • To exclude from the BREF scope: acceptance criteria in the downstream utilisation of output (e.g. waste fuel in incinerators, recovered materials for backfilling in mines) from waste treatment installation.

2.1.4 Slag, ashes, residues from flue-gas treatment

Summary of initial positions	• Physico-chemical treatment of slags and ashes for disposal should be under the scope of the WT BREF, but recovery should be under the scope of the WI BREF (Austria 8) • Recovery of incineration ash and slag (bottom ash) in WI BREF if aboveground, in WT BREF if underground (Germany 957) • Check specific treatments of bottom ash mentioned in vertical BREFs, slag is covered in the IS BREF (CEWEP/ESWET 181, EUROFER 407) • Bottom ash in WI or WT BREF, fly ash and residues from flue-gas treatment in WT BREF (ERFO 286) • In WT BREF: bottom ash (FIR 786), fly ash (EEB 233) and residues from flue-gas (France 876, 878, 930, FEAD 594) • In WT BREF: Residues from flue-gas treatment (CEFIC 119), and also bottom ash (HWE 1053, 1058) • Salt slag from aluminium recycling in WT BREF (Germany 959)
New information identified	• Data base SINOE® • General proposal on the waste treatment processes commonly used in Germany
EIPPCB assessment	• Bottom ash/slag treatment is currently dealt with in the vertical BREFs where it has been considered a key environmental issue (e.g. WI, NFM, IS). It should therefore be kept out of the scope of the WT BREF to avoid overlapping. • Aluminium salt slag treatment is covered in the NFM BREF. • Fly ash and all other residues from flue-gas treatment should be dealt with in the WT BREF.
EIPPCB proposal	• Exclude the slag and bottom ash treatments from the BREF scope. • Include the treatment of flying ash and other residues from flue-gas cleaning in the BREF scope.

2.1.5 Directly associated activity commonly associated with waste treatment installations and waste treatment plants in other IED installations

Summary of initial positions	• The concept of 'directly associated activity', and its consequence on the scope of the WT BREF, is to be clarified (e.g. for the following topics: integrated scrap treatment installations including WEEE, IED installations, landfills, upstream and downstream activities directly associated with waste treatment, treatment of self-generated waste streams) (Austria 19, CEFIC 135, EUCOPRO 320, Netherlands 1109, EEB 257, Eurometaux 441)
New information identified	• Data gathering and Impact Assessment for a review and possible widening of the scope of the IPPC Directive in relation to waste treatment activities
EIPPCB assessment	• 'Directly associated activities' are defined in IED Article 3(3). These are activities technically connected to the main activity and are either: o Activities associated to an IED waste treatment activity covered by the WT BREF (e.g. biogas engine or dismantling devices); or o Waste treatment activities that are directly associated to another main IED activity covered in other BREFs (e.g. pretreatment of waste before disposal in a landfill or incinerator). • Regardless of the origin of the waste: o if a waste (pre)treatment occurs in the main process that is described in another vertical BREF, it will not be covered in the WT BREF (the scope of the WT BREF will not cover the direct recovery of waste in an IED installation covered in another BREF). Waste treatment already covered in other BREFs will also not be covered or will only partially be covered in the WT BREF. o if a waste treatment not covered by the IED (e.g. dismantling EoLV before shredding) is carried out in an IED installation and can also be done off-site as a standalone installation, it should be covered in the WT BREF, as long as there are sufficient data to collect. This will be checked via the data collection if not decided at the KoM. • See also point on landfill exclusion from the scope (Section 2.1.1)
EIPPCB proposal	• To include in the BREF scope 'directly associated activities' that are commonly associated with waste treatment activities (e.g. biogas engines linked to anaerobic digestion plants). • To include in the BREF scope IED waste treatment processes/plants/installations located in installations covered in other BREFs when those BREFs are not covering those waste treatment activities. • To exclude from the BREF scope: upstream and downstream activities that are not commonly directly associated with the waste treatment operation; • To exclude from the WT BREF scope direct recovery in IED installations covered in other BREFs.

2.1.6 Definitions of terms used in the WT BREF

Summary of initial positions	• There is a need to improve the definitions of e.g. waste containing POP, waste containing mercury, biomass, processes (e.g. MBT), techniques, waste holder, waste producer, new and existing installations, NOC, OTNOC, fly ash, bottom ash, etc. (FEAD 665, 678, 634, 676, 714 FIR, HWE 1022, 1036, UK 1066, 1069, EUCOPRO 315, 321, 324, 360, 364, 381, 382, Netherlands 1104, 1108, Belgium 80, Czech Republic 193, FIR 737, 738, 739, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, EBA 445, Poland 1116, France 808, 883, 891, 922, 931, ECN 467, Sweden 1150, 1151, 1152) • Include process-generated residues in the definition of output (ERFO 273)
New information identified	• No new information identified at this stage
EIPPCB assessment	• Definitions of new and existing installations will be consistent with those used in other BREFs. Other definitions can be proposed during the questionnaire development. • Further definitions can be proposed by the TWG onto BATIS during the information collection period. • An updated proposal for the definition of output: 'processed material flow, including process-generated residues.' • In many cases, the main information will be given within the BREF (e.g. Chapter 2, Annexes) while the BAT conclusions will only include the minimum set of definitions needed for understanding the BAT conclusions.
EIPPCB proposal	• To adopt the following definition of output: 'processed material flow, including process-generated residues'; • TWG members participating in the subgroup on questionnaire development to submit proposals of definitions needed in the questionnaire by 21/02/2014; • TWG members to submit further definition proposals and a list of definitions needed in the BREF and/or in the BAT conclusions during the information collection period.

2.2 STRUCTURE

2.2.1 BAT conclusions structure

Summary of initial positions	• Split by process (HWE 1054, Germany 939, 951, 952, 955, 994, France 809, ECN 503) • Split by process, but then reflect the structure of IED Annex I in each process chapter (Austria 4, Belgium 72, FEAD 640, 641) but with specific section for waste oil (FEAD 643, Germany 955) • Structure by process and/or waste streams (UK 1064, EEB 238) • Structure following a waste fraction or alternatively proposing a map for waste streams (Denmark 205) • Structure following a waste stream (DN 226, FEAD 640, 641, 642, Netherlands 1113, EEB/DN 258, ERFO 304, 305, 306) • Disagree with proposed structure main split by hazardous non-hazardous (EUCOPRO 366) • Structure by sector (often a specific combination treatment-waste) (ECN 228, 229, 465 EFR 271, 590, 591, ERFO 303, ECN 503, FEAD 664, FIR 781, 763, EURITS 393) • Structure by Annex I activity (EEB 246) • Keep the structure of the existing BAT conclusions (FEAD 644, ERFO 285) • Keep the structure of BREF Chapter 2 as BAT conclusions structure as well (Czech Republic 193, 195, 197) • Flexible BAT conclusions structure with no duplications (FEAD 717) • Dedicated section on preparation of fuels (CEWEP 179, ERFO 275, 277, EURITS 391, 404); further split in 2 subsections: hazardous/non-hazardous (ERFO 283) • Dedicated section for ashes, bottom ashes, slag (FIR 781, 735) • Clarify how to deal with single-process versus multiple-process installations (ERFO 310) • Include other waste streams (DN 227, EEB/DN 255, France 838) or sectors (UK 1084) • New information is needed to structure conclusions on new activities (ECN / EDWA 231) • Different approaches in favouring common BAT versus specific BAT: o 6 TWG members generally favour common BAT (Belgium 63, 66, HWE 1024, 1026, 1028, 1031, EUCOPRO 342, 343, 344, 345, 347, 349, 350, 351, 353, 354, 355, 356, 357, 358, 359, 363, FEAD 596, 597, 598, 599, 600, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 615, 710, EURITS 403, 406, EBA 456) o 3 TWG members generally favour specific BAT (ERFO 303, ECN 494, 509, UK 1065) o 2 TWG members ask for a fine-tuning of the shift between specific and common depending on parameter or technique (France 799, 817, 825, 826, 864, 925, Germany 999).
New information identified	• Germany: general proposal on the waste treatment processes commonly used in Germany • EUCOPRO to submit elements for chapter 2.5 • ECN/EDWA to submit state of play of new categories
EIPPCB assessment	BAT conclusions are presented in a single chapter in each BREF. They have to be published in the Official Journal of the European Union as Commission Implementing Decision after adoption through the IED Article 75 Committee.

	• For BAT conclusions, it is crucial to adopt an approach based on a single key criterion in splitting the sector to avoid any overlap among BAT conclusions Sections. Indeed, since the waste management field is large and complex, it can be approached in several ways, e.g.: o by process, o by waste stream, o by output, o by IED activity. Splitting by subsector would be unclear because it implies the use of more than one of the above approaches. The different possible combinations of subsectors lead to an excessive amount of subsectors to cover. • The preferred proposal is to structure the BAT conclusions by treatment process and then, depending on evidence in the data received via the questionnaires, by waste stream or output (see Annex II for BAT conclusions updated proposed structure). This presents several advantages: o It optimises the general BAT Conclusions because many techniques (e.g. several management techniques) are common to several processes; o It covers more categories of waste input because the process is the key criterion while waste streams will be used to differentiate levels when necessary; o Differentiation between hazardous and non-hazardous waste (or other parameters, new – existing plants, etc.) will be made where appropriate in each part of the BAT conclusions whenever the data collection shows evidence of such a difference. • The preparation of waste to be used as a fuel (or pretreatment of waste before co-incineration) will be dealt with by two interlinked parts: in the mechanical treatment part when there is only mechanical treatment (e.g. for plastic waste, wood waste); and in the biological part where MBT is covered (cross-references will be used as appropriate to avoid repetitions). • 'Recovery of material from waste' (see Chapters 2.4, 3.4, 4.4 of current BREF, and related BAT conclusions 95 to 116) proposes a split by type of output (oil, solvents) or waste. This approach cannot be kept without a risk of unclear overlapping. It is proposed to cover recovered materials in the BREF as output of most of the waste treatment processes: in mechanical treatment (e.g. metals, recovered minerals from ashes), biological (e.g. compost, digestate, biogas), physico-chemical (e.g. oils, solvents, etc.). • These outputs may lead to environmental performance (e.g. emissions) levels differentiation: this will be checked via the data collection and if necessary reflected in the BAT conclusions. Specific waste streams and/or output influence on emissions will be assessed via the data collection. • All the TWG proposals to move, delete, change, or add BAT conclusions sent as 'initial positions' on the basis of the guidelines (document 3 sent in July 2013) will be considered when writing the first draft (D1) of the revised WT BREF. • All the TWG members are strongly encouraged to submit information by following the indication on usability of delivered information given in the BREF Guidance for the exchange of information under IED (e.g. for techniques: following the 10-heading structure of BREF Guidance Section 2.3.7).
EIPPCB proposal	• To structure the BAT conclusions using treatment process as the first

	level criterion. • To have BAT conclusions on the identified key environmental issues, either at the general level (general BAT conclusions) or at the process-specific one. • To cover the preparation of waste to be used as fuel partially in mechanical treatment, partially in biological treatment, and to make the proper cross-references. • To use further subcategories on the basis of evidence shown in the data collection (e.g. for hazardous/non-hazardous waste, new/existing plants, different types of output). • TWG members to identify and submit information on techniques and performances (following the 10-heading structure of BREF Guidance Section 2.3.7), useful to derive BAT Conclusions.

