



**Conference of the Parties to the Basel Convention
on the Control of Transboundary Movements of
Hazardous Wastes and Their Disposal
Fifteenth meeting**

Geneva, 26–30 July 2021 and 6–17 June 2022*
Agenda item 4 (c) (ii)

**Matters related to the implementation of the
Convention: legal, compliance and governance
matters: providing further legal clarity**

**Recommendations by the expert working group on the review of
Annexes for possible amendment proposals to Annex IV and to
entries A1180 and B1110 in Annexes VIII and IX to the Basel
Convention, and findings of the expert working group on the
consequential implications of the review of Annex IV to the
Convention**

Note by the Secretariat

As is mentioned in the note by the Secretariat on providing further legal clarity (UNEP/CHW.15/13), annex I to the present note sets out the recommendations by the expert working group on the review of Annexes for possible amendment proposals to Annex IV and to entries A1180 and B1110 in Annexes VIII and IX to the Basel Convention, and findings of the expert working group on the consequential implications of the review of Annex IV to the Convention. These recommendations were further considered subsequently to the 5–9 October 2020 and 1–3 February 2021 sessions of the fourth meeting of the expert working group during an additional session held on 13 January 2022. Accordingly, the recommendations set out in the annex reflect the work of the expert working group as at 13 January 2022. Annex II to the present note provides a compilation, prepared by the co-chairs of the expert working group, of rationales transmitted by 11 March 2022 by members and observers of the expert working group on the recommended options for possible amendments to Annex IV to the Convention. The present note, including its annexes, has not been formally edited.

* In accordance with decisions BC-15/1, RC-10/2 and SC-10/2, the resumed meetings of the conferences of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants will be held in a face-to-face format in Geneva from 6 to 17 June 2022.

Annex I

Recommendations by the expert working group on the review of Annexes for possible amendment proposals to Annex IV and to entries A1180 and B1110 in Annexes VIII and IX to the Basel Convention, and findings of the expert working group on the consequential implications of the review of Annex IV to the Convention (status 13 January 2022)

I. Possible amendment proposals to Annex IV of the Basel Convention

1. The expert working group on the review of Annexes recommends that possible amendment proposals to Annex IV should:

- (a) Be based on one or more of the objectives of the review of the annex, as set out in the annex to decision BC-13/2, which are to:
 - (i) Improve/update the description of disposal operations in Annex IV;
 - (ii) Improve environmental controls by including additional disposal operations that occur in practice or could occur in practice in Annex IV;
 - (iii) Clarify the descriptions in Annex IV and in Annex IX (B1110) to address conflicts or overlaps;
- (b) Add a general introduction for Annex IV;
- (c) Maintain the two sections of Annex IV (section A and section B), with captions and introductions for each section;
- (d) Include new operations;
- (e) Clearly identify disposal operations that occur prior to submission to any of the operations in section A or B, respectively (interim operations);
- (f) Take into account that Annex IV relates to defining wastes and that, accordingly, it encompasses:
 - (i) Both environmentally sound and non-environmentally sound operations;
 - (ii) Operations irrespective of whether they are legal or illegal;
 - (iii) Operations regardless of whether they do not, or only rarely, occur in practice;
 - (iv) Operations regardless of whether they are relevant or not in the context of a transboundary movement;
- (g) Ensure consistency in the way operations are described in both sections of the Annex.

2. Members of the expert working group expressed different views as to whether operations not identified as “prior to submission to any of the operations in section A or B” may also be interim operations, and agreed that this matter should be further discussed.

3. The expert working group on the review of Annexes also recommends that further work on the review of Annex IV be based on the recommended options for possible amendment proposals to Annex IV set out in appendix I to the present recommendations.

3bis. In addition, the expert working group on the review of Annexes recommends that explanations or guidance should be developed to further clarify the content of the disposal operations in Annex IV.

II. Possible amendment proposals to entries A1180 and B1110 in Annexes VIII and IX to the Basel Convention

4. The expert working group on the review of Annexes recommends that possible amendment proposals to entries A1180 and B1110 in Annexes VIII and IX to the Convention should be based on the text set out in appendix II to the present recommendations.

5. The expert group provides the following explanations in relation to appendix II:

- (a) The work on entry A1180 was conceptually based on the text of entry A3210, clarifying that whole equipment and components are covered [and adding fractions from pre-treatment];
- (b) The work was based on ensuring consistency between the wording of entries A1180 and B1110 making them mirror entries, which inter alia resulted in the deletion of the first and third bullets of entry B1110;
- (c) In relation to the presence of hazardous and potentially hazardous components in equipment, two alternatives are reflected;
- (d) To include clarifying examples;
- (e) For the term “scrap”, further discussion was considered necessary, also in light of the adoption of Harmonized System codes for identifying electrical and electronic waste and scrap in the Harmonized System Nomenclature of the World Customs Organization;¹
- (f) To clarify that the entries do not cover wastes covered by other entries;
- (g) Further discussion was considered necessary on how to reflect that components which are always hazardous and components which are not always hazardous are covered;
- (h) To adjust the footnote to make reference to polybrominated biphenyls (PBBs) in addition to polychlorinated biphenyls (PCBs).

III. Findings of the expert working group on the consequential implications of the review of Annex IV to the Convention

6. The EWG initiated the review of the possible consequential implications of the review of Annex IV for other Annexes to the Convention and for relevant decisions of the Conference of the Parties, inter alia, for the notification and movement documents and the reporting format.
7. In relation to the possible consequential implications of the review of Annex IV for other Annexes, the EWG agreed that the review of Annex IV had consequential implications for entry Y48 in Annex II as well as for entries B1110 and B3011 in Annex IX.
8. The EWG also agreed that the review of Annex IV had consequential implications for the notification and movement documents, the instructions for completing these² as well as for the national reporting format³ and the manual for completing it,⁴ and that any changes to these documents should preferably be considered by the Conference of the Parties concurrently to any proposal to amend Annex IV to the Convention. The EWG further agreed that the review of Annex IV may have consequential implications on other documents such as technical guidelines and if appropriate the glossary of terms.
9. In addition, the EWG agreed that the notification and movement documents, as well as the instructions for completing these, should reflect the outcome of the discussions on the issue referred to in paragraph 2 of section I above.
10. It was furthermore agreed to:
 - (a) Reflect in the notification document that, in case an operation that occurs prior to submission to any of the operations in the respective section (interim operation) is provided in block 11, corresponding information is to be provided on any subsequent interim facilities and the related operations and on the subsequent non-interim facilities and the related operations;
 - (b) Reflect the following in the instructions for completing the notification and movements documents:
 - (i) Indicate that both sections A and B list disposal operations that occur prior to submission to any of the operations in section A or B (interim operations);
 - (ii) Indicate in the instructions on block 11 that, in case an interim operation is provided in block 11, corresponding information is to be provided on the

¹ Amendments to the HS pertaining to electrical and electronic waste and scrap as agreed by the Harmonized System Committee at its 63rd session are set out in appendix I of document UNEP/CHW.14/INF/14. The amendments entered into force on 1 January 2022.

² <http://www.basel.int/Procedures/NotificationMovementDocuments/tabid/1327/Default.aspx>.

³ <http://www.basel.int/Countries/NationalReporting/Guidance/tabid/1498/Default.aspx>.

⁴ Idem.

subsequent non-interim facilities and the related operations, and on any other subsequent interim facilities and the related operations, if applicable.

Appendix I to the recommendations by the expert working group

Recommended options for possible amendments to Annex IV

1. The following are recommended options prepared by the expert working group on the review of the Annexes during its fourth meeting (5–9 October 2020, 1–3 February 2021) for possible amendments to Annex IV. The options cover a general introduction, both the captions and introductory texts for Annex IV A and IV B, as well as the R and D operations listed in both sections of Annex IV.
2. Each R and D operation set out in Annex IV has been reviewed by the expert working group. The recommended options do not necessarily reflect the views of all the members.
3. Each option that is recommended was supported by at least one member of the expert working group. The status quo, namely the current drafting of an operation, was supported by at least one member if it is reflected as an option; when the status quo is not reflected as an option, it is because no member supported it. The options either set out modifications to existing operations, a proposed action (e.g. delete, split, merge operations) or the addition of new operations (D16 to D22, and R12quater under R12 option 2 and R14 to R17) which are listed after operations currently listed in Annex IV for ease of reference. The expert working group agreed that the ordering of the operations could be further considered.
4. The expert working group agreed that, in those cases where the status quo is retained as an option, references to “etc.” should be deleted. The group also agreed to not use “etc.” in any of the options.
5. More information on the fourth meeting of the expert working group on the review of the Annexes, including meeting documents, is available at the Basel Convention website.¹
6. The expert working group agreed that developing rationales in relation to the recommendations would be useful and could be further considered by the group. In the meantime, rationales for options put forward by members and observers can be found in the documents for the four meetings of the group and in particular the reports of the meetings as well as submissions from Parties and others contained or compiled in information documents.²

¹ See

<http://www.basel.int/Implementation/LegalMatters/LegalClarity/Meetings/4rdRAEWGmtg/tabid/8522/Default.aspx>.

² For the first meeting of the EWG, see the working documents, meeting report and information documents UNEP/CHW/RA_EWG.1/INF/2, UNEP/CHW/RA_EWG.1/INF/3 and UNEP/CHW/RA_EWG.1/INF/4 available at:

<http://www.basel.int/Implementation/LegalMatters/LegalClarity/Meetings/1stRAEWGmtg/tabid/6237/Default.aspx>.

For the second meeting of the EWG, see the working documents, meeting report and information documents UNEP/CHW/RA_EWG.2/INF/3, UNEP/CHW/RA_EWG.2/INF/5/rev.1 and UNEP/CHW/RA_EWG.2/INF/6/Rev.1 available at:

<http://www.basel.int/Implementation/LegalMatters/LegalClarity/Meetings/2ndRAEWGmtg/tabid/7690/Default.aspx>.

For the third meeting of the EWG, see the working documents, meeting report and information documents UNEP/CHW/RA_EWG.3/INF/2, UNEP/CHW/RA_EWG.3/INF/3, UNEP/CHW/RA_EWG.3/INF/4 available at: <http://www.basel.int/Implementation/LegalMatters/LegalClarity/Meetings/3rdRAEWGmtg/tabid/8108/Default.aspx>.

For the fourth meeting, see the working documents, meeting report and information documents UNEP/CHW/RA_EWG.4/INF/3, UNEP/CHW/RA_EWG.4/INF/4/rev.2, UNEP/CHW/RA_EWG.4/INF/6/rev.1 and UNEP/CHW/RA_EWG.4/INF/11 available at <http://www.basel.int/Implementation/LegalMatters/LegalClarity/Meetings/4rdRAEWGmtg/tabid/8522/Default.aspx>.

I. General introduction for Annex IV

Annex IV Disposal operations

There are two categories of disposal operations, namely [final disposal] [non-recovery] operations and recovery operations. Section A encompasses [final disposal] [non-recovery] operations and Section B recovery operations.

This Annex also covers in both sections A and B disposal operations that occur prior to submission to any of the operations in the respective section.¹

This Annex covers all disposal operations, regardless of their legal status and regardless of whether they are considered to be environmentally sound.