2.2.2 BREF structure

Summary of initial positions	• Split the BREF into several mini-BREFs (CEWEP/ESWET 186, 187, ECN 229, EFR 271, 590, 591, ERFO 281, 285, 303, ECN 503, FEAD 644, 664, 642 FIR 781, 735, 763, Germany 939, 951, 952, 953, 956, 994, UK 1064, EURITS 401); often more sector-specific information and/or a shift of chapter 1-2 to the mini-BREFs are required. Mini-BREF proposals have been made for: 1. ashes 2. bottom ashes 3. slag 4. Incinerator Bottom Ash (IBA) 5. one mini-BREF per type of ash 6. physico-chemical treatments 7. preparation of fuel (with two parts: hazardous + non-hazardous) 8. biological treatments 9. aerobic and anaerobic MBT of mixed municipal solid waste and similar unsorted waste 10. outdoor composting (source-segregated bio-waste) 11. indoor composting (source-segregated bio-waste) 12. anaerobic treatment (anaerobic digestion) of bio-waste 13. shredding 14. material recovery treatments 15. shredders of metal waste 16. shredders of hazardous waste (e.g. refrigerators) 17. shredders of WEEE • Flexible BREF structure (FEAD 717) • Keep the structure of IED Annex I (Austria 4, Belgium 72) • Keep the structure of the existing BREF (Czech Republic 193) • Dedicated section on preparation of fuels (CEWEP 179, ERFO 275, 277, EURITS 391); further split into 2 subsections: hazardous/non-hazardous (ERFO 283) • Expand early sections – BREF (EUCOPRO 323) • Structure following a waste fraction (Denmark 205) • Structure following a waste stream (DN 226, FEAD 640, 641, Netherlands 1113) • Dedicated section for waste oil (FEAD 643, Germany 955) • Split by processes with a unitary-BREF structure (HWE 1052, 1054)
New information identified	• Germany: general proposal on the waste treatment processes that are commonly used in Germany • EFR-ERSG: 'mini-BREF' on shredders
EIPPCB	To serve its main purpose and ensure its user-friendliness, the content of

assessment	the BREF should be limited to the relevant information for enabling the determination of BAT (and the associated environmental performance levels) and emerging techniques. The BREF structure is aiming at reflecting the BAT conclusions structure in the most compact way. • The current version of the BREF has a structure where Chapters 1 to 6 are as indicated in the table of BREF Guidance section 2.2 (unitary structure) with the typical sequence for the whole sector: o General information about the sector concerned (Chapter 1) o Applied processes and techniques (Chapter 2) o Current emission and consumption levels (Chapter 3) o Techniques to consider in the determination of BAT (Chapter 4) o Best available techniques (BAT) conclusions (Chapter 5) o Emerging techniques (Chapter 6) No mini-BREF structure is used. • In each BREF, BAT conclusions are always presented in a single chapter. • A unitary BREF structure is proposed (see proposal below and details in Annex III). It would allow: o a more time-efficient drafting of the BREF; o further resiliency in substructure changes in comparison to a more rigid mini-BREF approach where shifts among chapters would be much more difficult. The data collection will show later on if, and which, splits or shifts are necessary. • The focus is to be put on the BAT Conclusions. Only Chapters 2, 3, 4 and 6 above, in principle, could be structured in a section of mini-BREFs according to the points made above, but the advantages would be limited. Early chapters (1, but also 2 and 3) of the WT BREF should not be a major focus of the review as per the BREF Guidance Section 1.2.3. 'Objective of a BREF review'. Furthermore, the early chapters in the current BREF cover almost all the major processes and only a fine-tuning minor expansion (e.g. shredding is lacking information) of these processes is needed. A limited improvement of these chapters should be done, mainly to achieve consistency within the BREF and to ensure a clear link with description or applicability restrictions of candidate techniques. Additionally, the number of different mini-BREFs proposed by the TWG members is not manageable within a single BREF in the timeframe indicated by the BREF Guidance. • New activities in Annex I to IED will be further or newly described. To this end, the TWG members interested in these new activities are invited to submit information following the standard structure for a straightforward use in the BREF as indicated in the BREF Guidance. • Processes will be described in the chapter on 'Applied processes and techniques', while candidate techniques (as defined in BREF Guidance Section 2.3.7.1 including primary techniques that are often process-related) will be included in the chapter 'Techniques to consider in the determination of BAT'. • A range of strategies for limiting the size of the whole document should be adopted, among them: o excluding general information that does not relate to BAT conclusions; o addressing only the key environmental issues and considering only those techniques that relate to these issues; o mentioning specific process details only in the context of candidate BAT and BAT conclusions; o reporting examples of applied processes and techniques only when relevant in the context of candidate BAT;

	○ minimise the overlapping between different chapters and/or sections by maximising cross-referencing within the document; ○ maximise cross-referencing to other relevant reference documents (BREFs/REFs). • According to the BREF Guidance, the BREF Executive Summary no longer exists.
EIPPCB proposal	• To keep the unitary structure (i.e. the structure given in the table of BREF Guidance Section 2.2). • To align the WT BREF to the indications given in the Guidance in terms of structure. • To move information to the section on common techniques or common processes, as much as evidence shown in the data and information collection allows. • To mirror the structure of the BAT conclusions in each of the other chapters of the BREF. • To limit the updating of Chapters 1 and 2 and in general the size of the WT BREF to a minimum, sufficient to maintain consistency within the WT BREF and to serve the purpose of deriving BAT Conclusions. • TWG members to submit information on new activities covered in the WT BREF following the standard structure for a straightforward use in the BREF as indicated in the BREF Guidance.

2.3 KEY ENVIRONMENTAL ISSUES

As clarified in the BREF Guidance for the exchange of information under IED (2012/119/EU) and further agreed at the IED Article 13 Forum meeting of 6 June 2013[4], there is a need to focus on the key environmental issues for each sector in order to derive BAT conclusions related to the main environmental impacts of the sector. The TWG members are therefore asked to decide during the KoM the key environmental issues in relation to the different processes on which it is relevant to focus the data collection. This chapter summarises the positions expressed by the TWG members and the consequent EIPPCB proposal on this topic. The agreed points will be used to build an accurate questionnaire to gather the data and prevent the collection of scattered non-essential information.

2.3.1 General issues

Summary of initial positions	• Determination of key environmental issues during the whole process should be possible (Netherlands 1105)
	• BAT-AEPLs:
	  ○ A clear definition of BAT-AEPL is needed (EUROFER 417)
	  ○ Expression of BAT-AEPLs is not correctly addressed (either inconsistent or impossible to measure) (HWE 1048, 1049)
	  ○ Delete BAT-AEPL (FEAD 624, 628, 694, ECN 486, 487)
	• Include fire/explosion prevention (Belgium 56, UK 1061)
	• Include flood risk (UK 1061)
	• Include security rules e.g. against vandalism (UK 1080)
	• Adopt an integrated approach (CEFIC 95, 106, 107, 108, 109, 136, 137, 138, 139, 140, 141, 142, 143, 144)
	• Focus on both concentrations and mass flow of substances (Denmark 222, FEAD 687, EEB 249)
	• Safety (Denmark 203)

New information identified	• A Flemish study on (manure) co-digestion is available (http://emis.vito.be/bbt-voor-mestcovergistingsinstallaties) • Technical guidance from UK on waste treatment processes • General proposal on the waste treatment processes that are commonly used in Germany
EIPPCB assessment	• A range of organisational/procedural conclusions on BAT is set in the current BREF and will be revised during this WT BREF review. They aim to tackle the intrinsic risk raised by waste due to its 'less-known' nature. Many current organisational conclusions on BAT are related to techniques to reduce risk at source and ensure prevention of accidental/incidental emissions. Further thought may be given to this by considering the initial positions expressed by TWG members in the drafting of D1. • The questionnaire should be built in accordance with the key environmental issues on which the TWG will agree. As clarified in the BREF Guidance, it is therefore generally not appropriate to determine the key environmental issues during the whole process; this has to be done at the KoM and in the subsequent step when developing the questionnaire. The ensuing requests for additional information are used to complete and integrate the information on issues already identified. Only in exceptional cases and for specific and important issues that have not been identified at the KoM can a customised but short

[4] 'Work programme for the exchange of information under Article 13(3)(b) of the IED for 2014, section 4. Consequences for the working methods of the TWGs'

	information request be implemented in steps following the general data collection. • The concept of 'performance of installation and techniques' is mentioned in IED Article 13(2)(a) (also in terms of consumption and generation of waste) and Associated Environmental Performance Levels (AEPL) are included in Section 3.3.2 of the BREF Guidance (2012/119/EU). • The integrated approach is the main concept of IED. This integrated approach will be performed by checking correlations between emissions and consumption (the key environmental issues decided at the KoM) and against other parameters such as: process, size of installations, age (to distinguish new/existing plant), and type of input waste stream (including its hazardous properties), type of output. • Concentrations of pollutants in water can be coupled with specific water consumption/discharge. Similarly, concentrations of pollutants emitted to air can be coupled with flue-gas flow. Pragmatically it gives similar information such as specific load by using data that are more frequently monitored and more comparable.
EIPPCB proposal	• To consider in the integrated assessment, the type of process, size of installation/plant, age, type of waste input (including hazardousness), type of output. • To consider general horizontal issues such as general management, safety, leakages. • To collect information on pollutants in concentration, total flue-gas mass flow and on flows of water consumption and discharge.

2.3.2 Monitoring and averaging period

Summary of initial positions	• Averaging period to be defined:
	  o Short term values (instantaneous or daily averages) for emission to water (Belgium 78)
	• Annual averages can only be derived from continuous measurement (Germany 940)
	• 2-hour composite samples could be adopted (Germany 940)
	• Refer to standards, consistency with MON REF (CEWEP 145, Belgium 90, Denmark 214, 221, EUCOPRO 317, HWE 1046)
	• The point where monitoring takes place should be clearly defined (FEAD 683, Poland 1117)
	• Continuous monitoring should be obligatory when treating hazardous waste, (EEB 262, 26) or only for high risk emissions (FIR 767)
	• Adapt monitoring (continuous, samples) to each subsector, to environmental issues, taking into account technical and/or economic feasibility and current practices (CEWEP 158 160, Belgium 61, 93, EUCOPRO 319, 334, 373, 374, 375 France 789, 833, 834, 835, 852, 854, 882, 889, 909, HWE 1047, UK 1065, 1094, ECN 506, FEAD 638, 678, Cyprus 191, UK 1070, 1094, EUROMETAUX 440, Austria 21, 48, FIR 765, EEB 253, Germany 975, HWE 1011
	• Define clear basis for monitoring diffuse emissions (ECN 473):
	  o Location, calculation (FEAD 629, ERFO 284);
	  o Methods/standards to be used (FEAD 629, Sweden 1164);
	  o Monitoring applicability (CEWEP 159, ECN 463).
	• Process monitoring:
	  o Monitoring process parameters should only follow the existing systems already implemented in installations (CEFIC 114)
	  o Monitoring process is not applicable to multi-process installations (HWE 1034)
	  o Waste water toxicity, water consumption, should be deleted from process monitoring (FEAD 670, 697)
	  o Monitoring frequency for monitoring process parameters should be adapted (France 855, FIR 723)
	• Parameters to cover (EFR 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533)

New information identified	• The JRC Reference Report on Monitoring for IED installations (RoM on-going review) • General proposal on the waste treatment processes commonly used in Germany

EIPPCB assessment	• In order to develop properly the questionnaire, monitoring practices in the WT sector will be discussed during the KoM. The questionnaire can also allow multiple choices in the monitoring fields accompanying the key pollutants and processes parameters to fit with different monitoring practices currently in use that will be taken into consideration during the following steps of the BREF review (data collection assessment, D1, comments, final TWG meeting).
	  o Continuous or periodic measurement (also in connection with continuous or batch release);
	  o If continuous measurement, specify averaging period (e.g. half-hourly, hourly, daily, monthly, or yearly averages); if periodic, detail frequency of measurements: e.g. once per day, once per year.
	• Information on the use of EN standards will be one of the pieces of information requested in the questionnaire.
	• Definitions will be proposed within the questionnaire development

	(e.g. location for monitoring, standards to be used, etc.). • The data assessment will take into account the monitoring used with regard to the potential impact of the emissions. • Monitoring and averaging are currently not necessarily applied homogeneously throughout the EU. In order to deal with this situation, the questionnaire could: o On one hand, ask for data based on e.g. continuous measurements and monthly averages, but nevertheless leaving operators the possibility to indicate data expressed with a different approach. o On the other hand, the BAT conclusion on monitoring will propose a harmonised way of monitoring that in the long term is expected to lead to a harmonised monitoring and averaging practice in the sector.
EIPPCB proposal	• To collect data on key environmental issues from plants performing continuous/discontinuous monitoring. • To collect data with short-term averages (e.g. min/max values over one year of daily averages) and long-term averages (e.g. min/max values over one year of monthly averages), for each parameter monitored continuously. • To collect all the data over one year for each parameter monitored discontinuously. • To collect contextual information on monitoring information (other than normal operating conditions data included or not?, samples filtered or not?, uncertainty removed or not?, length of sampling for spot samples, monitoring standard used). • To collect data for the year 2012 (reference year in WT BREF data collection). • The questionnaire format and requested data are without prejudice of the final decision on the BAT Conclusions, including on monitoring.