II. Captions and introductory texts for sections A and B of Annex IV

A. [FINAL DISPOSAL] [NON RECOVERY] OPERATIONS

A [final disposal] [non-recovery] operation is an operation which is not a recovery [or recycling] operation even where the operation has as a secondary consequence the reclamation of substances or energy.

B. RECOVERY [AND RECYCLING] OPERATIONS

A recovery [or recycling] operation is an operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.

III. Options for possible amendment proposals to Section A of Annex IV

D1 Deposit into or onto land, (e.g., landfill, etc.)

1. Deposit into or onto land, (e.g. non engineered landfill, dumpsites) other than by any operations D2 to D5, D12 or D12bis
2. *Split in 2:*

D1: Deposit onto land other than covered by D4 and D5 (e.g. permanent aboveground storage)

D1bis: Deposit into land other than covered by D12 (e.g. injection into wells, salt domes of naturally occurring repositories)

D2 Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.)

0. Status quo
1. [Treatment of land [in situ] [or through interaction with land] [other than covered by R10 in Section B] (e.g. [biodegradation or biological or chemical treatment], [landfarming])]
2. [Treatment through interaction with land [other than covered by R10 in Section B] (e.g. biodegradation of liquids or sludges in soil [, or landfarming])]

D3 Deep injection, (e.g., injection of pumpable discards into wells, salt domes of naturally occurring repositories, etc.)

1. *Delete and merge with D1*
2. Deep injection (e.g. injection into wells, salt domes of naturally occurring repositories)

¹ See operations D8, D9, D13, D14, D15, D19 and D21 in section A, and operations R12, R13 and R16 in Section B.

- D4 Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)**
1. Surface impoundment (e.g. placement of liquids or sludge into pits, [basins,] [ponds,] [or] tailing[s] dams [or lagoons])
- D5 Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)**
1. Deposit in an [aboveground] engineered landfill isolated from the environment
 2. Deposit in an engineered landfill isolated from the environment
- D6 Release into a water body except seas/oceans**
0. Status quo
- D7 Release into seas/oceans including sea-bed insertion**
0. Status quo
- D8 Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A**
1. Biological treatment [not specified elsewhere in section A,] [other than covered by ...,] prior to submission to any of the operations in Section A [(e.g. aerobic or anaerobic processes [such as activated sludge treatment, aerated lagoons and stabilisation ponds])]
- D9 Physico chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, (e.g., evaporation, drying, calcination, neutralization, precipitation, etc.)**
1. [Manual treatment (e.g. separation),] Physical/mechanical treatment [other than covered by D13] (e.g. [separation, size reduction,]evaporation, drying, [autoclaving]), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation[, oxidation, reduction]) or immobilization (e.g. stabilization, solidification[, encapsulation]) [not specified elsewhere in section A] prior to submission to any of the operations in section A.
 2. *Split in 3*
 [D9 Manual or mechanical [operations] [treatment] other than covered by D13 (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in section A.
 D9bis Physical treatment (e.g., evaporation, filtration, encapsulation) or mechanical treatment (e.g., crushing) not specified elsewhere in section A, prior to submission to any of the operations in Section A.
 D9ter Chemical treatment (e.g., neutralization, precipitation, immobilization) not specified elsewhere in section A, prior to submission to any of the operations in section A].
 3. *Split in 5:*
 D9 [Manual treatment (e.g. separation), prior to submission to any of the operations in Section A.
 D9bis Physical/mechanical treatment [other than covered by D13] (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, [microwave irradiation, sterilization], evaporation, drying, [autoclaving]), [not specified elsewhere in section A], prior to submission to any of the operations in section A.
 D9ter Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) [not specified elsewhere in section A,] prior to submission to any of the operations in Section A.
 D9quarter Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation,), [other than covered by D17] [not specified elsewhere in this section A,] prior to submission to any of the operations in section A.
 D9quinties: Immobilization techniques (e.g. stabilization, solidification [, encapsulation]) [not specified elsewhere in section A,] prior to submission to any of the operations in Section A.]

D10 Incineration on land

1. Thermal treatment [on land] [other than covered by R1 in Section B] [other than covered by [D11 and] D18 [and R1] [and R15]](e.g. incineration [, co-incineration, pyrolysis, gasification, thermal desorption, sintering and vitrification]).

D11 Incineration at sea

1. Delete and merge with D10
2. Thermal treatment at sea (e.g. incineration [, pyrolysis and gasification])

D12 Permanent storage (e.g., emplacement of containers in a mine, etc.)*1. Split in 2:*

D12 Permanent underground storage (e.g. placement of containers in a mine)

D12bis

[Permanent aboveground storage (e.g. placement of containers in a warehouse)]

[Merge with D1]

D13 Blending or mixing prior to submission to any of the operations in Section A

0. Status quo
1. [Mixing, including blending, prior to the submission to any operation in Section A]

D14 Repackaging prior to submission to any of the operations in Section A

0. Status quo

D15 Storage pending any of the operations in Section A

1. [Temporary] storage prior to submission to any of the operations in section A

NEW OPERATIONS**D16 Release to the atmosphere (e.g. venting of compressed or liquefied gases)**

[D17 Treatment by nanomaterials]

[D18 Open burning]

[D19 Sterilization or disinfection [of infectious waste] (e.g. autoclave, microwave-radio waves, physical sterilization, chemicals sterilization, steam) prior to submission to any of the operations in section A]

[D20 Other treatment than covered by D1 option 3, D2 option1, D3 option1, D5 option1, D6, D7, D10 option1, D12 and D16 above]

[D21 Other treatment than covered by D8 option 2, D9 option1, D13 option 1, and D14 above prior to submission to any of the operations in Section A]

[D22 Co-processing]

IV. Options for possible amendment proposals to Section B of Annex IV**R1 Use as a fuel (other than in direct incineration) or other means to generate energy**

1. Use as a fuel or other means to generate energy [or to reduce energy requirements]
2. Thermal treatment with the principal result to generate energy [except where covered by R15] [or to reduce energy requirements] (e.g. incineration [with energy recovery])

R2 Solvent reclamation/regeneration

0. Status quo
1. Delete and merge with R3 option1 and R5 option1
2. [Recycling[/reclamation] of solvents (e.g., distillation, filtration, centrifugation) other than covered by R9]

- R3 Recycling/reclamation of organic substances which are not used as solvents**
0. Status quo
 1. Recycling of organic substances (e.g. [regeneration,] physical/mechanical treatment, chemical treatment)
- R4 Recycling/reclamation of metals and metal compounds**
0. Status quo
 1. Recycling of metals and metal compounds (e.g. smelting, hydrometallurgy, physical/mechanical treatment [, precipitation, pyrometallurgy, distillation, metal casting])
- R5 Recycling/reclamation of other inorganic materials**
0. Status quo
 1. Recycling of inorganic materials other than covered by R4 [, ... R6, R7, R8...] (e.g. [regeneration,] physical/mechanical treatment, chemical treatment)
- R6 Regeneration of acids or bases**
0. Status quo
 1. *Delete R6 and merge with R3 option1 and R5 option1*
- R7 Recovery of components used for pollution abatement**
0. Status quo
 1. *Delete R7 and merge with R3 option1, R4 option1 and R5 option1*
 2. Recycling of components used for pollution control (e.g. recycling of activated carbon)
- R8 Recovery of components from catalysts**
0. Status quo
 1. Recycling of [components from or] catalysts (e.g. hydrometallurgy, pyrometallurgy)
 2. *Delete R8 and merge with R3 option1, R4 option1 and R5 option1*
- R9 Used oil re-refining or other reuses of previously used oil**
1. [Recycling of used oil (e.g. [filtering,]) Re-refining [of used oil]
 2. *Delete and merge with R3 option1*
 3. Recycling or re-refining mineral oil [or hydrocarbons-based oils] (e.g. filtering, distillation, other physical/chemical treatment)
- R10 Land treatment resulting in benefit to agriculture or ecological improvement**
1. Land treatment other than in D2 in Section A resulting in benefit to agriculture or ecological improvement [(e.g. valorisation of phosphorus or nitrogen content, preparation or manufacture of amendments or fertilizers, improvement of disaggregated soils without an agronomic purpose)] [(e.g. biological or chemical treatment)] [composting])]
 2. *Delete and merge with R12 quarter under R12 option 2*
 3. Deposition on land resulting in benefit to agriculture or ecological improvement (e.g. application of fertilizer or wetting agent)
- R11 Uses of residual materials obtained from any of the operations numbered R1-R10**
0. Status quo
 1. *Delete*
- R12 Exchange of wastes for submission to any of the operations numbered R1-R11**
0. Status quo
 1. *Keep status quo and add option 2 as new operations*
 2. *Split and replace by four operations mirroring D operations:
R12 (mirroring D8)*

Biological treatment [not specified elsewhere in Section B,] [other than covered by ...] prior to submission to any of the operations in Section B [(e.g. aerobic or anaerobic processes such as activated sludge treatment, aerated lagoons and stabilisation ponds)]

R12bis (*mirroring D9*)

a) [Manual treatment (e.g. separation),] Physical/mechanical treatment [other than covered by R12ter] (e.g. [separation, size reduction,] evaporation, drying, [autoclaving]), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation[, oxidation, reduction]) [not specified elsewhere in Section B] prior to submission to any of the operations in Section B

b) *Split in 3*

[R12bis(i) Manual or mechanical [operations] [treatment] other than covered by R12ter (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in Section B

R12bis(ii) Physical treatment (e.g., evaporation, filtration) or mechanical treatment (e.g., crushing) not specified elsewhere in Section B, prior to submission to any of the operations in Section B

R12bis(iii) Chemical treatment (e.g., neutralization, precipitation) not specified elsewhere in Section B, prior to submission to any of the operations in Section B]

c) *Split in 4*

[R12bis (i) Manual treatment (e.g. separation), prior to submission to any of the operations in Section B.

R12bis (ii) Physical/mechanical treatment [other than covered by R12ter] (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, [microwave irradiation, sterilization], evaporation, drying, [autoclaving]), [not specified elsewhere in Section B], prior to submission to any of the operations in Section B.

R12bis (iii) Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) [not specified elsewhere in Section B,] prior to submission to any of the operations in Section B.

R12bis (iv) Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation,), [not specified elsewhere in Section B,] prior to submission to any of the operations in Section B.]

R12ter (*mirroring D13*)

[Mixing, including blending, prior to the submission to any operation in Section B]

R12quater (*mirroring D21*)

[Other treatment than covered by R12, R12bis, R12ter and R16 above prior to submission to any of the operations in Section B.]

R13 Accumulation of material intended for any operation in Section B

1. [Temporary] storage prior to submission to any of the operations in Section B

NEW OPERATIONS

[R14 Preparing for re-use (e.g. checking, cleaning, repair, refurbishment)]

[R15 Co-processing (e.g. reducing energy requirements)]

R16 Repackaging prior to submission to any of the operations in Section B

[R17 Other treatment than covered by R1 option2, R3 option1, R4 option1, R5 option1 and R14 above]

Appendix II to the recommendations by the expert working group

Recommended option for possible amendments to A1180 and B1110

A1180

Waste electrical and electronic equipment [including scrap [thereof]]

- a) containing or contaminated with Annex I constituents (e.g. cadmium, lead, mercury, organohalogen compounds) to an extent that the waste exhibits an Annex III characteristic, or
- b) containing components included on list A or components (e.g. circuit boards, display devices) containing Annex I constituents to an extent that the waste exhibits an Annex III characteristic (e.g. mercury switches, lamps containing mercury, capacitors containing PCBs) [or]
- b) ALT with a component [included on list A or components (e.g. circuit boards, display devices)] containing Annex I constituents [so] [to an extent] that [it] [the waste] exhibits an Annex III characteristic (e.g. with glass from cathode ray tubes or a battery included on list A, a mercury switch, a lamp containing mercury, a fluorescent tube containing mercury, a capacitor containing PCBs or a component containing asbestos) or with a component (e.g. a circuit board, a display device or a plastic component containing a brominated flame retardant) containing or contaminated with Annex I constituents to an extent that [it] [the waste] exhibits an Annex III characteristic; [or]

Waste components of electrical and electronic equipment containing or contaminated with Annex I constituents to an extent that the waste exhibits an Annex III characteristic, unless covered by another entry on list A; or

Fractions from the [pre-treatment] of waste electrical and electronic equipment or waste components of electrical and electronic equipment containing or contaminated with Annex I constituents to an extent that the waste exhibits an Annex III characteristic, unless covered by another entry on list A) (note the related entry on list B B1110).¹⁰

¹⁰ PCBs or PBBs are at a concentration level of 50 mg/kg or more in equipment [,] [including scrap [thereof] or] in a component [or in a fraction].

B1110

Waste electrical and electronic equipment [including scrap [thereof]]

- a) not containing and not contaminated with Annex I constituents (e.g. cadmium, lead, mercury, organohalogen compounds) to an extent that the waste exhibits an Annex III characteristic and
- b) not containing components included on list A or components (e.g. circuit boards, display devices) containing Annex I constituents to an extent that the waste exhibits an Annex III characteristic (e.g. mercury switches, lamps containing mercury, capacitors containing PCBs) [or]
- b) ALT without any component [included on list A or components (e.g. circuit boards, display devices)] containing Annex I constituents [so] [to an extent] that [it] [the waste] exhibits an Annex III characteristic (e.g. without glass from cathode ray tubes or a battery included on list A, a mercury switch, a lamp containing mercury, a fluorescent tube containing mercury, a capacitor containing PCBs or a component containing asbestos) and without any component (e.g. a circuit board, a display device or a plastic component containing a brominated flame retardant) containing or contaminated with Annex I constituents to an extent that [it] [the waste] exhibits an Annex III characteristic; [or]

Waste components of electrical and electronic equipment not containing and not contaminated with Annex I constituents to an extent that the waste exhibits an Annex III characteristic, unless covered by another entry on list B; or

Fractions from the [pre-treatment] of waste electrical and electronic equipment or waste components of electrical and electronic equipment not containing and not contaminated with Annex I constituents to an extent that the waste exhibits an Annex III characteristic, unless covered by another entry on list B) (note the related entry on list A A1180).¹⁰

¹⁰ PCBs or PBBs are at a concentration level of less than 50 mg/kg in equipment[,] [including scrap [thereof] or] in a component [or in a fraction].

Annex II

Compilation of rationales transmitted by members and observers of the expert working group on the recommended options for possible amendments to Annex IV to the Convention (status 11 March 2022)

I. Rationales regarding captions and introductions/introductory text for Annex IV

A. General introduction for Annex IV

Currently Annex IV does not have a general introduction. The EWG recommends to include one with three paragraphs. The first paragraph contains two different drafting suggestions: the use of the wording ‘final disposal’ or the use of the wording ‘non-recovery’:

Annex IV Disposal operations			Rationale for the new general introduction	
General introduction for Annex IV				
There are two categories of disposal operations, namely [final disposal] [non-recovery] operations and recovery operations. Section A encompasses [final disposal] [non-recovery] operations and Section B recovery operations.			Canada: The proposed introduction adequately reflects the key points that required clarity when using Annex IV.	
			CEWEP: A general introduction for Annex IV improves legal clarity by distinguishing between non-recovery operations in section A of Annex IV and recovery operations in section B of Annex IV.	
		Rationale supporting	Rationale NOT supporting	
Option 1	Final disposal	Canada: The term “final disposal” operations is clear, well understood and already defined in the Glossary of Terms which identifies that final disposal may be done in more than one stage, and therefore includes interim operations.		
		US: There is universal understanding about what “disposal” means and the types of activities the term describes. Retaining use of the term provides clarity and facilitates implementation. The introductory text can explain that “final disposal” also includes interim operations as proposed by the EWG in the new introductory text to Section A and consistent with the Basel glossary of terms.		
		BIR: The term “final disposal” is clearer than the term “non-recovery”. “Non-recovery” is not consistent with existing Article 2 Definitions for Wastes or for Disposal.		

Option 2	Non-recovery		<p>Canada: The term “non-recovery operations” is vague and does not bring clarity to the Annex. Given that the term ‘final disposal’ is well understood, adding ‘Non-recovery’ creates ambiguity and does not seem to respond to any implementation challenge or need.</p>	
			<p>US: In our view, it is confusing to identify or define something by what it is not, without first clearly explaining what it is. Because there is universal understanding about the types of activities that encompass final disposal operations, we urge Parties to retain the term “final disposal”. In implementation, referring to “final disposal” operations as “non-recovery” operations could decrease clarity about the types of activities covered in Section A of Annex IV. For example, some may consider “direct reuse” to be a type of non-recovery</p>	

		operation even though that is not the intent of the proposal.	
		CEWEP supports the term “non-recovery” instead of “final disposal” because it creates confusion that “final” disposal also covers interim operations.	
			GAIA: ‘Non-recovery’ is not a good term, for reasons described by the US and Canada. But, we concur with CEWEP that final disposal appears to create a loophole with regard to interim operations and products. An example is the novel chemical recycling technologies which do not create a product of final value and invariably necessitate further upgrading along with creating additional waste streams.
<p>This Annex also covers in both sections A and B disposal operations that occur prior to submission to any of the operations in the respective section.</p>			<p>Canada: The proposed introduction provides clarity when using Annex IV.</p> <p>CEWEP: A general introduction for Annex IV improves legal clarity by distinguishing between non-recovery operations in section A of Annex IV and recovery operations in section B of Annex IV</p> <p>BIR: Simply clear and coherent with Article 2(1) Definition of “Wastes”; and Article 2(4) Definition of “Disposal”.</p>
<p>This Annex covers all disposal operations, regardless of their legal status and regardless of whether they are considered to be environmentally sound.</p>			<p>Canada: The proposed introduction provides clarity when using Annex IV.</p> <p>CEWEP: A general introduction for</p>

	<p>Annex IV improves legal clarity by distinguishing between non-recovery operations in section A of Annex IV and recovery operations in section B of Annex IV</p>
	<p>BIR: Provides very necessary advice that not all Disposal operations are legal or environmentally sound. Reference to technical guidance documents regarding the waste or the operation will be necessary to determine what is environmentally sound, and reference to national laws necessary to determine what is legal.</p>

B. Caption and introductory text for Section A

1. Caption for Section A

The EWG recommends to modify the current caption of Section A.

Current caption	Rationale to replace the current caption text
<p>A. OPERATIONS WHICH DO NOT LEAD TO THE POSSIBILITY OF RESOURCE RECOVERY, RECYCLING, RECLAMATION, DIRECT RE-USE OR ALTERNATIVE USES</p>	
<p>Proposed caption</p> <p>A. [FINAL DISPOSAL] [NON-RECOVERY] OPERATIONS</p>	<p>US: The current caption text has caused confusion about the scope of the Convention. For example, “direct reuse” is not a waste management operation since material sent for direct reuse is not a waste and is outside the scope of the Convention. Removing “direct reuse” from the caption text is consistent with the definition of “direct reuse” adopted by Parties in the Basel glossary of terms. Because there is universal understanding about the types of operations that are considered final disposal, clarity is gained by simplifying the caption text to “Final disposal operations”. The list of operations themselves will provide clarity about the waste management activities that are considered “final disposal.” Defining “final disposal” operations by what they are not in the caption</p>

			<p>text is (i.e., non-recovery) could be more confusing.</p> <p>CEWEP supports the proposed introductory text for the seek of additional clarity</p> <p>ITI: ITI supports the recommendation of the EWG to delete reference to “direct re-use” from the caption in furtherance of legal clarity. Consistent with the work completed on the Glossary of Terms and Technical Guidelines on e-waste, properly managed used equipment destined for reuse, including reuse following repair or refurbishment, are not wastes under the Convention.</p> <p>BIR: The term “final disposal” is clearer than the term “non-recovery” . “Non-recovery” is not consistent with existing Article 2 Definitions for Wastes or for Disposal.</p>
		Rationale supporting	Rationale NOT supporting
Option 1	FINAL DISPOSAL	<p>Canada: The term “final disposal” operations is clear, well understood and already defined in the Glossary of Terms which identifies that final disposal may be done in more than one stage, and therefore includes interim operations.</p> <p>US: There is universal understanding about what “disposal” means and the types of activities the term describes. Retaining use of the term provides clarity and facilitates implementation. The introductory text can explain that “final disposal” also includes interim operations as proposed by the EWG in the new introductory text to Section A and consistent with the Basel glossary of terms.</p>	
Option 2	NON-RECOVERY		<p>Canada: The term “non-recovery operations” is vague and does not bring clarity to the Annex. Given that the term ‘final disposal’ is well understood, adding ‘Non-</p>

			<p>recovery’ creates ambiguity and does not seem to respond to any implementation challenge or need.</p>	
			<p>US: It is confusing to identify or define something by what <i>it is not</i>, without first clearly explaining what <i>it is</i>. There is universal understanding about the types of activities that encompass disposal operations. In implementation, referring to “final disposal” operations as “non-recovery” operations decreases clarity about the types of activities covered in Section A of Annex IV. It is unclear what environmental benefits this proposal offers.</p>	
		<p>CEWEP supports the term “non-recovery” instead of “final disposal” because it creates confusion that “final” disposal also covers interim operations.</p>		
			<p>GAIA: ‘Final disposal’ is a better term, for reasons described by the US and Canada. But, we concur with CEWEP that final disposal appears to create a loophole with regard to</p>	

			interim operations and products. An example is the novel chemical recycling technologies which do not create a product of final value and invariably necessitate further upgrading along with creating additional waste streams.	
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2. Introductory text for Section A

The EWG recommends to modify the current introductory text for Section A.