2.3.3 Emissions to air and related monitoring and averaging period

Summary of initial positions	• Averaging period to be defined: ○ Daily averages for continuous measurement of emissions to air, which can be combined with monthly averages (Belgium 69) • Adopt half-hourly/daily average for air emissions (EEB 236, 252, Germany 940) • Reference conditions for emissions to air should be reviewed (EUCOPRO 328, France 911) • Emissions to air from biogas combustion to be clarified (parameters to be monitored before and after combustion) and linked with LCP and/or WI BREF (Belgium 61, 87, EBA 446, ECN 479, France 847, 848, Sweden 1126, FEAD 622, Germany 936) • Sum of metals in dust emission from shredding is monitored (EFR 526, ERSG 1183) • Monitoring exhaust gas without setting a BAT-AEL (ECN 514) • A definition of exhaust gas is needed (CEWEP 180, Sweden 1149) • Add the volume rate (Nm^3/h) to identify the BAT-AEL for exhaust gas in mass rate (kg/h) (France 796) • Include all parameters defined in IED for incineration when thermal oxidation is used as abatement technique (CEWEP 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, EURITS 389) • Applicability of BAT-AEL to channelled or diffuse emissions should be clearly defined (France 830, 892, 894, Netherlands 1146)
New information identified	• Germany: National contribution 'Treatment of Separately Collected Organic Waste (Composting and Digestion)' • Austria to submit State of the Art of composting – A guide to good practice
EIPPCB assessment	• The purpose of biogas monitoring is to control the emissions of the specific pollutants contained in biogas, not to deal with the combustion process. • Metals to air are considered together with dust, with the exception of the volatile ones (Hg, Pb) that should be specifically monitored. • The parameters listed in the table below apply to channelled emissions. • This table summarises the TWG members' positions related to the parameters to be monitored. These parameters will be discussed in order to reach an agreement that allows the building of the questionnaire(s). • Further information should be exchanged on dioxins, nitrous oxide and mercury emissions to air from mechanical biological treatments in recommendation 6 (fifth bullet) in the current BREF (p. 542 'Recommendations for future work', point 6). • Further information should be exchanged on emissions to air from biogas use as a fuel in recommendation 6 (third bullet) in the current BREF (p. 542 'Recommendations for future work', point 6).
EIPPCB proposal	• To collect data on the channelled emissions to air from installations/plants performing either continuous or discontinuous monitoring. • To collect data with short-term averages (min/max/median and 97^{th} percentile values of daily averages in the reference year) and long-term averages (min/max/median values over one year of monthly averages) for each parameter monitored continuously. • To collect all the data in the reference year for each parameter monitored discontinuously. • To consider as key parameters for emissions to air, those indicated in the table below.

Table 3 Channelled emissions to air - Key parameters and related format

Air emission parameter			Waste treatment processes concerned by the air emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
Dust	Sum of metals in dust (EFR 526, ERSG 1183) Include dust (Belgium 64) Update BAT-AEL (EEB 254)	Keep dust	All processes	Dust emission to air is an important pollutant from crushing, shredding (Sweden 1117) Specific operational measures have to be observed for open and closed composting technologies (Austria 56)	Keep dust for all processes	Continuous Monthly average mg/Nm^3	Continuous measurements are not always pertinent (EUCOPRO 375), not relevant for shredding metallic waste (EUROMETAUX 427), are expensive (UK 1094), should be risk based (UK 1065)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
VOC	With or without CH_4 (Belgium 81, EUCOPRO 374, France 893) TVOC rather than VOC (France 859, UK 1094) BAT-AEL should be reviewed (FEAD 639, 706, ECN 509) Include VOC with specific risk phrase (France 893)	Keep total VOC expressed in total C Include in the questionnaire and assess information on monitored organic compounds with specific risk phrase according to hazardousness of the waste input	All processes	Splitting by type of waste is not always relevant (EUCOPRO 375, France 858) VOC should be specified by process (ERSG 314) Expand the processes and waste streams potentially emitting VOC, e.g. solvents, waste oil, PCB decontamination (France 794), washing of tanks (Belgium 79)	Keep total VOC for all processes	Continuous Monthly average mg/Nm^3	Continuous measurements seem unnecessary (Belgium 61) Continuous measurement of VOC is expensive (UK 1094), should be risk-based (UK 1065)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3

Air emission parameter			Waste treatment processes concerned by the air emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
Hg in vapour phase	Hg maybe an issue in particulate phase from crushing (UK 1094) Set BAT-AEL on a site-specific basis (ECN 480)	Keep Hg in vapour phase	Shredding, aerobic, anaerobic, immobilisation, desorption, distillation processes	Relevancy of monitoring Hg emission from biological treatment to be checked due to the decreasing use of mercury (France 811, ECN 474, 480, 514, FEAD 622) Not relevant for EoLV, shredding (FIR 764, EFR, EUCOPRO 336, EUROMETAUX 432)	Keep Hg for shredding, aerobic, anaerobic, immobilisation, desorption and distillation processes	Continuous Daily average mg/Nm^3	Continuous measurement of Hg is expensive (UK 1094), should be risk-based (UK 1065)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
Pb in vapour phase	/	Keep Pb in vapour phase	Immobilisation	/	Keep Pb for immobilisation process	Continuous Monthly average mg/Nm^3	Requirement for continuous measurement should be risk-based (UK 1065)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
CH_4	Set BAT-AEL on a site-specific basis (ECN 480)	Keep CH_4	Aerobic processes	Include CH_4 emission from anaerobic processes (Netherlands 1105)	Keep CH_4 for aerobic (including MBT) and anaerobic processes	Continuous Monthly average mg/Nm^3	Emission load from biological treatment should be added (Austria 37) Continuous measurements are uncommon (UK 1094), should be risk-based (UK 1065)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3

Air emission parameter			Waste treatment processes concerned by the air emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
N_2O	Set BAT-AEL on a site-specific basis (ECN 480)	Keep N_2O	Aerobic processes	Add specific information for MBT (Austria 25, 21)	Keep N_2O for aerobic process (including MBT) and anaerobic (after combustion)	Continuous Monthly average mg/Nm^3	Continuous measurements if emissions that can fluctuate (Austria 21) Measurement of N_2O is unusual (UK 1094) Requirement for continuous/periodic measurement should be risk-based (UK 1065)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
NH_3	Set BAT-AEL on a site-specific basis (ECN 480)	Keep NH_3	Aerobic, Anaerobic, processes, drying, physicochemical, treatment of Water based liquid waste	Include other parameters for thermal drying (Netherlands 1105) Add NH_3 emission to air from immobilisation (France 131, 793) Add NH_3 emission to air from crushing WEEE (Germany 935)	Keep NH_3 for aerobic, anaerobic, immobilisation, drying, crushing WEE processes, and for physico-chemical treatment of water-based liquid waste	Continuous Monthly average mg/Nm^3	Requirement for continuous/periodic measurement should be risk-based (UK 1065)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
Acid	Parameter to be defined (EUCOPRO 342, FEAD 598)	Keep HCl, Others To be discussed	Extraction, desorption	/	Keep HCl for extraction and desorption processes	Continuous Monthly average mg/Nm^3	Continuous measurement of Acid is expensive (UK, 1094	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
H_2S	Add mercaptans for aerobic treatment (UK 1071)	Keep H_2S	Anaerobic processes	Add H_2S for physico-chemical treatment of water-based liquid waste (Austria 26)	Keep H_2S for anaerobic process and physico-chemical treatment of water-based liquid waste	Continuous Monthly average mg/Nm^3	H_2S is not measured continuously (Belgium 61) Requirement for continuous/periodic measurement should be risk-based (UK 1065)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3

Air emission parameter			Waste treatment processes concerned by the air emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
SO_X	/	Keep SO_X	Anaerobic processes, desorption	/	Keep SO_X for anaerobic (after combustion) and desorption processes	Continuous Monthly average mg/Nm^3	Continuous measurement of SO_2 is relatively straightforward (UK 1094)	Continuous and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
NO_X	Not useful to measure in biogas pre-combustion (UK 1094)	Keep NO_X	Anaerobic processes	Add specific information for MBT (Austria 21)	Keep NO_X for aerobic and anaerobic (after combustion) processes	Continuous Monthly average mg/Nm^3	Continuous measurement is relatively straightforward (UK 1094)	Continuous and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
CO [formaldehyde?]	Not useful to measure in biogas pre-combustion (UK 1094)	Keep CO	Anaerobic processes	Digestion of biological waste is an important source of formaldehyde emission (Germany 936)	Keep CO for anaerobic processes (after combustion)	Continuous Monthly average mg/Nm^3	Continuous measurement is relatively straightforward for CO, but unusual for formaldehyde (UK 1094)	Continuous and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
HCN	/	Keep HCN	Chemical oxidation of water-based liquid waste	/	Keep HCN for chemical oxidation of water-based liquid waste	Continuous Monthly average mg/Nm^3	Not aware of any sites that monitor HCN continuously (UK 1094)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3
Asbestos	/	Keep asbestos	Immobilisation	/	Keep asbestos for immobilisation process	Continuous Monthly average mg/Nm^3	Availability of continuous measurements to be checked, automated samplers could be used (UK 1094)	Continuous (if any) and discontinuous monitoring (see EIPPCB proposal above) mg/Nm^3

Air emission parameter			Waste treatment processes concerned by the air emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
Dioxins and furans	POP is a more generic way of measuring organochlorine components (France 856) Tighten up requirements on dioxins and furans (EEB 247)	Keep dioxins and furans	Shredding, desorption, distillation	Emission from Shredding should be clarified if not deleted (Belgium 74, 85, Poland 1115, EFR 271, EUCOPRO 336, EUROMETAUX 431, FIR 763) Include dioxins and furans emission from scrap shredding installations (Belgium 73, Germany 988) Remove dioxins and furans emission from desorption (FEAD 677) Relevancy for solvent distillation to be checked (France 917)	Keep dioxins and furans for anaerobic (after combustion), shredding, desorption and distillation processes	Periodic measurement Average over the sampling period ng $^{I\text{-}TEQ}/Nm^3$	Measurements of dioxins and furans are expensive (UK 1094)	Discontinuous monitoring ng $^{I\text{-}TEQ}/Nm^3$

Air emission parameter			Waste treatment processes concerned by the air emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
Odour	Odour emissions must be considered (EEB 254, ECN 475) Odour compounds (mercaptans) to be monitored (UK 1065, 1071)	Keep odour (alternative parameter e.g. methyl mercaptan: to be discussed)	Aerobic processes	Distinguish between aerobic and anaerobic treatment (Belgium 56, France 877) Add emission of odour from washing of tanks and drums (Belgium 79)	Keep odour and methylmercaptan for all processes	Aerobic BAT: continuous for aerobic treatment Monthly average OU_E/m^3	Olfactometry should not be the only method permitted to measure odour emissions (Cyprus 192) Using standardised method is not always relevant (FEAD 617) Clearly defined periodical or single measurements may be used (EEB 236, Germany 940) Continuous measurement of odour is unusual (UK 1094)	Discontinuous monitoring. OU_E/m^3 for odour mg/Nm^3 for methyl mercaptan

2.3.4 Emissions to water and related monitoring and averaging period

Summary of initial positions	• Define the parameters clearly, e.g. total metals vs dissolved metals, HCT (Belgium 81, EUROFER 412, Sweden 1125) • Requirements for direct discharge and for indirect discharge have to be clearly identified (FEAD 629, Austria 27, 31, 50, EUROFER 420, EUCOPRO 331, 376, FIR 731, HWE 1014, 1038, 1039, UK 1060, EUROMETAUX 438, ECN 510) • Indirect discharge should not be included (CEFIC 127, Denmark 218) • Include the control of polluted rainwater (Belgium 59, Ireland 1096) • A methodology to select and monitor hazardous substances in release to water should be mentioned (France 865) • Include waste water flow coming from an another on-site activity, e.g. landfill, when defining BAT-AEL (CEWEP 177, Sweden 1137, Germany 966) • Include specific BAT-AELs for emission to water for treating water-based liquid waste (Belgium 65, Austria 14) • Monitoring at the boundary of a waste treatment installation should not be required if a downstream WWTP is in place (CEFIC 125) • Short-term vs long-term averaging period is dependent on installations, substances, etc. and cannot be generalised (Denmark 220) • Update existing BAT-AEL (FIR 736) • Continuous monitoring is not adapted to batch release in water (EUCOPRO 362, 376, FEAD 707, CEWEP 183, 184, ECN 471) • The commonly used method is a 24h flow-proportional composite sampling for monitoring emissions to water from biological treatments (France 805, 806) • Flow-proportional composite sample (vs time-proportional) is not always sufficient (EEB 264) • Daily or weekly sampling may be sufficient for monitoring water emissions from aerobic treatment (UK 1071) • Further information should be exchanged on emissions to water from biological treatment in recommendation 6 (fourth bullet) in the current BREF (p. 542 'Recommendations for future work', point 6) • Add BDO_5 for biological waste treatments (France 791)
New information identified	• France to submit a methodology followed and the lists of hazardous substances established for the WT sector for the temporary monitoring related to Directive 2000/60/EC • Directive 2013/39/EU as regards priority substances in the field of water policy • Belgium to submit a Flemish study on polluted rainwater • Belgium to submit a Flemish study on processing of external industrial waste water and liquid/sludgy industrial waste stream • Belgium to submit a Flemish comparative study on the current measurement methods for halogenated organic substance groups (AOX, EOX, POX, VOX) in Europe • Proposal on the waste treatment processes commonly used in Germany
EIPPCB assessment	• Definitions can be proposed within the questionnaire development. • Direct and indirect discharges: BAT-AELs apply where the emission leaves the installation. Concerning indirect discharge, the pollutants that are generally not treated by municipal WWTP (e.g. metals) should be dealt with in the WT BREF. Different indirect discharge specific cases (e.g. common waste water treatment within an installation or among more installations) are not specifically covered in the BREF (on this see IED Article 15(2)).