Current introductory text			Rationale to replace the current caption text	
Section A encompasses all such disposal operations which occur in practice				
Proposed introductory text				
<p>A [final disposal] [non-recovery] operation is an operation which is not a recovery [or recycling] operation even where the operation has as a secondary consequence the reclamation of substances or energy.</p>			<p>Canada: The proposed introduction adequately reflects the key points that required clarity when using Annex IV.</p> <p>CEWEP supports the proposed introductory text for the seek of additional clarity</p> <p>BIR: The term “final disposal” is clearer than the term “non-recovery”. “Non-recovery” is not consistent with existing Article 2 Definitions for Wastes or for Disposal. Inserting “or recycling” after “recovery” is confusing as recycling is a form of recovery with the main consequence being the reclamation of substances.</p>	
First part	wording	Rationale supporting	Rationale NOT supporting	
Option 1	FINAL DISPOSAL	<p>Canada: The term “final disposal operations” is clear, well understood and already defined in the Glossary of Terms which identifies that final disposal may be done in more than one stage, and therefore includes interim operations.</p>		
		<p>US: There is universal understanding about what “final disposal” means and the types of activities the term describes. Retaining use of the term provides clarity and facilitates</p>		

		implementation. The introductory text can explain that “final disposal” also includes interim operations as proposed by the EWG in the new introductory text to Section A and consistent with the Basel glossary of terms.		
Option 2	NON-RECOVERY		<p>Canada: The term “non-recovery operations” is vague and does not bring clarity to the Annex. Given that the term ‘final disposal’ is well understood, adding ‘Non-recovery’ creates ambiguity and does not seem to respond to any implementation challenge or need.</p>	
			<p>US: As explained above, it is confusing to identify or define something by what it is not, 6 without first clearly explaining what it is. There is universal understanding about the types of activities that encompass disposal operations. In implementation, referring to “final disposal” operations as “non-recovery” operations decreases clarity about the types of activities covered in Section A of Annex IV. It is unclear what environmental</p>	

			benefits this proposal offers.	
		<u>CEWEP</u> supports the term “non-recovery” instead of “final disposal” because it creates confusion that “final” disposal also covers interim operations.		
Second part		Rationale supporting	Rationale NOT supporting	
Option	Including ‘or recycling’	Canada: No concerns, the terminology ‘recycling’ adds clarity that complements the term ‘recovery’ and distinguishes from ‘final disposal’. ‘Recycling’ is consistent with the definition in the ‘Glossary of Terms’ which refers to recycling as being any Part B operations. This concept is already enshrined at the domestic level in Canadian regulations and as such is already implemented and understood by regulatees. To note, the terminology should remain consistent throughout.		
			US: In this sentence, “or recycling” is part of a clause to define what final disposal is not. Because all operations identified in Section B, including recycling, are considered recovery operations under the Convention, identifying recycling specifically in this introductory text as an item distinct from recovery (rather than an example of recovery) is not necessary and could cause confusion.	

C. Caption and introductory text for Section B

1. Caption for Section B

The EWG recommends to modify the current caption of Section B.

Current caption		Rationale to replace the current caption text		
B. OPERATIONS WHICH MAY LEAD TO RESOURCE RECOVERY, RECYCLING, RECLAMATION, DIRECT RE-USE OR ALTERNATIVE USES				
Proposed caption				
B. RECOVERY [AND RECYCLING] OPERATIONS		Canada: Agree with proposed caption. ‘Recycling’ is consistent with the definition in the ‘Glossary of Terms’ which refers to recycling as being any Part B operations. Addition adds clarity that distinguishes from final disposal operation. To note, the terminology should remain consistent throughout.		
		US: The current caption text has caused confusion about the scope of the Convention. For example, “direct reuse” is not a waste management operation since material sent for direct reuse is not a waste and is outside the scope of the Convention. Removing “direct reuse” from the caption text is consistent with the definition of “direct reuse” adopted by Parties in the Basel glossary of terms. The list of recovery operations will provide clarity about the type of activities that are considered recovery operations. It is not necessary to include an abbreviated list of the types of operations identified in the caption text to Section B, especially since this structure has led to legal ambiguity. Replacing the current with the proposed caption will therefore reduce confusion and improve legal clarity.		
		CEWEP supports the replacement of the current caption text		
		ITI: ITI supports the recommendation of the EWG to delete reference to “direct re-use” from the caption in furtherance of legal clarity. Consistent with the work completed on the Glossary of Terms and Technical Guidelines on e-waste, properly managed used equipment destined for reuse, including reuse following repair or refurbishment, are not wastes under the Convention.		
		Rationale supporting	Rationale NOT supporting	
Option	Including ‘AND RECYCLING’	Canada: No concerns, the terminology ‘recycling’ adds clarity that complements the term ‘recovery’ and distinguishes from ‘final disposal’. ‘Recycling’ is consistent with the definition in the ‘Glossary of Terms’ which refers to recycling as being any Part B operations. This concept is already enshrined at the domestic level in Canadian regulations and as such is already implemented and understood by regulatees.		

		To note, the terminology should remain consistent throughout.		
			US: Because all operations identified in Section B are considered recovery operations under the Convention, identifying recycling specifically as an item distinct from recovery (rather than an example of recovery) could cause confusion.	

2. Introductory text for Section B

The EWG recommends to modify the current introductory text for Section B.

Current introduction text	Rationale to replace the current caption text
Section B encompasses all such operations with respect to materials legally defined as or considered to be hazardous wastes and which otherwise would have been destined for operations included in Section A	
Proposed introduction text	
A recovery [or recycling] operation is an operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.	<p>Canada: The proposed introduction adequately reflects the key points that required clarity when using Annex IV.</p> <p>US: It is useful that the introduction text to Section B provide clarity about the scope of waste subject to the Convention similar to the existing introduction text. However, we recommend that the existing text be revised to clarify that Section B also applies to operations applied to “other waste” in addition to hazardous waste. This change would be consistent with the scope of the Convention.</p> <p>In the proposed new introduction text, it is unclear what is meant by “waste being prepared to fulfil that function”. Is this meant to encompass repair, refurbishment, and related activities as proposed in amendments to Annex IV (i.e., <i>R20: Preparing for reuse (e.g., checking, cleaning, repair, refurbishment)</i>)? We have significant concerns that this could create the impression that all used equipment sent for these purposes is considered waste under the Convention. This could disrupt trade in used equipment sent for responsible repair, refurbishment and reuse and discourage efforts to extend its useful life, reduce the generation of e-waste, and improve access to affordable, refurbished technology.</p>

			<p>CEWEP supports the replacement of the current caption text.</p> <p>It is more clear, and in addition it is important to refer to the criteria to fulfil a particular function in the plant <u>or in the wider economy</u>. The latter is necessary with regard to the energy recovery status of waste incineration plants with energy recovery as they replace fossil fuels in other facilities (in the wider economy).</p>
		Rationale supporting	Rationale NOT supporting
Option	Including ‘or recycling’	<p>Canada: No concerns, the terminology ‘recycling’ adds clarity that complements the term ‘recovery’ and distinguishes from ‘final disposal’. ‘Recycling’ is consistent with the definition in the ‘Glossary of Terms’ which refers to recycling as being any Part B operations. This concept is already enshrined at the domestic level in Canadian regulations and as such is already implemented and understood by regulatees. To note, the terminology should remain consistent throughout.</p>	
			<p>US: Because all operations identified in Section B are considered recovery operations under the Convention, identifying recycling specifically as an item distinct from recovery (rather than an example of recovery) will cause confusion.</p>

II. Rationales regarding section A of Annex IV

Options for possible amendment proposals to Section A of Annex IV Section A general	For details see the table below on "Section A details"
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D1 Deposit into or onto land, (e.g., landfill, etc.)		Rationale (compared to the status quo and if appropriate to other options)		Rationale, if appropriate, against an option
	No status quo			
Option 1	D1. Deposit into or onto land, (e.g. non engineered landfill, dumpsites) other than by any operations D2 to D5, D12 or D12bis	Canada: The additional language "non- engineered landfill" and "dumpsites" brings clarity by providing descriptions of the operation, which suggest that this operation is not environmentally sound. Clarification prevents overlaps with other operations.		
		HWE: The added words greatly improve the clarity of D1		
Option 2 Split in 2: D1: Deposit onto land other than covered by D4 and D5 (e.g. permanent aboveground storage) and D1bis: Deposit into land other than covered by D12 (e.g. injection into wells, salt domes of naturally occurring repositories)				Canada: Proposal would have the effect of reducing the scope of the Convention by not capturing dumpsites and non-engineered landfills. D1 bis creates overlap with other D entries, thus decreasing legal certainty.
				US: Under this proposal, it is unclear what operation would cover non-engineered landfills. (See proposals for D5 which are specific to engineered landfills). Without additional clarity, option D1bis could be interpreted to cover non-engineered landfills <i>and</i> injection into wells and salt domes which could lead to adverse environmental outcomes. Given

		<p>the unique risks involved in injecting hazardous waste into wells, and depositing hazardous waste in salt domes, these practices should be clearly covered by a specific operation, such as under the current D3: Deep injection (e.g., injection of pumpable discards into wells, salt domes of naturally occurring repositories, etc.) Furthermore, splitting the two types of operations identified by D1 and D1bis using the prepositions “onto” and “into” will be confusing especially given translation considerations.</p>	
		<p><u>HWE:</u> Unnecessary details</p>	
		<p><u>GAIA:</u> Caution is recommended with regard to expressing reference to ‘engineered landfill’ (as in Option 1), and so Option 2 is slightly preferred, although why is D2 not mentioned? Rationale: in practice there exists a broad spectrum of how countries apply the term ‘engineered landfill’. Some operate it diligently with small lined cells; others dump it in open quarries and consider it ‘engineered’ by covering it with a layer of sand.</p>	

		These so-called 'engineered landfills' are essentially dumpsites with conflagrations and leachate to groundwater.	
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D2 Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.)		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
Option 0	Status quo		
Option 1	D2. Treatment of land	<p>HWE: Improves the description and clarity of this operation by specifying that D2 covers only the treatment of land: D2 is an in situ soil remediation.</p>	<p>Canada: Treatment of land is unclear, it may imply an in-situ operation, which by definition is not subject to transboundary movement and therefore outside the scope of the Convention (Article 1), or that ecological benefit or improvement occurs which overlaps with current R10 operation, or that land itself is the waste material which is not consistent with how final disposal operations are described.</p> <p>US: This proposal implies that the land is being treated and not waste, which is opposite of how the operation is implemented. Land treatment means the treatment of waste (using biodegradation, etc.) on land. In other words, the effect is on the waste, not on the land.</p>

Option 2	D2. Treatment through interaction with land (e.g. biodegradation of liquids or sludges in soil)	Canada: Clarifies treatment of waste is accomplished by using the land and not specifically the treatment of the land itself. Terminology does not change the scope of the operation and is consistent with the application. Further assessment is needed to assess if interaction is the appropriate term.		D2. [Treatment through interaction with land [other than covered by R10 in Section B] (e.g. biodegradation of liquids or sludges in soil [, or landfarming])]
		US: This option provides more clarity than Option 1		
			GAIA: This is a better option. It gives clarity and differentiates from D1. It seems worthwhile to include the term 'other than covered by R10 in Section B'.	