	• BOD_5 may not be the most adequate parameter to give information on related impact to water: COD and TOC are better parameters. However, BOD_5 is a parameter useful to monitor to check the proper functioning of a biological treatment. • In the questionnaire, there will be the possibility for the operator to specify that alternative parameters to the ones proposed below are monitored and to provide the related data. • The following table summarises the TWG members' positions related to the parameters to be monitored in emissions to water. Each of them will be presented in order to find an agreement that allows the building of the questionnaire(s).
EIPPCB proposal	• To collect data on emissions to water from installations/plants performing either continuous or discontinuous monitoring; data are related to the place where the emissions leave the installations, including cases of indirect discharge. • To collect all the data in the reference year for each parameter monitored discontinuously. • To collect data for each parameter monitored continuously in the case of a continuous release or batch release of a duration of more than 24 hours as follows: o short-term values (min-max-median and 97th percentile values in the reference year of 24-hour flow-proportional composite samples); o long-term averages (min-max-median values over one year of averages over a month of 24-hour flow-proportional composite samples). • To collect data for each parameter monitored continuously along the duration of a batch release of less than one 24 hours as follows: o short-term values (min/max/median and 97th percentile values in the reference year of flow-proportional composite samples over the release period); o long-term averages (min/max/median values over one year of averages over a month of flow-proportional composite samples over the release period). • To keep the key parameters as indicated in the table below. • To request information in the questionnaire on other priority substances monitored in the concerned plant.

Table 4 Emissions to water - Key parameters and related format

Water emission parameters			Waste treatment processes concerned by the water emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
pH	/	Keep pH	All processes	/	Keep pH for all processes	Continuous Monthly average	Agree with continuous measurements (HWE 1011)	(see EIPPCB proposal above)
COD	TOC should be an alternative to COD, e.g. in case of high content of chlorine (France 857, Sweden 1130)	Keep COD and TOC Provide correlation with COD when TOC is used	All processes	/	Keep COD and/or TOC for all processes	Continuous Monthly average mg/l	Flow-proportional 24-hour composite samples, monthly average could apply (HWE 1011, 1013) Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
TOC as C	Delete COD when TOC is used (Sweden 1130)	Keep COD and TOC as C Provide correlation with COD when TOC is used	All processes	/	Keep COD and/or TOC for all processes	Continuous Monthly average mg/l	Flow-proportional 24-hour composite samples, monthly average could apply (HWE 1011, 1013) Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
TSS	Conductivity rather than TSS due to its quicker response (Sweden 1133)	Keep TSS Conductivity could be added: to be discussed	All processes	/	Keep TSS for all processes	Continuous Monthly average mg/l	Flow-proportional 24-hour composite samples, monthly average could apply (HWE 1011) Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l

Water emission parameters			Waste treatment processes concerned by the water emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V	Provide individual AEL for metals (Belgium 71) Add unambiguous definition e.g. dissolved vs total metals (Belgium 81) (ERSG 1184) Add Pb and Cd for shredding EoLV and Cu for WEEE (France 905)	Keep each metal and sum of metals	All processes	/	Keep each metal and sum of metals for all processes	Continuous Monthly average mg/l	Set absolute limits (EEB 249) Monitor regularly if one or more pollutant is likely to be emitted (HWE 1011, 1013) Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
Cd+Tl	Provide individual AEL for metals (Belgium 71) Add unambiguous definition e.g. dissolved vs total metals (Belgium 81) (ERSG 1184)	Keep each metal and sum of metals	All processes	/	Keep each metal and sum of metals for all processes	Continuous Monthly average mg/l	Monitor regularly if one or more pollutant is likely to be emitted (HWE 1011, 1013) Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
Hg	/	Keep Hg	All processes	/	Keep Hg for all processes	Continuous Monthly average mg/l	Monitor regularly if it is likely to be emitted (HWE 1011, 1013) Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
THC	HCT to be defined (EUROFER 412, Sweden 1125)	THC: total hydrocarbon. It could be substituted by Total Hydrocarbon Oil Index (HOI): to be discussed	All processes	/	Keep HCT and/or HOI: for all processes	Continuous Monthly average mg/l	Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
AOX	Specify the measuring method (Belgium 92)	Standard EN ISO 9562 (2004) Keep AOX	All processes	/	Keep AOX for all processes	Continuous Monthly average mg/l	Monitor regularly if it is likely to be emitted (HWE 1011, 1013) Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l

Water emission parameters			Waste treatment processes concerned by the water emission parameters			Averaging period, frequency and unit		
Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire	Ref: Guidelines dated July 2013, documents 2 and 3	TWG members' initial position	EIPPCB proposal for shaping the questionnaire
Free chlorine as Cl	To clarify: hypochlorite, chlorine or chloride (France 851) Adapt considering waste input (France 789)	Keep free chlorine (Cl_2)	Aerobic, Anaerobic, Extraction, physico-chemical treatment of water-based waste, Drying,	/	Keep free chlorine as Cl for aerobic, anaerobic, physico-chemical treatment of water-based waste and drying processes	Continuous Monthly average mg/l	Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
Zn	There is no technology for measuring zinc in water (FEAD 710) BAT-AEL should be limited if Zn is likely to be emitted (EUROFER 421)	Method to measure Zn: ICP-OES EN ISO 11885 (2009) Keep Zn	Shredding	/	Keep Zn for shredding process	Continuous Monthly average mg/l	Monitor regularly if it is likely to be emitted (HWE 1011, 1013) Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
Total P	/	Keep Total P	Aerobic, Anaerobic	Add anaerobic digestion (ECN 471, FEAD 620)	Keep Total P for aerobic and anaerobic processes	Continuous Monthly average mg/l	Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
Total N (sum of total kjeldahl nitrogen (ammonia, organic and reduced nitrogen), nitrate and nitrite	/	Keep Total N	Aerobic, Anaerobic	/	Keep Total N for aerobic and anaerobic processes	Continuous Monthly average mg/l	Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
Sulphate	/	Keep sulphate	Extraction, Drying, Desorption,	/	Keep sulphate for extraction, drying and desorption processes	Continuous Monthly average mg/l	Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l
Phenol [phenol index]	Include BAT-AEL for phenols, not for phenol index (Belgium 88)	Keep phenol and/or phenol index: to be discussed during the KoM	Washing, Desorption, Distillation	Phenol is not specific to the washing treatment (EUCOPRO 347)	Keep phenol and/or phenol index for washing, desorption and distillation processes	Continuous Monthly average mg/l	Set half-hourly and derived daily values (EEB 248)	(see EIPPCB proposal above) mg/l

2.3.5 Diffuse emissions, odour, noise, vibrations

Summary of initial positions	• Measures to prevent, reduce diffuse emissions should be defined:
	  o Dust, (FEAD 629, Belgium 84, Germany 987)
	  o CH_4 from anaerobic (France 813)
	  o Odour from anaerobic (Belgium 56)
	• Measures for reducing noise emissions should be described (Germany 989, EUROMETAUX 439)
	• Applicability of monitoring noise emissions to be defined (EUROFER 419, EUCOPRO 380, FIR 721, FIR 734)
	• BAT related to diffuse emissions from open aerobic treatment installations should be improved (ECN 514, 515, 516, France 907)
	• Applicability of monitoring odour emissions to be defined (ECN 475, Sweden 1149, 1144, EUCOPRO 377, 378, FEAD 621, FIR 721, France 827, 898, UK 1062)
	• Applicability of monitoring vibration to be defined (FIR 724)
	• Link odour monitoring and efficiency of reduction measures (France 823, 897)
	• Diffuse emissions: CWW is prevailing (CEFIC 110)

New information identified	• General proposal on the waste treatment processes commonly used in Germany • Belgium to submit a Flemish study on (manure) co-digestion • FEAD, Belgium, ECN, EUROMETAUX, EUCOPRO, FIR, EUROFER, France, Germany, UK to submit relevant information on diffuse emissions, odour, noise, vibrations, including monitoring and applicability
EIPPCB assessment	• Consistency throughout the BREF series is sought. No implementation rules or priority among BREFs are given within the BREF series.
EIPPCB proposal	• To collect data and contextual information on diffuse emissions, odour, noise, and vibrations. • TWG members to submit relevant new information.

2.3.6 Water, chemical and energy consumption

Summary of initial positions	• Reducing consumption should not come at the expense of the environmental services those technologies are providing. BAT-AEPL depend on too many processes/waste stream parameters to allow comparability (CEWEP 161, 162, 170) • Determining BAT-AEPL on water consumption is not relevant because it depends on process, local conditions, etc., and/or the BAT-AEPL definition has to be clarified (France 824, CEWEP 174, EUROFER 424, ECN 493, 507, FEAD 628, 694, EUROMETAUX 437, Sweden 1119) • Describe a water management system (Germany 968) • Determining BAT-AEPL on chemical consumption, energy consumption is not relevant (FEAD 627, 625, ECN 488, FIR 755) • BAT must not interfere with industrial choices (EUCOPRO 332, 333) • Recirculation of water may create environmental problems, e.g. odour, microbiological contamination, cross contamination (EBA 447, ECN 481, 513, France 923, UK 1089, Sweden 1176) • The monitoring of energy consumption is not expressed in the right way, and not applicable to small and simple installations (FIR 755) • The use of waste as raw material is not a common practice (FEAD 693) • Energy and water consumption have to be monitored (Austria 49, EFR 534, 535)

	• Energy efficiency of shredding should be added (Germany 943, FEAD 637) • Energy efficiency of composting is not relevant (ECN 492, FEAD 659) • The unit proposed (MJ/t) to express energy efficiency for anaerobic digestion is not relevant (Austria 28) • Define the concept of biogas maximisation, which could cause energy loss (France 840) • Biogas valuation that can be done in several ways, e.g. injecting biogas in gas grid, should be excluded from the scope (France 810, 832) • Pre-treatment by anaerobic digestion is too specific to be considered as BAT (France 837) • ENE BREF overlaps with BAT-AEPL in WT BREF (EUROMETAUX 429)
New information identified	• General proposal on the waste treatment processes commonly used in Germany • EBA, France, CEWEP, EUROFER, ECN, FEAD, EUROMETAUX, Sweden, UK to submit relevant information on water consumption or water recirculation • Germany, FEAD, ECN, France to submit relevant information on energy efficiency for shredders and/or biological treatments
EIPPCB assessment	• It is useful to collect information on the consumption of water, chemicals, energy and assess it to derive BAT-AEPL when relevant as provided for in the BREF Guidance • The questionnaire development will allow to precisely define the information that will be collected through the questionnaire • Finally, the data collected should allow the best way to express the consumption associated to BAT to be determined. The composition of BAT and BAT-AEPLs will be derived and then fine-tuned during the review of the BREF
EIPPCB proposal	• To collect data and contextual information on the consumption of water, chemicals, and energy with the questionnaire. • TWG members to submit relevant new information using the BREF Guidance Section 2.3.7 format and the Information Mapping Sheet (IMS), in relation to the key environmental issues the TWG will agree on.