D3 Deep injection, (e.g., injection of pumpable discards into wells, salt domes of naturally occurring repositories, etc.)		Rationale (compared to the status quo and if appropriate to other options)		Rationale, if appropriate, against an option
	No status quo			
Option 1	Delete and merge with D1 (option 2, D1 bis)		<p>Canada: D3 and D1 should not be merged as they are technically different. The disposal of waste in a landfill cannot be transposed to the disposal of waste by deep injection.</p> <p>US: Given the unique risks involved in injecting hazardous waste into wells, and depositing hazardous waste in salt domes, these practices should be clearly covered by a specific operation, such as under the current D3: Deep injection (e.g., injection of pumpable discards into wells, salt</p>	no details

			domes of naturally occurring repositories, etc.). Also see comments for D1 bis, option 2.	
			HWE: Merging D3 with D1 or any other code would reduce clarity, traceability, information available for competent authorities and make shipments and environmental controls more difficult.	
Option 2	D3. Deep injection (e.g. injection into wells, salt domes of naturally occurring repositories)	Canada: Terminology is consistent with how this operation is used in practice in Canada. We support deleting the reference to ‘pumpable discards’. Deep injection should remain a separate operation and not be merged.		no details
		HWE: Clearer		

D4 Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
	No status quo		
Option 1	D4. Surface impoundment (e.g. placement of liquids or sludge into pits or tailing dams)	Canada: Terminology is consistent with how this operation is used in practice in Canada. Examples listed are relevant but not exhaustive. Changes to the scope of the Convention are not anticipated. Note: Caveat in Operation D8 should remain (i.e. not specified elsewhere in this Annex) so as to avoid overlap with this operation.	D4 Surface impoundment (e.g. placement of liquids or sludge into pits, [basins,] [ponds,] [or] tailing[s] dams [or lagoons])

	D5 Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)	Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
	No status quo			
Option 1	D5. Deposit in an [aboveground] engineered landfill isolated from the environment	<p>HWE: The words ‘deposit’ and ‘aboveground’ improve clarity</p>	<p>Canada: Addition of ‘aboveground’ decreases legal certainty. Landfilling can be accomplished ‘in’ or ‘on’ land. This appears to reduce the scope of the Convention as engineered landfills that are built into land seem to be excluded with the inclusion of “aboveground” . .</p>	no details
			<p>US: The term “aboveground” in the context of landfills (engineered or non-engineered) is confusing. Land is excavated to construct a landfill and bury waste in the ground and so landfills are generally considered to be “underground.” It is unclear what types of operations are meant to be covered by aboveground engineered landfills and what the benefits are of including the term “aboveground” in this context. We suggest deleting the term “aboveground” for improved clarity.</p>	
			<p>GAIA: As per GAIA’s comments to D1: Caution is recommended with regard to expressing reference to ‘engineered landfill’ because</p>	

			there is a broad spectrum of how countries apply the term. The newly proposed options could create more confusion than the status quo. The terms in option 1: 'above ground' could differentiate from D1	
Option 2	D5. Deposit in an engineered landfill isolated from the environment	Canada: Terminology is consistent with how this operation is used in practice in Canada.		no details
		HWE: Option 2 also acceptable		

D8 Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
	No status quo			
Option 1	D8 Biological treatment prior to submission to any of the operations in Section A		Canada: Option 1 is incomplete, as the concept 'not specified elsewhere in this Annex' is not included which will lead to overlap between entries and legal uncertainty.	D8 Biological treatment [not specified elsewhere in section A,] [other than covered by ...,] prior to submission to any of the operations in Section A [(e.g. aerobic or anaerobic processes [such as activated sludge treatment, aerated lagoons and stabilisation ponds])]
			HWE: Biological treatment can also be a final treatment, even if some residues are generated as for all kinds of other operations considered as final operation. For instance, biological treatment of wastewaters via activated sludge treatment can generate clear water directly discharged into water bodies and sludges	

			appropriately disposed of by means of other operations in Section A or B. The same is true for incineration or any recycling operation. The wording of option 1 does not encompass final biological treatment, which is on the contrary covered by status quo.	
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D9 Physico chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, (e.g., evaporation, drying, calcination, neutralization, precipitation, etc.)		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
	No status quo			
Option 1	D9. Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation) or immobilization (e.g. stabilization, solidification) prior to submission to any of the operations in section A.	Canada: Additional language provides clarity without requiring additional entries (i.e. new operations). The simplicity provided by this approach is preferred. Terminology is consistent with the Technical Guidelines on physico-chemical treatment/biological treatment (D8-D9) which provide detailed guidance on operations currently considered to be captured by D9. The scope of the Convention remains the same which in the case of this entry is appropriate.	Canada: Option 1 is incomplete, as the concept ‘not specified elsewhere in this Annex’ is not specified which will lead to overlap between entries and legal uncertainty.	D9 [Manual treatment (e.g. separation),] Physical/mechanical treatment [other than covered by D13] (e.g. [separation, size reduction,] evaporation, drying, [autoclaving]), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation[, oxidation, reduction]) or immobilization (e.g. stabilization, solidification[, encapsulation]) [not specified elsewhere in section A] prior to submission to any of the operations in section A.
		US: Compared to the status quo, this option more clearly articulates the range of activities that are currently covered by D9 per the Basel technical guidelines on the D9 operation. If this option is chosen, we encourage Parties to establish a way to identify the specific treatment on the notification form.		

			<p><u>HWE:</u> As waste generally undergoes several sub-operations successively or in parallel, the general code D9 better reflects such situations than detailed subcodes. However, it would be useful to elaborate a separate document, e.g. an Annex IV guidance, describing sub operations.</p>	
<p>Option 2</p>	<p>Split in 3</p>		<p><u>Canada:</u> Preference to keep D9 as a single operation, as it is not clear what are the environmental gains that will be accomplished from splitting into separate entries and that this split would lead to legislative changes, and associated implementation costs.</p>	
		<p><u>US:</u> Establishing unique operations to identify distinct types of management practices involving manual, mechanical, physical, chemical treatment facilitates better understanding during the PIC procedure of how imported waste will be managed. However, the impacts of making these operations final and not interim should be further discussed.</p>	<p><u>US:</u> Because the treatment operations identified in Option 2 do not state “prior to submission to any of the operations in Section A“, these operations would be considered final and not interim operations. Therefore, subsequent operations at different facilities would not be listed on notifications. We suggest Parties carefully consider whether to make the operations proposed under</p>	

				Option 2 interim or final operations and the impacts of these approaches.	
				HWE: As waste generally undergoes several sub-operations successively or in parallel, the general code D9 better reflects such situations than detailed subcodes. However, it would be useful to elaborate a separate document, e.g. an Annex IV guidance, describing sub operations.	
2.1	D9 Manual or mechanical treatment				[D9 Manual or mechanical [operations] [treatment] other than covered by D13 (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in section A.
2.2	D9bis Physical treatment (e.g. evaporation, filtration, encapsulation) or mechanical treatment (e.g. crushing)			US: We also note that D9bis does not distinguish immobilization techniques such as encapsulation from other physical treatment operations, which may make it more difficult for competent authorities to determine whether such techniques are appropriate for certain hazardous wastes.	no details
2.3	D9ter Chemical treatment (e.g. neutralization, precipitation, immobilization)				no details

<p>Option 3</p>	<p>Split in 5</p>		<p>Canada: Preference to keep D9 as a single operation, as it is not clear what are the environmental gains that will be accomplished from splitting into separate entries and that this split would lead to legislative changes, and associated implementation costs.</p>	
		<p>US: Establishing unique operations to identify distinct types of management practices involving manual, mechanical, physical, chemical, and immobilization techniques facilitates better understanding during the PIC procedure of how imported waste will be managed and whether the proposed importing facility is able to manage the waste in an environmentally sound manner.</p>	<p>US: As for Option 2, because the treatment operations identified in Option 3 do not state “prior to submission to any of the operations in Section A“, these operations would be considered final and not interim operations. Therefore, subsequent operations at different facilities would not be listed on notifications. We suggest Parties carefully consider whether to make the operations proposed under Option 3 interim or final operations and the impacts of these approaches. However, if the different types of operations encompassed by the current D9 are separated, it is important to clearly distinguish between the types of activities covered by each to help avoid confusion. Therefore, we suggest clarifying</p>	

			<p>the meaning of “/” in the context of physical/chemical treatment. Does the “/” mean AND (treatment using physical and chemical methods), AND/OR (physical treatment with or without chemical treatment or chemical treatment with or without physical treatment), or does it mean that the operations are limited to those that involve physical chemistry? If the latter, the drafted option may still cause confusion because the examples are an indicative and not an exhaustive list. Anticipating that there could be challenges distinguishing physical/chemical from chemical treatment operations, we welcome additional information about the benefits of establishing two separate operations to cover these activities.</p>	
			<p>HWE: As waste generally undergoes several sub-operations successively or in parallel, the general code D9 better reflects such situations than detailed subcodes. However, it would be useful to elaborate a separate document, e.g. an</p>	

			Annex IV guidance, describing sub operations.	
3.1	D9 Manual treatment (e.g. separation)	US: Given the risks involved in handling hazardous waste using manual methods, establishing a unique operation to address these activities would be more protective of human health and the environment		no details
3.2	D9bis Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying)			D9bis Physical/mechanical treatment [other than covered by D13] (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, [microwave irradiation, sterilization], evaporation, drying, [autoclaving]), [not specified elsewhere in section A], prior to submission to any of the operations in section A.
3.3	D9ter Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange)		US: In practice, it may be difficult to distinguish physical/chemical from chemical treatment operations, causing confusion. We suggest clarifying the meaning of “/” in the context of physical/chemical treatment. Does the “/” mean AND, AND/OR, or does it mean that the operations are limited to those that involve physical chemistry? If the latter, the drafted option may still cause confusion because the	no details

				examples are an indicative and not an exhaustive list. We welcome additional information about the benefits of establishing two separate operations to cover these activities	
3.4	D9quarter Chemical treatment (e.g. neutralization, precipitation, dechlorination, reduction/oxidation, flocculation).				D9quarter Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation,), [other than covered by D17] [not specified elsewhere in this section A,] prior to submission to any of the operations in section A.
3.5	D9quinties Immobilization techniques (e.g. stabilization, solidification)	US: Immobilization techniques are distinct from other treatment operations since the result is hazardous waste contained generally without altering its chemistry (e.g., either by encapsulating it in another substance or conserving it into a concrete-like mass from which leaching of constituents is unlikely or minimal). Since it's not an appropriate treatment method for all hazardous waste, establishing a separate operation can help competent authorities determine if immobilization techniques are suitable for the hazardous waste proposed for import.		US: However, the impacts of making this operation final and not interim should be further discussed. As an interim operation, subsequent operations at different facilities would not be listed on notifications.	D9quinties: Immobilization techniques (e.g. stabilization, solidification [, encapsulation]) [not specified elsewhere in section A,] prior to submission to any of the operations in Section A.]

D10 Incineration on land		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
	No status quo			
Option 1	D10. Thermal treatment (e.g. incineration)	Canada: Thermal treatment clarifies that the scope of the Convention includes all thermal treatments that could be used on hazardous	Canada: The terminology "on land" should be added to make a	D10 Thermal treatment on land [other than covered by R1 in Section B] [other than covered

		and other wastes. The concept of incineration should remain.		clear distinction with D11.	by [D11 and] D18 [and R1] [and R15]](e.g. incineration [, co-incineration, pyrolysis, gasification, thermal desorption, sintering and vitrification]).
		US: This operation encompasses additional and/or newer thermal destruction technologies (e.g., electric arc furnaces) in addition to incineration			
		US: Incinerating waste in a combustion unit on land versus incinerating waste aboard a ship at sea should be retained as distinct operations since they involve different processes and are likely subject to different requirements and environmental considerations. Given the history of incinerating waste at sea to avoid complying with air emissions standards, merging the two operations could unintentionally make it easier to engage in such waste disposal practices. We note that Parties have used D11 per data from National Reports			
		GAIA: Agree with Canada. But ‘thermal treatment will need defining.			

D11 Incineration at sea		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
	No status quo		
Option 1	Delete and merge with D10		Canada: The differentiation between land and sea thermal operations should be maintained. The technical assessment of a notification request for the disposal of hazardous waste at sea needs to take into account several additional environmental considerations and linkages (the MARPOL

			<p>Convention and London Protocol) which differ from incineration on land. To maintain legal clarity, existing environmental protection and transparency of information, D11 notifications should remain easily identifiable and the entry should not be merged with D10. Merging D10 and D11 reduces legal clarity.</p>	
			<p>US: Incinerating waste in a combustion unit on land versus incinerating waste aboard a ship at sea should be retained as distinct operations since they involve different processes and are likely subject to different requirements and environmental considerations. Given the history of incinerating waste at sea to avoid complying with air emissions standards, merging the two operations could unintentionally make it easier to engage in such waste disposal practices. We note that Parties have used D11 per data from National Reports</p>	
<p>Option 2</p>	<p>D11. Thermal treatment at sea (e.g. incineration)</p>	<p>Canada: Thermal treatment clarifies that the scope of the Convention includes all thermal treatments that could be used on hazardous and other wastes. The concept of incineration should remain to ensure consistent linkages with the</p>		<p>D11. Thermal treatment at sea (e.g. incineration [, pyrolysis and gasification])</p>

		MARPOL Convention and London Protocol.			
		GAIA: Agree with Canada. But 'thermal treatment will need defining.			

D12 Permanent storage (e.g., emplacement of containers in a mine, etc.)		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
	No status quo		
Option 1	D12. Permanent underground storage (e.g. placement of containers in a mine) and D12bis. Permanent aboveground storage (e.g. placement of containers in a warehouse)	Canada: Canada agrees with this option. Separating aboveground and underground permanent storage will preserve the scope of the Convention. There may be value for technical considerations, PIC and tracking purposes of adding these clarifications in this entry. Examples in brackets add clarity to the operation.	
		HWE: The proposed distinction is useful and improves clarity, traceability and information available for the competent authorities.	
Option 2	D12. Permanent underground storage (e.g. placement of containers in a mine) and Merge with D1 (option 2)		Canada: Permanent underground storage should be differentiated from operation D1. These two operations are technically different and the distinction should be maintained as this would preserve the scope of the Convention as well as current implementation practice.
			HWE: Merging D12 with another code would reduce clarity, traceability, information available for competent authorities and make shipments and environmental controls more difficult.

D13 Blending or mixing prior to submission to any of the operations in Section A		Rationale (compared to the status quo and if appropriate to other options)		Rationale, if appropriate, against an option
Option 0	Status quo			
Option 1	D13. [Mixing, including blending, prior to the submission to any operation in Section A]			

no details

D15 Storage pending any of the operations in Section A		Rationale (compared to the status quo and if appropriate to other options)		Rationale, if appropriate, against an option
	No status quo			
Option 1	D15. Storage prior to submission to any of the operations in section A	Canada: this terminology clarifies the temporary nature of the operation.		

D15. Temporary storage prior to submission to any of the operations in section A

NEW OPERATIONS

	Seven recommended new operations	Rationale to include new operations additional to the current operations		Rationale, if appropriate, against including a new option
1.	D16 Release to the atmosphere (e.g. venting of compressed or liquefied gases)	Canada: Adding this operation expands the scope of the Convention to accomplish environmental gains by controlling the transboundary movement of waste gases (compressed and liquefied) that may pose risk for human health and the environment Inclusion in the Convention ensures ESM obligations and facilitates enforcement. This disposal operation is currently controlled under domestic regulations in at least one Party. US: Including this operation would help clarify how the Convention applies to hazardous waste managed under this operation. Currently, “release to the atmosphere” isn’t adequately addressed in Annex IV.		
2.	[D17 Treatment by nanomaterials]			US: We have not seen evidence to suggest that treatment of waste

no details

no details

				by nanomaterials warrants a unique D operation.	
				HWE: The operations used to treat waste containing nanomaterials are similar to the operations used to treat other types of waste. D17 not useful.	
3.	[D18 Open burning]	Canada: this addition is appropriate for Annex IV which includes both ESM and non-ESM operations that occur in practice. Adding this entry will accomplish environmental gains by clarifying the applicability of the Convention to this disposal operation, and as such facilitates enforcement.			no details
4.	[D19 Sterilization or disinfection (e.g. autoclave, microwave-radio waves, physical sterilization, chemicals sterilization, steam) prior to submission to any of the operations in section A]	HWE: Useful to have a specific code for disinfection, provided the words “of infectious waste” are added.			[D19 Sterilization or disinfection [of infectious waste] (e.g. autoclave, microwave-radio waves, physical sterilization, chemicals sterilization, steam) prior to submission to any of the operations in section A]
5.	[D20 Other treatment than covered by D1 option 3, D2 option1, D3 option1, D5 option1, D6, D7, D10 option1, D12 and D16 above]	CEWEP is in favour of adding D20 to cover e.g. all the uses of the residues from waste treatment. It is necessary to include catch-all operations in Annex IV in order to cover disposal operations which are not known to date, which become available due to scientific, technical or other developments or which have otherwise not been listed in Annex IV. Catch-all operations should of course only be used if no other specific operation applies, and this could be clarified in guidance		Canada opposes creating catch-all operation as there is no environmental gain to be made from introducing them, they could lead to legal uncertainty, reduce the environmental protections afforded by the Convention and have unexpected consequences on the scope of the Convention. A clearer approach is to directly add new operations or	no details

			modify existing ones.	
			<p>US: “Catch-all” operations such as proposed D20 would reduce the information provided in notifications about the management of wastes proposed for export during the PIC procedure. This makes it more difficult and time-consuming for importing countries to determine what permitting and other requirements might apply to ensure the environmentally sound management of the imported waste(s), thereby increasing risks of mismanagement and increasing the efficiency of the PIC process.</p>	
			<p>HWE: This catch-all code would considerably undermine the traceability, the information available for competent authorities and the sovereignty of countries of destination. Opposed to the objective of the Basel Convention</p>	
6.	<p>[D21 Other treatment than covered by D8 option 2, D9 option1, D13 option 1, and D14 above prior to submission to any of the operations in Section A]</p>		<p>Canada: Adding catch-all operations could have unexpected consequences on the scope of the Convention by creating a circular definition for “disposal” and “waste”. A clearer</p>	no details

			<p>approach is to directly add new operations or modify existing ones.</p>	
			<p>US: As above, “catch-all” operations such as proposed D20 would reduce the information provided in notifications about the management of wastes proposed for export during the PIC procedure. This makes it more difficult and time-consuming for importing countries to determine what permitting and other requirements might apply to ensure the environmentally sound management of the imported waste(s), thereby increasing risks of mismanagement and increasing the efficiency of the PIC process.</p>	
			<p>HWE: This catch-all code would considerably undermine the traceability, the information available for competent authorities and the sovereignty of countries of destination. Opposed to the objective of the Basel Convention</p>	

7.	[D22 Co-processing]		<p>Canada views this operation as a recovery operation. Official Basel Convention documents state co-processing is ‘the use of suitable waste materials in manufacturing processes for the purpose of energy and/or resource recovery and resultant reduction in the use of conventional fuels and/or raw materials through substitution’.</p>	no details
			<p>US: It would be helpful to have additional information about what other types of operations could be covered by R15 to determine whether establishing this operation could introduce confusion</p>	
			<p>HWE: Unnecessary new code. Waste disposal operations in cement kilns are fully covered by D10. D22 would only confuse Annex IV.</p>	
			<p>CEWEP does not support the introduction of the new operation D22: Coprocessing. The rationale can be found in the Template rationes section B</p>	
			<p>In CEMBUREAU’s view the term co-processing refers to both valorization of energy and utilization of materials and</p>	

			therefore shall not be considered as a Disposal operation. The inclusion of „co-processing“ as new Recovery shall be enough to cover the existing practices in waste shipments for this purpose.
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Options for possible amendment proposals to Section A of Annex IV
Section A details

D2 Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.)					
Option 0	Status quo				
Option 1	D2. Treatment of land				
Option 1 with all details	D2. [Treatment of land [in situ] [or through interaction with land] [other than covered by R10 in Section B] (e.g. [biodegradation or biological or chemical treatment], [landfarming])]	Including	Rationale	NOT Including	Rationale
1.a.	D2. [Treatment of land [in situ]]	in situ	HWE: "in situ" is necessary to differentiate from the treatment of excavated soil in a waste treatment facility, which comes under e.g. D5, D8, D9 or D10.	in situ	Canada: An in-situ operation is, by definition, outside the scope of the Convention (Article 1) and can never be subject to transboundary movement. This terminology should not be included to avoid legal uncertainty.
1.b.	D2. [Treatment of land or through interaction with land]	or through interaction with land	Canada: Option 2, treatment through interaction with land brings forward the correct concept that the waste is being treated by the land. Further assessment is needed if interaction is the appropriate term.	or through interaction with land	
1.c.	D2. [Treatment of land other than covered by R10 in Section B]	a reference to R10	If treatment of land is agreed upon, a reference to R10 may be needed to distinguish the two operations.	a reference to R10	
1.d.	D2. [Treatment of land (e.g. [biodegradation or biological or chemical treatment])]	example biodegradation or biological or chemical treatment		example biodegradation or biological or chemical treatment	
1.e.	D2. [Treatment of land (e.g. landfarming)]	example landfarming		example landfarming	Canada: Technical Guidelines (D8/D9)

						<p>indicate this is a D8 operation.</p> <p>HWE: Landfarming is not an operation for the treatment of land. This example is not consistent with the intended definition of this operation. In addition, landfarming shall be only considered as a recovery operation otherwise, depending on the region/country, the land can be considered as a landfill after 1 year of deposit.</p>
Option 2	D2. Treatment through interaction with land (e.g. biodegradation of liquids or sludges in soil)					
Option 2 with all details	D2. [Treatment through interaction with land [other than covered by R10 in Section B] (e.g. biodegradation of liquids or sludges in soil [, or landfarming])]	Including	Rationale		NOT Including	Rationale
2.a.	D2. [Treatment through interaction with land [other than covered by R10 in Section B] (e.g. biodegradation of liquids or sludges in soil)	a reference to R10	Canada: Clarifies the distinction with operation R10.		a reference to R10	
2.b.	D2. [Treatment through interaction with land (e.g. biodegradation of liquids or sludges in soil, or landfarming)	example landfarming			example landfarming	HWE: Landfarming is not an operation for the treatment of land. This example is not consistent with the intended definition of this operation. In addition, landfarming shall be only considered as a recovery operation otherwise, depending on the region/country, the land can be considered as a landfill after 1 year of deposit.