2.3.7 Recovery efficiency and waste hierarchy

Summary of initial positions	• Complete the overview of key environmental issues related to treatment efficiency by adding criteria on quality output, e.g. for sorting (CEWEP 171, 157) • Add BAT on recovery rate e.g. for biological treatment, preparation of fuel (Ireland 1100, 1101, 1102) • Recovery rate compliance is not an IED requirement but a waste management requirement (EUCOPRO 368) • The definition of recovery rate should be consistent with those already existing at European level (EUCOPRO 325, Belgium 91) • The European Waste Hierarchy should be mentioned in the scope of the WT BREF and in the BAT Conclusions (Belgium 94) • Waste hierarchy is given by intrinsic properties of each waste regarding technical and economic possibilities (cf. WFD Article 4). It should not be implemented as a management system in the BREF in order to avoid redundant regulation (CEFIC 111, 112) • Include BAT conclusions on measures on resource efficiency and

	resource management (Germany 998, Denmark 208, 211, EEB 260, 261), focusing especially on: o Waste material recovery efficiency (Denmark 213) o Waste energy efficiency (Denmark 208, 211) • BAT Conclusions should reflect the Waste Hierarchy as described in the WFD, considering the full life-cycle and whole supply chain in terms of cross-media effects (Denmark 212, EEB 244) • Definitions, requirements and applicability of recovery efficiency should be elaborated with precision in order to obtain a realistic BAT drafting (EURITS 388, 402, EBA 451, 495, FIR 730, 733, EUROFER 423, FEAD 705, Sweden 1136, EUCOPRO 368, ERFO 307, Belgium 73) • BAT-AEPL is not necessary (EFR 270) • No addressing of waste hierarchy aspects (CEFIC 111)
New information identified	• Ireland, EUCOPRO, Belgium, Germany, Denmark, EEB, EURITS, EBA, FIR, EUROFER, FEAD, Sweden, ERFO to submit relevant information on recovery rate at installation level • General proposal on the waste treatment processes commonly used in Germany
EIPPCB assessment	• The Waste hierarchy is also implemented throughout the BREF series (not only in the WT BREF) • There is no need to repeat legal definitions in a BREF. • The BAT Conclusions will implement the Waste hierarchy by identifying techniques to maximise recycling, to reduce material sent to disposal, by acting only within the boundary of the installations • Life cycle should be left out of the scope: its inclusion would lead to inconsistency with other BREFs and with the criteria for further use of the output • Definitions can be finalised within the questionnaire development and the BAT will be fine-tuned throughout the review
EIPPCB proposal	• To collect data and contextual information on recovery efficiency and waste hierarchy with the questionnaire. • TWG members to submit relevant new information using the BREF Guidance Section 2.3.7 format and the Information Mapping Sheet (IMS), in relation with the key environmental issues the TWG will agree on.

2.3.8 Hazardousness, toxicity

Summary of initial positions	• Several types of waste could switch from non-hazardous to hazardous due to the List of Waste (LOW) review. The BREF should therefore be flexible in its structure to allow further evolution of the classification of wastes (ERFO 276, France 867) • A clear split should be made between hazardous and non-hazardous waste, e.g. by defining clear applicability (EUCOPRO 371, 374, 379, ECN 472, France 828, 887, HWE 1004, 1006) • Monitoring in relation to hazardousness categorisation of waste: o Monitoring emission of hazardous substances when treating hazardous waste (e.g. mercury, dioxins and furans) should be limited only to those substances that can reasonably be expected to emit to air or water, and when analytically feasible (CEFIC 99, EURITS 385, FIR 763, EUROMETAUX 431, 432) o Monitoring of hazardous substances in emissions to water by a suitable sum or choice of parameters should be possible under NOCs (CEFIC 126, 98) o Due to the complexity of the composition of waste, monitoring all the substances that lead the waste input to be categorised as hazardous seems almost impossible (CEWEP 175, EUCOPRO 337, FIR 766, France 821, HWE 1043, Sweden 1138, 1161) • Additional standardisation based on persistence, bioaccumulation and toxicity seems appropriate (Belgium 75) • Delivery, unloading storage, shredding of e.g. old cooling device and emissions of CFC should be considered as hazardous waste streams (Germany 935, France 797)
New information identified	• Belgium to submit a Flemish BAT study on processing of external industrial waste water and liquid/sludgy industrial waste streams • EUCOPRO, ECN, France, HWE, CEFIC, EURITS, FIR, EUROMETAUX to submit relevant information on techniques specific to the case of hazardous waste treatment
EIPPCB assessment	• The assessment of data and information collected should show if there is a need to differentiate BAT related to hazardous/non-hazardous waste treatment. Wherever possible, no difference will be indicated. • The characterisation of the hazardousness of a waste is established by the operators via the pre-acceptance/acceptance procedures. The substances to be monitored in air and/or water emissions should be determined on this basis, and in relation to the process treatment of the waste.
EIPPCB proposal	• To collect data and contextual information on hazardousness and toxicity with the questionnaire. • TWG members to submit relevant new information using the BREF Guidance Section 2.3.7 format and the Information Mapping Sheet (IMS), in relation with the key environmental issues the TWG will agree on.

2.4 DATA AND INFORMATION COLLECTION

The provision of text and data during the exchange of information is a vital part of reviewing a BREF. The consumption and emissions data in particular are important for identifying the best performers, and to identify a range of environmental performance data that is associated with the use of BAT (BAT-AEPL). The text and data should be provided by following the structure and format indicated by the EIPPCB following the provisions of the BREF Guidance, including the filling of Questionnaire, 10-heading standard format for techniques and Information Mapping Sheets.

The performance data supplied to the European IPPC Bureau in the past were often not sufficient in terms of either quality or quantity, and were not always accompanied by the necessary supporting operational information. Therefore, these performance data were of limited use in the process of determining BAT and emission values associated with the use of BAT. The WT BREF also needs to be updated and improved with respect to economics information (i.e. the cost of techniques). The recommendations for future work on the original BREF also include collecting more data and information on emission and consumption levels, and on the performances of techniques to be considered in the determination of BAT.

Therefore, this will be the focus of the review in addition to the inclusion of some new activities as indicated in the scope section.

2.4.1 Questionnaire development and data collection

Several comments on data collection are included under Section 3.2 on general BREF review.

Summary of initial positions	• Proceed in accordance with section 5.3 of the BREF Guidance about confidentiality issues (Czech Republic 199, Netherlands 1114, France 903, 904, 850) • Take care of the quality and comparability of the data collected by using EN standards, determining the sampling point location, defining average value, calculation mode, frequency of measurements (Denmark 217, FEAD 687) • Include data collection for the new activities introduced by IED (Austria 42, 55) • Not anonymous questionnaires to EIPPCB, anonymised to the TWG (HWE 1050) • Some parameters are business sensitive (France 885, 904, HWE 1050)
New information identified	• BREF Guidance
EIPPCB Assessment	• TWG will seek an agreement on the pollutants and parameters for which information should be collected, on sampling location, monitoring and averaging periods, etc. The starting point is the Section 2.3 on Key Environmental Issues. See also the Section 3.2 on general BREF review. • The activities included in the data collection will be those corresponding to the scope on which the TWG will agree on (see Section 2.1 above). • The participation of installations to the data collection is on voluntary basis. Each TWG members' organisation is called to propose a list of installations willing to participate, focusing on good performing plants. The deadline to submit these lists is the 31/01/2014. To shape properly the questionnaire, the EIPPCB will ask some basic information to the TWG members by mean of a

	standard template (questionnaire). • Confidentiality issues will be dealt in accordance with the BREF Guidance section 5.3, that implies e.g.: o Information on emission (including implemented techniques related to emissions) is in the public domain and cannot be claimed as confidential; o If other information submitted to the EIPPCB are considered confidential business information or sensitive information under competition law and should therefore not be reported in the BREF, this should be clearly stated when sending the information and the reason/justification for the confidentiality/sensitivity should be given; o data on raw materials consumption, energy and treatment load is potentially subject to a confidentiality claim; o The reference year chosen will be sufficiently recent to have information on new plant. The proposed year is 2012. o There are several ways to deal with confidential/sensitive data in BREFs such as the aggregation or the anonymisation of information. This can be done by the EIPPCB if necessary with the help of those who supplied the information; o Confidentiality issues already clearly identified should be presented at the meeting by those who are concerned. The operational way on how to deal with those that are considered relevant by the TWG will be discussed while developing the questionnaire, on the basis of the agreement found during the kick-off meeting. o When part of a questionnaire is declared confidential, it will not be shared onto BATIS. The sender claiming for confidentiality may be challenged on the basis of the balance to strike between the different interests (environment protection, transparency, competition and business confidentiality) for example by checking if other submissions adopted different confidentiality patterns. • The data will be collected by mean of questionnaires that will be sent to and collected from operators with an intermediate check of the Member States where the plants are located (or other organisation in case the Member State is not present in the WT TWG). In this step each Member State is asked to: o ensure quality, completeness and consistency of data; o check validity of confidentiality claims: in case some information is claimed as confidential the Member State extracts the confidential part of the questionnaire and sends it to the EIPPCB by email; o post all the non-confidential questionnaires onto BATIS. • The data collection will serve the purpose of bridging the quantitative information gap in both chapter "Current emission and consumption levels" and chapter "Techniques to consider in the determination of BAT" as recommended in the current BREF (p. 541 'Recommendations for future work', point 4). This is of course with a view to use the quantitative data to derive additional BAT-AEPL.
EIPPCB proposal	• To develop a questionnaire, keeping as a starting point the Key Environmental Issues of Section 2.3. • To cover in the data collection, the same activities as in the agreed BREF scope. • TWG members' organisations to submit (by 31/01/2014):

	○ a list of good performing plants/installations that are willing to participate in the data collection; ○ the number of plants per IED Annex I activity in each Member State; ○ a list of techniques to populate the multiple choice questions in the questionnaire; ○ information on the commonly applied averaging period/frequency for continuous/discontinuous monitoring for each process. Note that the EIPPCB will send a template to standardise the information on the above points. • Confidentiality issues to be dealt with in accordance with the BREF Guidance. • To collect the questionnaire from operators, after the Member States where the plants are located carry out an intermediate check of the questionnaires. In this intermediate step, each Member State: ○ will ensures quality, completeness and consistency of data; ○ will check confidentiality claims: in the case that some information is claimed as confidential, the Member State will extract the confidential part of the questionnaire and send it to the EIPPCB by email; ○ will post all the non-confidential questionnaires onto BATIS.

2.4.2 Techniques to consider in the determination of BAT and emerging techniques

Summary of initial positions	• Several techniques (primary and end-of-pipe measures) to be updated, added (Austria 2, 5, 9, 10, 18, 22, 23, 29, 30, 36, 37, 39, 40, 43, 47, 53, CEFIC 124, Belgium 62, EEB 254, ERFO 311, 312, 313, ERSG 1181, 1182, EUCOPRO 316, 367, 369, EUROFER 409, ECN 468, 469, FEAD 595, 618, 619, 645, 650 France 792, 860, 879, Germany 965, 966, 970, 981, 986, 974, 976, 978, 990, UK 1087, 1088, Sweden 1153, 1155, 1158) and carefully assessed (EURITS 395) • Quality management and control system to be developed for shredding operation (FEAD 631, Germany 942)
New information identified	• General proposal on the waste treatment processes commonly used in Germany • Austria, CEFIC, Belgium, EEB, ERFO, ERSG, EUCOPRO, EUROFER, ECN, FEAD, France, Germany, UK, Sweden, EURITS to submit relevant information on recent development on techniques
EIPPCB assessment	• All the information already provided, and further information that will be collected via the data and information collection, will be used to update and fine-tune the description of techniques. • A range of organisational/procedural conclusions on BAT is proposed in the current BREF and will be revised during this WT BREF review. They are aimed at tackling the intrinsic risk raised by waste due to its 'less-known' nature. Many current procedural conclusions on BAT are about risk reduction or prevention of accidental/incidental emissions. The review may further elaborate on this as shown in the guideline document 3, which is circulated to trigger the initial positions of TWG members. All the comments on this will be considered in the drafting of D1. • When providing information on 'Techniques to consider in the determination of BAT', the use of a standard structure is required in order to enable comparisons of techniques and so that an objective assessment against the definition of BAT given in the IED can be made. This standard structure is stipulated in the BREF Guidance. It is necessary to use this standard structure for the provision of information for specific techniques. All TWG members are strongly invited to submit information by following the indication on usability of delivered information given in the BREF Guidance for the exchange of information (for techniques: using the 10-heading structure, see BREF Guidance Section 2.3.7). • Specific techniques are dealt with in Section 3.4.
EIPPCB proposal	• TWG members to identify and submit information on recent developments in techniques, following the 10-heading structure of BREF Guidance Section 2.3.7. • TWG members to check critically whether the former emerging techniques still match the current definition of 'emerging techniques', the definition of techniques to consider in the determination of BAT or rather they have to be deleted from the BREF. • The EIPPCB to take into consideration the initial positions of the TWG members on techniques during the writing of the revised WT BREF Draft 1.