D4 Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)					
	No status quo				
Option 1	D4. Surface impoundment (e.g. placement of liquids or sludge into pits or tailing dams)				
Option 1 with all details	D4. Surface impoundment (e.g. placement of liquids or sludge into pits, [basins,] [ponds,] [or] tailing[s] dams [or lagoons])	Including	Rationale	NOT Including	Rationale
1.a.	D4. Surface impoundment (e.g. placement of liquids or sludge into pits, tailing dams or basins)	example basins	Canada: Consistent with practice	example basins	Canada: Note: examples provided are not exhaustive
			HWE: The added examples clarify the perimeter covered by D4		
1.b.	D4. Surface impoundment (e.g. placement of liquids or sludge into pits, ponds or tailing dams)	example ponds	Canada: Consistent with practice	example ponds	Canada: Note: examples provided are not exhaustive, potential overlap with D6 depending on the application.
			HWE: The added examples clarify the perimeter covered by D4		
1.c.	D4. Surface impoundment (e.g. placement of liquids or sludge into pits or tailings dams)	replacing tailing by tailings	Canada: Corrects the terminology, consistent with practice	replacing tailing by tailings	
1.d.	D4. Surface impoundment (e.g. placement of liquids or sludge into pits, tailing dams or lagoons)	example lagoons	Canada: Consistent with practice	example lagoons	Canada: Note: examples provided are not exhaustive, potential overlap with D6 depending on the application.
			HWE: The added examples clarify the perimeter covered by D4		

D8 Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A					
	No status quo				
Option 1	D8 Biological treatment prior to submission to any of the operations in Section A				
Option 1 with all details	D8 Biological treatment [not specified elsewhere in section A,] [other than covered by ...,] prior to submission to any of the operations in Section A [(e.g. aerobic or anaerobic processes [such as activated sludge treatment, aerated lagoons and stabilisation ponds])]	Including	Rationale	NOT Including	Rationale
1.a.	D8 Biological treatment [not specified elsewhere in section A,] prior to submission to any of the operations in Section A	A reference to other operations of section A	Canada: Critical to include this concept to differentiate D8 from other operations that may overlap, causing legal uncertainty	A reference to other operations of section A	
1.b.	D8 Biological treatment [other than covered by ...,] prior to submission to any of the operations in Section A	A reference to other operations		A reference to other operations	
1.c.	D8 Biological treatment prior to submission to any of the operations in Section A [(e.g. aerobic or anaerobic processes)]	example aerobic or anaerobic processes		example aerobic or anaerobic processes	
1.d.	D8 Biological treatment prior to submission to any of the operations in Section A [(e.g. aerobic or anaerobic processes [such as activated sludge treatment, aerated lagoons and stabilisation ponds])]	example aerobic or anaerobic processes such as activated sludge treatment, aerated lagoons and stabilisation ponds		example aerobic or anaerobic processes such as activated sludge treatment, aerated lagoons and stabilisation ponds	

<p>D9 Physical/mechanical treatment (e.g. evaporation, drying), chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation) or immobilization (e.g. stabilization, solidification prior to submission to any of the operations in section A.</p>					
	<p>No status quo</p>				
<p>Option 1</p>	<p>D9 Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation) or immobilization (e.g. stabilization, solidification) prior to submission to any of the operations in section A.</p>				
<p>Option 1 with all details</p>	<p>D9 [Manual treatment (e.g. separation),] Physical/mechanical treatment [other than covered by D13] (e.g. [separation, size reduction,] evaporation, drying, [autoclaving]), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation[, oxidation, reduction]) or immobilization (e.g. stabilization, solidification[, encapsulation]) [not specified elsewhere in section A] prior to submission to any of the operations in section A.</p>	<p>Including</p>	<p>Rationale</p>	<p>NOT Including</p>	<p>Rationale</p>
<p>1.a.</p>	<p>D9 Manual treatment (e.g. separation), Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation) or immobilization (e.g. stabilization, solidification) prior to submission to any</p>	<p>Manual treatment (e.g. separation),</p>		<p>Manual treatment (e.g. separation),</p>	

	of the operations in section A.				
1.b.	D9 Physical/mechanical treatment [other than covered by D13] (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation) or immobilization (e.g. stabilization, solidification) prior to submission to any of the operations in section A.	a reference to D13		a reference to D13	
1.c.	D9 Physical/mechanical treatment (e.g. separation, size reduction , evaporation, drying), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation) or immobilization (e.g. stabilization, solidification) prior to submission to any of the operations in section A.	examples separation, size reduction,		examples separation, size reduction,	
1.d.	D9 Physical/mechanical treatment (e.g. evaporation, drying, autoclaving), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation) or immobilization (e.g. stabilization, solidification) prior to submission to any of the operations in section A.	example autoclaving		example autoclaving	
1.e.	D9 Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation, oxidation, reduction) or	examples oxidation, reduction		examples oxidation, reduction	

	immobilization (e.g. stabilization, solidification) prior to submission to any of the operations in section A.				
1.f.	D9 [Manual treatment (e.g. separation),] Physical/mechanical treatment [other than covered by D13] (e.g. [separation, size reduction,] evaporation, drying, [autoclaving]), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation[, oxidation, reduction]) or immobilization (e.g. stabilization, solidification[, encapsulation]) [not specified elsewhere in section A] prior to submission to any of the operations in section A.	example encapsulation		example encapsulation	
1.g.	D9 Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction), chemical treatment (e.g. neutralization, chemical precipitation) or immobilization (e.g. stabilization, solidification) not specified elsewhere in section A prior to submission to any of the operations in section A.	A reference to other operations of section A	Canada: Critical to include this concept to differentiate D9 from other operations that may overlap causing legal uncertainty.	A reference to other operations of section A	

Option 2	Split in 3: D9 Manual or mechanical treatment D9bis Physical treatment (e.g. evaporation, filtration, encapsulation) or mechanical treatment (e.g. crushing) D9ter Chemical treatment (e.g. neutralization, precipitation, immobilization)
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2.1.	D9 Manual or mechanical [operations] [treatment] other than covered by D13 (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in section A.				
2.1. with all details	D9 Manual or mechanical [operations] [treatment] other than covered by D13 (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in section A.	Considering	Rationale	NOT considering	Rationale
2.1.a.	D9 Manual or mechanical operations other than covered by D13 (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in section A.	operations		operations	
2.1.b.	D9 Manual or mechanical treatment other than covered by D13 (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in section A.	treatment		treatment	
2.2.	D9bis Physical treatment (e.g., evaporation, filtration, encapsulation) or mechanical treatment (e.g., crushing) not specified elsewhere in section A, prior to submission to any of the operations in Section A.	No details			
2.3	D9ter Chemical treatment (e.g., neutralization, precipitation, immobilization) not specified elsewhere in section A, prior to submission to any of the operations in section A].	No details			

<p>Option 3</p>	<p>Split in 5 D9 Manual treatment (e.g. separation) D9bis Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying) D9ter Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) D9quarter Chemical treatment (e.g. neutralization, precipitation, dechlorination, reduction/oxidation, flocculation). D9quinties Immobilization techniques (e.g. stabilization, solidification)</p>				
<p>3.1</p>	<p>D9 [Manual treatment (e.g. separation), prior to submission to any of the operations in Section A.</p>	<p>No details</p>			
<p>3.2.</p>	<p>D9bis Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying), prior to submission to any of the operations in section A.</p>				
<p>3.2. with all details</p>	<p>D9bis Physical/mechanical treatment [other than covered by D13] (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, [microwave irradiation, sterilization], evaporation, drying, [autoclaving]), [not specified elsewhere in section A], prior to submission to any of the operations in section A.</p>	<p>Considering</p>	<p>Rationale</p>	<p>NOT considering</p>	<p>Rationale</p>

3.2.a	D9bis Physical/mechanical treatment other than covered by D13 (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying), prior to submission to any of the operations in section A.	a reference to D13	Canada: Provides clarity.	a reference to D13	
3.2.b.	D9bis Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, microwave irradiation, sterilization , evaporation, drying), prior to submission to any of the operations in section A.	example microwave irradiation, sterilization		example microwave irradiation, sterilization	
3.3.c.	D9bis Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying, autoclaving), prior to submission to any of the operations in section A.	example autoclaving		example autoclaving	
3.2.d.	D9bis Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying, not specified elsewhere in section A , prior to submission to any of the operations in section A.	not specified elsewhere in section A	Canada: Adds clarity. Critical to maintain caveat text in order to distinguish D9 from other operations and avoid legal uncertainty.	not specified elsewhere in section A	
3.3.	D9ter Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) [not specified elsewhere in section A,] prior to submission to any of the operations in Section A.	Considering	Rationale	NOT considering	Rationale
3.3.a.	D9ter Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) not specified elsewhere in section A , prior to submission to any of the operations in Section A.	not specified elsewhere in section A	Canada: Adds clarity	not specified elsewhere in section A	
3.4.	D9quarter Chemical treatment (e.g. neutralization, precipitation, dechlorination, reduction/oxidation,				

	flocculation) prior to submission to any of the operations in section A.				
3.4. with all details	D9quarter Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation), [other than covered by D17] [not specified elsewhere in this section A,] prior to submission to any of the operations in section A.	Including	Rationale	NOT including	Rationale
3.4.a.	D9quarter Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation) prior to submission to any of the operations in section A.	example chemical	Canada: Consistent with application and the terminology in the D8/D9 Technical Guidelines.	example chemical	
3.4.b.	D9quarter Chemical treatment (e.g. neutralization, precipitation, dechlorination, reduction/oxidation, flocculation) other than covered by D17 prior to submission to any of the operations in section A.	a reference to D17	Canada: Pending the outcome of D17 this terminology may be needed for clarity.	a reference to D17	
3.4.c.	D9quarter Chemical treatment (e.g. neutralization, precipitation, dechlorination, reduction/oxidation, flocculation), not specified elsewhere in this section A , prior to submission to any of the operations in section A.	not specified elsewhere in this section A	Canada: Adds clarity	not specified elsewhere in this section A	
3.5	D9quinties: Immobilization techniques (e.g. stabilization, solidification) prior to submission to any of the operations in Section A.]				
3.5 with all details	D9quinties: Immobilization techniques (e.g. stabilization, solidification [, encapsulation]) [not specified elsewhere in section A,] prior to submission to any of the operations in Section A.]	Considering	Rationale	NOT considering	Rationale

3.5.a.	D9quinties: Immobilization techniques (e.g. stabilization, solidification, encapsulation) prior to submission to any of the operations in Section A.]	example encapsulation		example encapsulation	
3.5.b.	D9quinties: Immobilization techniques (e.g. stabilization, solidification) not specified elsewhere in section A , prior to submission to any of the operations in Section A.]	[not specified elsewhere in section A	Canada: Adds clarity	[not specified elsewhere in section A	