2.4.3 TWG Subgroups

Summary of initial positions	• Install specific subgroups on specific treatments (shredding, biological treatment) (FEAD 689) • Subgroup on questionnaire (Belgium 81)
New information identified	• No new information identified at this stage
EIPPCB assessment	• It is proposed to set up the following subgroups: o Subgroup to support developing the questionnaires - checking draft templates by mid-February 2014, participating in a workshop (if needed) to finalise it by end of February 2014, testing the final questionnaire on site with operators by mid-March 2014; o Subgroup on biological treatment - to develop a proposal for input on the biological treatment sections in Chapters: 1-2-3-4 (in relation to the numbering of the Structure in Annex III), to be sent to the EIPPCB by 30/05/2014; o Subgroup on the shredding of metal waste (e.g. from EoLV, from WEEE) - to develop a proposal for input on the shredding sections in Chapters 1-2-3-4 (in relation to the numbering of the Structure in Annex III), to be sent to the EIPPCB by 30/05/2014. For the latter two subgroups, proposals for Chapter 3 and 4 (in relation to the numbering of the Structure in Annex III) may contain environmental performance data, but the data collection, i.e. through the questionnaires, should provide the larger basis for the EIPPCB assessment. The EIPPCB will use these inputs in its global assessment and incorporate them in the BREF. Any part of these proposals may be at any time changed, deleted, or improved by the EIPPCB on the basis of its assessment, especially on the basis of the data collection or for consistency with the other parts of the BREF and with the general rules of BREF drafting.
EIPPCB proposal	• To set up a subgroup to support developing the questionnaires (activity period: December 2013 – end of March 2014). • To set up a subgroup on biological treatment (main activity period foreseen at this stage: December 2013 – end of May 2014) and to identify its coordinator among TWG members. • To set up a subgroup on the shredding of metal waste (main activity period foreseen at this stage: December 2013 – end of May 2014) and to identify its coordinator among TWG members. • To set a deadline for initial contributions from subgroups on biological treatment and the shredding of metal waste of 30/05/2014. • The EIPPCB to use in its global assessment the subgroups input and to incorporate properly this in the BREF. Any part of these subgroups proposals can be at any time changed, deleted, or improved by the EIPPCB on the basis of its assessment, especially on the basis of the data collection or for consistency with the other parts of the BREF and with the general rules of BREF drafting. • TWG members are invited to express their willingness to participate in subgroups at the KoM and to identify or propose coordinators for the two subgroups on biological treatment and on the shredding of metal waste.

2.4.4 Other than normal operating conditions (OTNOC)

Summary of initial positions	• Flaring biogas should be available in exceptional operation conditions (Austria 45, EBA 452, ECN 496, Germany 967, UK 1082) • Unintended emissions from incidents/accidents should be taken into account (Denmark 203) • Acceptance procedures should take into account cases of urgency to treat waste (EUCOPRO 329, 330) • Safety (Denmark 203 France 913, 921)
New information identified	• General proposal on the waste treatment processes commonly used in Germany
EIPPCB assessment	• A range of organisational/procedural conclusions on BAT is proposed in the current BREF and will be revisited during this WT BREF review. They are aimed at tackling the intrinsic risk raised by waste due to its 'less-known' nature. Many current procedural conclusions on BAT are about risk reduction and prevention of accidental/ incidental emissions. The EIPPCB will further elaborate on this in the drafting of D1 by considering the initial positions sent in by TWG members. • No 'should' statements are used in the BREF/BAT conclusions, as these are descriptive reference documents. • For the purpose of the WT BREF, normal operating conditions are defined as the conditions during which the plant is operating and discharging emissions into the air and/or water, excluding start-up and shutdown periods. • Conclusions on OTNOC may also be proposed.
EIPPCB proposal	• TWG to identify other than normal operating conditions (e.g. start-up and shutdown operations, leaks, malfunctions, and momentary stoppages). • TWG members to submit within the general deadline for the information collection to the EIPPCB a list of other than normal operating conditions to prevent/limit emissions to be included in the BREF, to assist the drawing up of conclusions applicable to the WT sector. • The EIPPCB to assess the lists and include the pertinent information in the BREF. • To include also information on OTNOC in the questionnaire, in order to collect data about how the operators are declaring OTNOC and whether and how OTNOC events duration and frequency are considered and/or minimised.

3 ITEMS NOT FOR DISCUSSION AT THE KICK-OFF MEETING

It is not intended to discuss the issues in this section at the TWG KoM since all the proposals presented are considerations simply derived from documents already agreed: the IED, the BREF Guidance, the Standard text, the ECM REF. These documents are methodological documents for the Sevilla process. TWG members can refer to them directly, as only some clarifications are given here and the general framework is not repeated.

The European IPPC Bureau considers that the items covered in Sections 1 and 2 of this Background Paper deal with the most important issues to be discussed by TWG members at the KoM. The TWG's initial positions on other items expressed in initial positions are included here, but it is proposed not to discuss these at the KoM when:

- they refer to horizontal, methodological or procedural issues that have already been agreed at the appropriate level (e.g. IED Article 13 Forum, IED Article 75 Committee);
- they refer to techniques, performances, that will be assessed in the following step of the review itself;
- they are arguments on what is, or what is not, BAT and how to formulate the BAT; also in this case, this is not the main purpose of the discussions at the KoM;
- they relate to minor items, such as formatting issues, typos or unclear positions.

Candidate techniques, environmental performances and BAT will be discussed at a later stage of the review process, when the data needed to assess any changes in the conclusions on BAT of the original BREF have been submitted by members of the TWG, and when these have been verified and commented on and discussed.

However, if a TWG member considers that any of the following items in this chapter deserves discussion at the KoM, s/he **is invited to indicate this to the WT BREF review team by e-mail at JRC-IPTS-EIPPCB-WT@ec.europa.eu before 8 November 2013**. This will then allow us to allocate sufficient time for the discussion of these items. Such an indication must also contain a justification/rationale.

3.1 Distinction between processes and techniques

Summary of initial positions	• Boundary between technique and process (Austria 3, 20, Belgium 58, EEB 242, EEB/DN 259, EUCOPRO 327, 339, 340, 341, 352, ECN 470, 499, FEAD 633, France 870, 880, 912, HWE 1042, 1044, Netherlands 1104, 1106, UK 1067)
New information identified	• Waste and manure processing Selection System in progress in the Flemish region and VITO
EIPPCB Assessment	The distinction between processes and techniques in the current BREF is made clear in the current scope in the first few pages, but this becomes in places confusing in the remainder of the BREF, especially in the current Chapter 4. In the review, all the information on processes in Chapter 2 will be kept. In Chapter 4, there will be information on techniques (including primary techniques that are often process-related). • The split will be very clear and neat. The distinction is clarified in the BREF Guidance Sections 2.3.5 and 2.3.7. Techniques are used to prevent or reduce emissions and consumptions from the installation/plant. Process output quality is therefore not in the scope of this WT BREF, since each BREF is comparing techniques to prevent/reduce emissions/consumptions and are not focused on the delivered product or service (see BREF Guidance Section 2.3.7). In the cases of Waste Treatment installations/plants, the reduction of the generation of waste is meant to be 'reduction of waste sent for disposal'; therefore, techniques that are reducing this specific impact of the Waste Treatment installations/plant are also considered. • The only case where the distinction is less defined is when the output itself becomes an emission, such as in the case of water-based liquid waste that after treatment are simply discharged to surface water. This process could be regarded as a delocalised treatment of emissions of other installations. • Waste definitions, end-of-waste criteria, and the management of waste streams are already regulated by European and/or national legislations. The BREF covers waste treatment activities, which are one of the multiple steps of the waste management. • In order to avoid overlapping with discussions that are of policy relevance, consider the output quality as a given from other policies (end-of-waste criteria, product policies, other regulations). • All the initial positions received will be considered when updating the relevant sections of the BREF (e.g. processes information, primary techniques to prevent emissions, etc.).
EIPPCB Proposal	• To maintain a clear distinction between processes and techniques as indicated in the BREF Guidance in Sections 2.3.5 and 2.3.7.

3.2 General BREF review process and BAT identification

Summary of initial positions	• Adopt a clear and transparent methodology for deriving the BAT and BAT-AELs, including economics, selection of plants, data collection and extensive review approach (Belgium 82, 83, ERFO 278, 308, 309, EURITS 397, 399 FEAD 652, 687, 696, Austria 54, CEWEP 145, Denmark 217, Czech Republic 196, ECN 519) • Follow the BREF Guidance, adopt two drafts, possibility to modify BAT during the whole process (Sweden 1147, 1167, 1171, EBA 460) • integrated transparent approach (Belgium 83, ERFO 280, Cyprus 189, EEB 235) • Specific disclaimer on the use of BAT to be maintained in BAT conclusions (FEAD 732) • Applicability of each BAT and ranges of each BAT-AEL should consider the new activities introduced by IED, hazardousness of the treated waste, new or existing installations, design of the plants, real impact of mass flow (EFR-ESG 272, ERFO 293, EURITS 386, 405, ECN 131, 230, FEAD 660, 672, France 801, 872, 896, 862, 899, 900, 901, Sweden 1123) • Avoid overlapping in BAT Conclusions, strong common section (CEWEP 185, HWE 1045, 1027, Sweden 1123, EUCOPRO 346) • All BAT should have the same priority (Denmark 213) • Any setback in BAT-AELs ranges/averaging period should be rejected (EEB 243) • Leave the choice of the technique to implement to achieve the BAT-AELs, and how to combine one or several techniques, (ECN 466, FEAD 662, 675, HWE 1056, France 843, 861) • BAT-AEPL may be not available or difficult to derive due to the possible multiple processes operated in one installation (FEAD 624, 658, ECN 467, 484) • BAT must be based on techniques, not on waste stream (FEAD 680) • Include information from network of organisations in techniques description and evaluation (Belgium 73) • The relevant techniques, plants subcategories (e.g. hazardous – non-hazardous) and AELs should be established after the data collection (France 788, 807, 816, 819, 822, 868, 929, 841, FEAD 695, HWE 1020, 1040) • Consider priority substances in water (Directive 2013/39/EU) and take into account the environmental quality standards (EQS) when determine BAT conclusions (EEB 245, Cyprus 189, 190). • Compatibility of CWW conclusions with the WT BREF needs to be checked before reuse (HWE 1041)
New information identified	• The BREF Guidance for the exchange of information under the IED (Decision 2012/119/EU) • The IED Annex III • The BREF Standard Texts preface • The ECM REF • EIPPCB work programme agreed at IED Article 13 forum meetings of June and September 2013 • ReNEW (Resource innovation Network for European Waste) • "Methodology for determining emission levels associated with the best available techniques for industrial waste water", in Journal of Cleaner Production 29-30 (2012), p. 113-121
EIPPCB assessment	• The Guideline documents 2 and 3 sent to the TWG in July to launch the reactivation and call for initial positions were prepared in a manner that kept the previous conclusions as the starting point and whose only aim was to focus on the scope, structure and key environmental issues that will be

	discussed at the KoM. These documents were the first step recommended by the IED Forum (as so-called frontloading) to anticipate issues and speed up the work process. They have been used in the preparation of the KoM, and they will be useful to the drafting of D1.
	• The derivation process of BAT and BAT-AEPL will follow the general framework given by the following documents:
	  o The BREF Guidance (Decision 2012/119/EU)
	  o The IED Annex III
	  o The Standard Texts preface
	  o The ECM REF
	• D1 of the revised WT BREF will contain draft BAT conclusions for commenting by the TWG (e.g. on applicability, economics constraints, technical information). This is the normal course of action suggested in the BREF Guidance (Decision 2012/119/EU). A second draft is not suggested for standard BREF reviews, but this will be decided once the EIPPCB has received and checked the comments on D1.
	• The data collection will be the main tool to identify the need of setting different BAT-AEPLs in the BAT conclusions for different groups of plants. Evidence is needed to reflect differentiated conclusions (e.g. on techniques, levels, applicability) for different groups of plants/installations (e.g. new/existing, hazardous/non-hazardous, open-air/closed areas, type of treated waste, type of output). Usually, in BAT Conclusions new and existing plants are differentiated.
	• As agreed at the Forum, each TWG has to focus the exchange of information on important issues: to this end, it is crucial that each TWG member submits only short reformulated text proposals that could be easily embodied into the current BREF without major redrafting effort. In the case of candidate techniques, for example, the 10-heading structure should be followed. Documents of hundreds of pages not following the proper structure are not fit for purpose and are rarely useful within the time constraints of a BREF review.
	• Consistency is sought among BREFs. BREFs do not contain guidance on the use of BREFs in permitting.
	• For EQS and BAT, see IED Article 18. Additionally, the BREF Guidance (Decision 2012/119/EU) also gives indications on EQS under the heading 'Driving force for implementation' of the candidate techniques.
	• Substances given in EU legislation are considered in the assessment of the key environmental issues.

EIPPCB proposal	• To follow the BREF Guidance for the exchange of information under the IED (Decision 2012/119/EU) and the EIPPCB work programme agreed at IED Article 13 Forum meetings of June and September 2013. • To use in the WT BREF the Standard Texts for BREFs approved by the IED Article 13 Forum.

3.3 Information on processes

3.3.1 Process description/definition

Summary of initial positions	• Add a condition for combustion process using solid fuel (France 875) • Several processes to be added/updated e.g. sorting, shredding, composting, soil remediation, pre-sorting before shredding, post shredder process, etc. (Austria 6, 9, 14, 17, 33, 34, Belgium 57, 58, 67, 70, 76, FEAD 635, 647, France 820, Germany 960, 970, 985, UK 1093, Czech republic 201) • Immobilisation should not be limited to high temperature processes (France 131) • Description/definition of processes need to be improved (EUCOPRO 321, 322, France 926, 933, Germany 948, 954)
New information identified	• A study on steam soil vapour extraction is available (http://www.hmvt.nl/thermisch) • General proposal on the waste treatment processes commonly used in Germany • Technical guidance from UK on waste treatment processes • Basel convention technical guidelines for environmental sound management of waste consisting of, containing or contaminated with PCBs, PCTs and PBBs • EUCOPRO, France, Germany to submit relevant information on description and definition of processes that needs to be improved
EIPPCB assessment	• All the information already provided, and any further information collected via the data and information collection, will be used to update and fine-tune the description and the definition of processes. • No combustion process as such will be covered in this BREF. However, potential BAT on biogas engines used as a directly associated activity, may be proposed; additionally, some end-of-pipe techniques may involve combustion. • In recommendation 6 (bullet 6–9) in the current BREF (p. 541 'Recommendations for future work', point 6) further information is recommended to be exchanged on: o off-site remediation treatments; o destruction of POPs; o treatments of waste containing mercury; o treatment of asbestos; o recovery of components from abatement techniques. Further information will be exchanged and assessed on these treatments.
EIPPCB proposal	• The EIPPCB to use the information already provided, and any further information collected via the data and information collection to update and fine-tune the description and the definition of processes. • TWG members to send updated information on the specific processes covered in the scope, by the deadline given for the information collection.

3.3.2 Input quality control

Summary of initial positions	• Include information of typical input streams into biological treatment operations (Austria 32, 38) • Specify the streams of wastes containing mercury input to shredders (France 803) • Sampling waste input is not feasible (FIR 757, 758) • While the knowledge of waste input is crucial, it is mainly the responsibility of the waste producer (EUCOPRO 379, FEAD 626, FIR 756), sampling of wastes should be chosen on a risk based approach (ECN 508, France 844)
New information identified	• General proposal on the waste treatment processes commonly used in Germany
EIPPCB assessment	• Waste input quality: the quality of the input has a twofold implication: o Knowledge of the composition of the waste input is an important issue in order to ensure that the waste will be treated in the most appropriate way to prevent or control emissions; o The waste input quality linked to the output quality is not covered under the WT BREF as explained in the section 2.1.
EIPPCB proposal	• To collect and assess information on the waste input quality, to check its influence on emissions and consumptions.

3.3.3 Mixing

Summary of initial positions	• Ban of mixing hazardous waste (Denmark 206 207), • Mixing and blending should be addressed in details (CEWEP/ESWET 182, EUCOPRO 326, 372, EURITS 392, 396, FEAD 704, France 874, Germany 995, 997, HWE 1016, 1032, 1037) • Link mixing and blending with the waste treatment performance techniques (CEWEP/ESWET 178)
New information identified	• General proposal on the waste treatment processes commonly used in Germany • DG ENV Guidance on the WFD • CEWEP, ESWET, EUCOPRO, EURITS, FEAD, France, Germany, HWE to submit relevant information on recent development of techniques
EIPPCB assessment	• BAT Conclusions 11 of the Guideline document were indeed formulated with the purpose of addressing mixing and blending in detail; all new information/data received on this process will be used for deriving the appropriate BAT conclusions. • Blending is just a different name for mixing when liquid waste is used. • Recommendations 3 and 6 (second bullet) in the current BREF (p. 541 'Recommendations for future work', points 3 and 6) will be considered in combination with the new information provided on mixing.
EIPPCB proposal	• To collect and assess information on waste mixing.

3.4 Specific techniques and BAT conclusions formulation

Summary of initial positions	• Include all technologies which are applied satisfactorily (CEFIC 115, 124) or include more BAT (Sweden 1154) • Some conclusions should be deleted or rewritten and/or applicability should be clarified (Austria 51, 52, Belgium 86, CEFIC 100, 101, 102, 120, 128, 129, 131, 132, 133, 134, CEWEP/ESWET 156, 163, 164, 165, 166, 168, 169, 172, 178, 185, ECN/EDWA 230, 232, EUCOPRO 335, 346, 348, 361, 365 EUROFER 421, FEAD 592, 595, 616, 632, 653, 663, 668, 671, 679, 681, 684, 688, 691, 692,699, 700, 702, 703, 708, 709, 711, 712, 713, ERSG 314, FIR 718, 719, 720, 722, 725, 726, 727, 728, 729, 753, 768, 769, 770, 771, 774, 775, 777, 778, 779, 780, 782, 783, 784, 785, France 790, 795, 798, 800, 802, 812, 814, 815, 819, 822, 832, 836, 845, 846, 853, 863, 866, 869, 871, 873, 881, 884, 888, 906, 908, 910, 914, 915, 918, 919, 920 HWE 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1012, 1013, 1015, 1017, 1018, 1019, 1020, 1021, 1037, 1040, 1043, EUROMETAUX 435, 436, Austria 20, EBA 448, 450, 453, 457, 458,461, 462, ECN 464, 476, 477, 478, 482, 483, 489, 497, 498, 501,502, 511, 512, 517, 518, ERFO 294, 295, 296, 297, 300, Germany 963, 964, 979, 980, 982, 988, 990, 991, UK 1059, 1063, 1068, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1081, 1083, 1085, 1086, 1090, 1092, Ireland 1099, Netherlands 1107, 1111, Sweden 1118, 1122, 1134, 1135, 1139, 1140, 1141, 1142,, 1143, 1145, 1148, 1156, 1159, 1160, 1163, 1168, 1169, 1170, 1172, 1174, 1175, 1177, 1178, EFR 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 554-589). • Express BAT-AEL with single value (Cyprus 188) • Express BAT-AEL as a range (FIR 787) • Specific BAT-AEL (Eurometaux 427, ECN 480, 505) • Advanced computerised process control (ACPC) not always relevant, available, necessary, affordable (ERFO 274, 287, EBA 449, ECN 491, FEAD 698, EUCOPRO 370, ECN 513, FIR 772, 773, UK 1072, Sweden 1132), recording too many data (ECN 490, EUROFER 422), impossible in real time (FEAD 682), could in some cases be replaced by manual records (France 927) • Environmental management systems (EMS): o Requiring EMS may be perceived as excessive, especially for small sites (CEWEP/ESWET 173, ECN 504, Sweden 1127, 1157), that could be dealt with applicability (Denmark 210, EFR 520, 521) o not always relevant (ERFO 298, 299, 301, EUCOPRO 318, FIR 759, 762) too detailed (EUROMETAUX 434, EBA 455) o The topics to benchmark must be defined (Denmark 202, France 902) o EMS should also applied to shredder facilities (FEAD 631) • Acceptance procedure must be focused on treatment step, e.g. for MBT (Austria 41) • Reception, handling and storage procedures are not always relevant, feasible (ERFO 294, 295, 296, 297, 300, EUCOPRO 335) • BAT should focus only on prevention and reduction of environmental impacts, not on the management of a process (EUCOPRO 339, 340, 341, 379) • Decommissioning procedure is already in IED, is not relevant for waste treatment installations, should be adapted (EUCOPRO 338, FEAD 657, 674, FIR 760, 761, France 849) • Include inspection of the waste input (Germany 969)

New information identified	• Belgium to submit a Flemish BAT study on the scrap metal industry • General proposal on the waste treatment processes commonly used in Germany • ERFO, EBA, ECN, FEAD, EUCOPRO, ECN, FIR, UK, Sweden, ECN, EUROFER, FEAD, France to submit relevant information on advanced computerised process control and alternative techniques • Austria, Belgium, CEFIC, CEWEP, ESWET, ECN, EUCOPRO, EUROFER, FEAD, ERSG, FIR, France, HWE, EUROMETAUX, Austria, EBA, ECN, ERFO, Germany, UK, Ireland, Netherlands, Sweden, EFR to submit relevant information on recent development of techniques by adopting the standard format of BREF Guidance Section 2.3.7.
EIPPCB assessment	• The BREF Guidance provides a strong framework (see BREF Guidance Chapter 3) on how to express BAT conclusions. This will be followed in the WT BREF. For BAT-AELs and BAT-AEPLs, ranges will be used as indicated. In case of weak comparability in the current practice of monitoring/averaging in WT plants, rounded values will be adopted (BREF Guidance Section 3.3). • In the process of reviewing a BREF, one of the (fundamental) questions to be asked is whether the BAT conclusions remain the same. However, this cannot be raised at the KoM because it will depend on the information exchanged in the subsequent steps of the review work. • It is therefore necessary to provide any relevant new techno-economic information/data to support any change/addition/deletion to the BAT chapter and the TWG is invited to do so (see Step 4 in Table 1). • This new information will be reflected in the first draft (D1) of the revised BREF. The initial positions will also be taken into account when preparing the BAT conclusions in D1. BAT conclusions will be decided by consensus at the final TWG meeting for the WT BREF. • The applicability of techniques and BAT conclusions will be clarified in D1 and then throughout the BREF review (at the commenting stage, in the final TWG meeting, etc.). • A range of organisational/procedural conclusions on BAT is proposed in the current BREF and will be revised during this WT BREF review. These are aimed at tackling the intrinsic risk raised by waste due to its "less-known" nature. Many current procedural conclusions on BAT are about risk reduction and the prevention of accidental/incidental emissions. The TWG may further elaborate on this, as it has been done in line with the Guideline document 3. All the comments on this will be considered in the drafting of D1.
EIPPCB proposal	• TWG members to check whether former emerging techniques still match the current definition of 'emerging techniques'. • TWG members to identify and submit information on recent developments in techniques, following the 10-heading structure of BREF Guidance Section 2.3.7. • The EIPPCB to collect and assess information on specific techniques.

3.5 Emerging techniques

Summary initial positions	• Some emerging techniques identified in the current BREF are now available (Belgium 34, Netherlands 1106) • Re-examine the validity of emerging techniques (FEAD 666, HWE 1022)
New information identified	• Belgium, Netherlands, FEAD, HWE to submit relevant information on emerging techniques
EIPPCB assessment	• The emerging techniques have to match the definition given in IED and BREF Guidance. Otherwise, they have to be removed or relocated under candidate techniques.
EIPPCB proposal	• To remove any emerging techniques which do not meet the definition given in the IED and BREF Guidance. • To relocate emerging techniques under candidate techniques, when justified.

3.6 Minor corrections/spelling errors/small updates/other items

Summary of initial positions	• Correct typos
New information identified	/
EIPPCB assessment/proposal	• To correct errors and perform small updates as appropriate.

ANNEX I: UPDATED PROPOSAL OF SCOPE FOR THE BAT CONCLUSIONS ON WASTE TREATMENT

These BAT conclusions concern the following activities specified in Annex I to Directive 2010/75/EU, namely:

- *5.1. Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving one or more of the following activities:*
  - *(a) biological treatment;*
  - *(b) physico-chemical treatment;*
  - *(c) blending or mixing prior to submission to any of the other activities listed in points 5.1 and 5.2* of the Annex I to the Industrial Emissions Directive*;*
  - *(d) repackaging prior to submission to any of the other activities listed in points 5.1 and 5.2* of the Annex I to the Industrial Emissions Directive*;*
  - *(e) solvent reclamation/regeneration;*
  - *(f) recycling/reclamation of inorganic materials other than metals or metal compounds;*
  - *(g) regeneration of acids or bases;*
  - *(h) recovery of components used for pollution abatement;*
  - *(i) recovery of components from catalysts;*
  - *(j) oil re-refining or other reuses of oil;*

- *5.3*
  - *(a) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving one or more of the following activities:*
    - *(i) biological treatment;*
    - *(ii) physico-chemical treatment;*
    - *(iii) pre-treatment of waste for incineration or co-incineration;*
    - *(iv) treatment of* […] *ashes;*
    - *(v) treatment in shredders of metal waste, including waste electrical and electronic equipment and end-of-life vehicles and their components.*
  - *(b) Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities:*
    - *(i) biological treatment;*
    - *(ii) pre-treatment of waste for incineration or co-incineration;*
    - *(iii) treatment of* […] *ashes;*
    - *(iv) treatment in shredders of metal waste, including waste electrical and electronic equipment and end-of-life vehicles and their components.*

    When the only waste treatment activity carried out is anaerobic digestion, the capacity threshold for this activity shall be 100 tonnes per day.

- *5.5. Temporary storage of hazardous waste not covered under point 5.4* of the Annex I to the Industrial Emissions Directive *pending any of the activities listed in points 5.1, 5.2, 5.4 and 5.6* of the Annex I to the Industrial Emissions Directive *with a total capacity exceeding 50 tonnes, excluding temporary storage, pending collection, on the site where the waste is generated.*

In particular, these BAT conclusions cover the following processes and activities, whether these are carried out as the primary activity of the installation or as a directly associated activity (not covered in another BREF) to another IED activity:

- the loading, unloading and handling of waste;
- the temporary storage of waste;
- the blending and mixing of waste;

- Waste treatment processes such as:
  - Mechanical treatment of waste,
  - Biological treatment of waste,
  - Physico-chemical treatment of waste,
  - Combined treatment of waste (e.g. mechanical-biological treatment of biological waste);
- Upstream and downstream activities directly associated with the waste treatment (e.g. combustion of biogas from the anaerobic digestion);
- the applied techniques to prevent and control emissions and consumption;
- site remediation measures needed as a consequence of the waste treatment activity within IED installations.

These BAT conclusions do not address the following activities:

- activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment;
- temporary storage, pending collection, on the site where the waste is generated;
- waste management activities, recovery or disposal of waste not occurring in IED installations and related acceptance criteria;
- direct recovery of waste to substitute raw materials used in other IED installations and related acceptance criteria;
- waste treatment activities covered in other BREFs (e.g. waste treatment activities in chemical installations when these waste treatment activities are covered by vertical chemical BREFs; treatment of slags in IS and NFM BREFs);
- waste water treatment from a waste treatment plant discharging to a facility that is covered by the CWW BREF;
- waste incineration and related acceptance criteria;
- waste co-incineration and related acceptance criteria;
- landfilling and related acceptance criteria (covered by Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste);
- underground storage of waste and related acceptance criteria (covered by Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste);
- surface impoundment activities (covered by Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste);
- waste management in the extractive industries covered by Directive 2006/21/EC and the related Management of Tailings and Waste-rock in Mining Activities (MTWR) BAT reference document.

These BAT conclusions do not address the following topics:

- end-of-waste criteria;
- by-product criteria;
- product specifications.

These BAT conclusions are without prejudice of the following directives and regulations:

- Waste Framework Directive (2008/98/EC on waste);
- end-of-life vehicles Directive (2000/53/EC on …);
- electronic waste Directive (2012/19/EU on waste electrical and electronic equipment);
- batteries Directive (2006/66/EC on batteries and accumulators and waste batteries and accumulators);
- [placeholder for the regulation on ship recycling COM/2012/0118 final – 2012/0055 (COD)];
- POP-containing waste Regulation (EC n. 850/2004 on persistent organic pollutants);

- PCB/PCT disposal Directive (96/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT));
- Animal by-product Regulation (EC) No 1069/2009 laying down health rules as regards animal by-products and derived products not intended for human.

Other reference documents, which are relevant for the activities covered by these BAT conclusions, are the following:

Reference document	Activity / Subject
Emissions from Storage BREF (EFS)	Storage and handling of fuels and additives
General Principles of Monitoring (MON)	Emissions and consumptions monitoring
Energy Efficiency BREF (ENE)	General energy efficiency techniques
Economics and Cross-Media Effects (ECM)	Economics and cross-media effects of techniques
CWW	Common waste water and waste gas treatments in Chemical Industry
WI	Waste incineration, treatment of slag
LCP	Waste co-incineration
CLM	Waste co-incineration, recovery of waste as a substitute of raw materials
IS	Waste co-incineration, recovery of waste as a substitute of raw materials, treatment of slags
NFM	Recovery of waste as a substitute of raw materials, treatment of salt slag from aluminium recycling; shredding of batteries.
FMP	Regeneration of acids or bases

ANNEX II: PROPOSAL OF STRUCTURE FOR THE BAT CONCLUSIONS OF THE REVISED WT BREF

The examples below show some possible structures for laying out the BAT conclusions. BAT-AELs may be given either in the general section and/or in a section related to a specific treatment, depending on the information arising from the data collection. Additional parameters (e.g. pollutants) can be introduced or removed based on the collected information. The data collection can also help identify different categories in the emissions/consumptions performances of treatment plants (e.g. age, size, input waste, treated dispatched material).

BEST AVAILABLE TECHNIQUES
Scope
Definitions
General considerations
Reference conditions

General BAT conclusions (*applicable to all installations in combination with the specific BAT conclusions, but applicability restrictions may apply in specific cases*)

Overall environmental performance
Environmental management systems
Monitoring
Waste treatment performance
Reception, handling and storage
Compatibility to mix or blend
Input pretreatment and output finalisation
Emissions to air
Emissions to water and water consumption
Consumption of raw materials and chemicals
Energy consumption
Noise and vibrations
Prevention of soil and groundwater contamination
Decommissioning

BAT conclusions for mechanical treatments (*e.g. covering the treatment of e.g. wood waste or plastic waste to prepare fuel, shredding of metals from EoLV/WEEE, mechanical treatment of ashes, and mechanical treatment as DAA. Links between sections (e.g. to cover the mechanical part of combined treatment), the creation of specific subcategories (e.g. mechanical treatment of MSW in MBT), and applicability restrictions in specific cases are all possible. These BAT conclusions apply in addition to the general BAT conclusions*)

General environmental performance
Emissions to air
Emissions to water
Vibrations

BAT conclusions for biological treatments (*e.g. covering the treatment of e.g. MSW in mechanical-biological treatment, anaerobic digestion and/or composting of MSW, sludge, and biowaste. Mechanical treatment is covered by cross-referencing the previous section. Links between sections (e.g. to the mechanical part of a combined treatment like MBT), the creation of specific subcategories (e.g. MBT treatment of MSW), and applicability restrictions in specific cases are all possible. These BAT conclusions apply in addition to the general BAT conclusions*)

General environmental performance
Odour

BAT conclusions specific to aerobic treatment (*if supported by evidence from the data collection of a differentiation in specific cases: e.g. MBT of MSW, composting a separated collection of biowaste*)

General environmental performance
Emissions to air
Water consumption and emissions to water
Energy efficiency

BAT conclusions specific to anaerobic digestion (*if supported by evidence from the data collection of an environmental performance differentiation by treated waste*)

General environmental performance
Emissions to air
Water consumption and emissions to water
Energy efficiency

BAT conclusions for physico-chemical treatments (*e.g. covering the physico-chemical treatment of e.g. ashes, liquid waste, waste oil regeneration, washing used drums, etc. Links between sections, the creation of specific subcategories, and applicability restrictions in specific cases are all possible. These BAT conclusions apply in addition to the general BAT conclusions*)

BAT conclusions for extraction

General environmental performance
Emissions to air
Emissions to water

BAT conclusions for washing

General environmental performance
Emissions to air
Emissions to water

BAT conclusions for the physico-chemical treatment of water-based liquid waste

General environmental performance
Emissions to air
Emissions to water

BAT conclusions for thermal drying

General environmental performance
Emissions to air
Emissions to water

BAT conclusions for immobilisation

General environmental performance
Emissions to air
Emissions to water

BAT conclusions for thermal desorption

General environmental performance
Emissions to air
Emissions to water

BAT conclusions for distillation

General environmental performance
Emissions to air
Emissions to water

Description of techniques

ANNEX III: PROPOSAL FOR THE STRUCTURE OF THE REVISED WT BREF

Preface

Scope (of the BREF) *(this could include a table mapping the relation to activities in Annex I and examples of waste streams)*

1. General information about the sector concerned

2. Applied processes and techniques

2.1 Common processes and techniques applied in the sector

2.2 Processes and techniques applied in the mechanical treatments of waste *(modified and updated version of current Section 2.1.8 and partially of Section 2.5. It will include information on shredders, some ash treatments and the mechanical preparation of fuels)*

2.3 Processes and techniques applied in the biological treatments of waste *(It will includes information on composting, anaerobic digestion, and MBT with cross-references to the section on mechanical treatments)*

2.4 Processes and techniques applied in the physico-chemical treatments of waste *(physico-chemical treatments of ashes)*

3. Current emission and consumption levels

3.1 Emissions and consumptions from common waste treatment processes

3.2 Emissions and consumptions from the mechanical treatments of waste *(New information on shredders, and partially information (modified and updated) from current BREF Section 3.5)*

3.3 Emissions and consumptions from the biological treatments of waste *(modified and updated version of current Sections 3.2.2, 3.2.3, partially Section 3.5.2 and Section 3.5.3)*

3.4 Emissions and consumptions from the physico-chemical treatments of waste *(modified and updated version of current Sections 3.3.2 and 3.3.3, and physico-chemical treatments of ashes)*

4. Techniques to consider in the determination of BAT *(information related only to the processes will be moved to Chapter 2; primary prevention techniques will be kept here)*

4.1 Common techniques

4.2 Techniques to consider in the mechanical treatments of waste *(modified and updated version of current Sections 4.6, 4.7, partially of Section 4.5, including new information on shredders)*

4.3 Techniques to consider in the biological treatments of waste *(modified and updated version of current Sections 4.2, 4.5, 4.6, 4.7)*

4.4 Techniques to consider in the physico-chemical treatments of waste *(modified and adapted from current Sections 4.3, 4.4, 4.5, 4.6, 4.7)*

5. Best available techniques (BAT) conclusions *(see Annex II above for the internal structure of BAT conclusions)*

6. Emerging techniques *(modified and adapted of current BREF Chapter 6)*

6.1 Common techniques

6.2 Techniques to consider in the mechanical treatments of waste

6.3 Techniques to consider in the biological treatments of waste

6.4 Techniques to consider in the physico-chemical treatments of waste

7. Concluding remarks and recommendations for future work *(current BREF Chapter 7)*