D10 Incineration on land					
	No status quo				
Option 1	D10 Thermal treatment (e.g. incineration).				
Option 1 with all details	D10 Thermal treatment on land [other than covered by R1 in Section B] [other than covered by [D11 and] D18 [and R1] [and R15]] (e.g. incineration [, co-incineration, pyrolysis, gasification, thermal desorption, sintering and vitrification]).	Including	Rationale	NOT Including	Rationale
1.a.	D10 Thermal treatment on land (e.g. incineration).	on land	Canada: The terminology “on land” should be added to make a clear distinction with D11.	on land	
1.a.	D10 Thermal treatment other than covered by R1 in Section B (e.g. incineration).	a reference to R1 in section B	Canada: Adds clarity. Consistent with TGs (D10) being developed. CEWEP supports this text as it clarifies that it is incineration without energy recovery HWE: Useful words to differentiate between thermal treatment with or without energy recovery	a reference to R1 in section B	
1.b.	D10 Thermal treatment other than covered by D11 (e.g. incineration).	a reference to D11		a reference to D11	Canada: D11 refers to Incineration at sea. This distinction is not required, D10 and D11

					operations should not be merged.
					HWE: With the label for D11, we don't see under which conditions we can misuse D10 at the place of D11. This precision is not necessary.
1.c.	D10 Thermal treatment other than covered by D11 and D18 (e.g. incineration).	a reference to D11 and D18	Canada: Referral to D18 provides clarity (if D18 is adopted) and should be a separate operation.	a reference to D11 and D18	Canada: D11 refers to Incineration at sea, this distinction is not required, D10 and D11 operations should not be merged. HWE: With the label for D11 and D18, we don't see under which conditions we can misuse D10 at the place of D11 or D18. This precision is not necessary.
1.d.	D10 Thermal treatment other than covered by R1 (e.g. incineration).	a reference to R1	Canada: Adds clarity. Consistent with TGs (D10).	a reference to R1	
1.e.	D10 Thermal treatment other than covered by R15 (e.g. incineration).	a reference to R15	Canada: Referral to R15 provides clarity (if R15 is adopted)	a reference to R15	HWE: R15 is unnecessary and dangerous. Waste recovery operations in cement kilns are fully covered by R1 or R5. There is no situation where energy and material recovery occur simultaneously for the same waste in equivalent proportions in a cement kiln. It would be very tempting to use R15 instead of D10 and R1 to circumvent export bans. CEWEP does not support the introduction of the new operation R15: Co-processing. See rationale in Section B
			In CEMBUREAU's view this addition shall be added to clarify for both the authorities and the operators the difference between „co-processing“ and disposal with		

			thermal treatment.		
1.f.	D10 Thermal treatment (e.g. incineration, co-incineration).	example co-incineration	CEWEP supports this text. Co-incineration would not be covered by other D operations otherwise	example co-incineration	In CEMBUREAU's view the reference to co-incineration shall not be included hereby, because the term „co-incineration“ does not refer to a disposal operation.
1.g.	D10 Thermal treatment (e.g. incineration, pyrolysis, gasification).	examples pyrolysis, gasification	CEWEP supports this text. Pyrolysis and gasification technologies are used in many industrial applications: in the chemical industry they are sometimes part of the chemical process and therefore not part of the waste management sector. In the waste industry they are sometimes used in small scale plants for very specific waste streams, and, when the generated fuel is subsequently incinerated, they have to be considered as energy recovery. If the output is instead mainly used as feedstock for a new product, then this complies with the definition of recycling. Pyrolysis are from a technical point of view thermal waste treatments (cfr. Waste Incineration BREF 2019), and generate a gas which is used to produce energy.	examples pyrolysis, gasification	

		<p>It must be clear that the reprocessing into fuels should not fall under the definition of recycling (In EU this is clear thanks to Article 3 (17) WFD) and therefore transforming plastic waste into fuels is energy recovery and should fall under R1, energy recovery. This is true even if said fuel is afterwards used as a source of energy in the manufacturing process to produce new polymers. The Industrial Emissions Directive (2010/75/EU) covers pyrolysis and gasification as waste incineration, following this definition: 40) ‘waste incineration plant’ means any stationary or mobile technical unit and equipment dedicated to the thermal treatment of waste, with or without recovery of the combustion heat generated, through the incineration by oxidation of waste as well as other thermal treatment processes, such as pyrolysis, gasification or plasma process, if the substances resulting from the treatment are subsequently</p>		
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			incinerated; Recently in EU we have noticed that some industry association has started to promote the idea that fuel production from pyrolysis and gasification of waste should be considered as “chemical recycling”. We strongly oppose this position, and believe that fuel production from waste should be covered by D10 or R1, depending on the principal result of the disposal operation.		
1.h.	D10 Thermal treatment (e.g. incineration, thermal desorption, sintering and vitrification).	examples thermal desorption, sintering and vitrification		examples thermal desorption, sintering and vitrification	HWE: The examples in this option are not the most common. It is not necessary to extend too much the list of examples. A guideline would be more relevant to more precisely list the different kinds of treatments covered by this operation

D11 Incineration at sea			
	No status quo		
Option 1	Delete and merge with D10	No details	
Option 2	D11. Thermal treatment at sea (e.g. incineration)	Including	Rationale
2.a.	D11. Thermal treatment at sea (e.g. incineration [, pyrolysis and gasification])	examples pyrolysis and gasification	

NOT Including	Rationale
examples pyrolysis and gasification	

D15 Storage pending any of the operations in Section A					
	No status quo				
Option 1	D15. Storage prior to submission to any of the operations in section A	Including	Rationale	NOT Including	Rationale
1.a.	D15. Temporary storage prior to submission to any of the operations in section A	Temporary	Canada: Provides clarity.	Temporary	
			HWE: The word "Temporary" is useful to differentiate D15 from D12		

NEW OPERATIONS					
4.	[D19 Sterilization or disinfection (e.g. autoclave, microwave-radio waves, physical sterilization, chemicals sterilization, steam) prior to submission to any of the operations in section A]	Including	Rationale	NOT Including	Rationale
4.a.	[D19 Sterilization or disinfection [of infectious waste] (e.g. autoclave, microwave-radio waves, physical sterilization, chemicals sterilization, steam) prior to submission to any of the operations in section A]	[of infectious waste]	HWE: Useful words to clarify which kind of waste undergo this kind of operation	[of infectious waste]	

III. Rationales regarding section B of Annex IV

Options for possible amendment proposals to Section B of Annex IV Section B general	For details see the table below on “Section B details”
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	R1 Use as a fuel (other than in direct incineration) or other means to generate energy	Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
	No status quo			
Option 1	R1 Use as a fuel or other means to generate energy	CEWEP supports option 1. by removing the words 'other than direct incineration', option 1 improves the existing wording in status quo, because it recognises the possibility for waste incineration to generate energy	HWE: Wording too broad. “Thermal treatment” missing.	R1. Use as a fuel or other means to generate energy [or to reduce energy requirements]
Option 2	R1 Thermal treatment with the principal result to generate energy (e.g. incineration)	US: This proposal more clearly distinguishes between incineration to generate energy from incineration where the principal purpose is to destroy and/or reduce the volume of waste.		R1. Thermal treatment with the principal result to generate energy [except where covered by R15] [or to reduce energy requirements] (e.g. incineration [with energy recovery])
		HWE: Improves the clarity. The words “Thermal treatment” are useful.		
		In CEMBUREAU ’s view the option 2 is more suitable with the addition of the text [expert where covered by R15]. The rationale is described in details under the R15 operation.		
		CEWEP supports option 2 as well, as it provides more clarity than the status quo.		
			GAIA: ‘Principal Result’ should not be present. This is because it inadvertently but immediately excludes all energy from waste plants. The waste to electricity efficiency of the best performing energy from waste incinerators is little over 0.3, thus meaning that	

			70% of the energy in waste is lost. This is a maximum, best case scenario. Though capturing some heat increases the plant's efficiency, few do this. Therefore, no incinerator has a principal result of generating energy. If the intention is to have R1 encompass EfW incinerators then 'principal result' must be removed.
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R2 Solvent reclamation/regeneration		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
Option 0	Status quo		
Option 1	Delete and merge with R3 option1 and R5 option1		<p>Canada supports status quo and sees value in retaining separate operations for R2 and R3 to accurately categorize and assess wastes for prior informed consent and the technical review during the notification process. This also provides clarity in national reports and knowledge on the fate of waste being moved across borders.</p> <p>Creating broad disposal operations could lead to operational challenges and a loss of valuable information in national reports.</p>
			<p>US: Deleting this operation will result in the loss of key information about the purpose of the transboundary movement and proposed management of imported wastes used by competent authorities to determine whether to consent or object to a notified shipment (e.g., taking into account whether the proposed destination facility has the necessary permits, capacity to manage the waste in an environmentally sound manner, etc.). Furthermore, this operation is commonly used by Parties per national reporting data from 2010, 2013 and 2016. There are no environmental benefits to deleting this operation.</p>
			<p>HWE: Deleting R2 and merging it with another code would reduce clarity, traceability, information available for competent authorities and make shipments and environmental controls more difficult.</p>

no details

Option 2	R2 Recycling of solvents (e.g., distillation, filtration, centrifugation) other than covered by R9	Canada considers that adding the term recycling could bring more clarity.	Canada supports status quo, including to maintain the terminology ‘regeneration’.	R2. Recycling/reclamation of solvents (e.g., distillation, filtration, centrifugation) other than covered by R9
			US: The terms “reclamation” and “regeneration” are also used to describe the process involved recover used solvents and are therefore should be retained to facilitate implementation. Because the term “recycling” is also used to describe these activities, adding “recycling” also improves clarity.	
			HWE: R9 does not cover operations on solvents. Unclear and unnecessary option.	

R3 Recycling/reclamation of organic substances which are not used as solvents		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
Option 0	Status quo			
Option 1	R3 Recycling of organic substances (e.g. physical/mechanical treatment, chemical treatment)		Canada supports status quo and sees value in retaining separate operations for R2 and R3 to accurately categorize and assess wastes for prior informed consent and the technical review during the notification process. This also provides clarity in national reports and knowledge on the fate of waste being moved across borders. Creating broad disposal operations could lead to operational challenges and a loss of valuable information in national reports.	R3. Recycling of organic substances (e.g. [regeneration,] physical/mechanical treatment, chemical treatment)
			US: It is unclear what types of operations/activities could be covered by “chemical treatment”. It would be helpful to include examples for clarity.	
			HWE: Depending on situations, these (sub)processes are disposal, recovery or even neutral operations. Hence, they are not discriminating criteria and mentioning them here is not helpful. However, the various situations could be illustrated in a separate document, e.g. an annex IV guidance. It is important to keep “Reclamation”, otherwise some recovery operations which are not recycling operations would be excluded (legal terminology in some countries/regions)	

			<p>CEWEP is concerned by the introduction of the term: “Chemical treatment”, A chemical treatment by which for example plastic is reprocessed e.g. into products should be covered by R3, but recycling does not include energy recovery (which is covered by R1) and should not include the reprocessing into fuels (this could be clarified e.g. in guidance).</p>	
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R4 Recycling/reclamation of metals and metal compounds		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
Option 0	Status quo			
Option 1	R4 Recycling of metals and metal compounds (e.g. smelting, hydrometallurgy, physical/mechanical treatment)		<p>Canada: Preference is for Status Quo. To note, examples in brackets create overlap with some proposals for R12 (options 1 and 2) and therefore could create legal uncertainty as to which operation applies.</p>	R4. Recycling of metals and metal compounds (e.g. smelting, hydrometallurgy, physical/mechanical treatment [, precipitation, pyrometallurgy, distillation, metal casting])
			<p>HWE: Depending on situations, these (sub)processes are disposal, recovery or even neutral operations. Hence, they are not discriminating criteria and mentioning them here is not helpful. However, the various situations could be illustrated in a separate document, e.g. an annex IV guidance. Reclamation is important otherwise some recovery operations which are not recycling operation would be excluded (legal terminology in some countries/regions)</p>	

R5 Recycling/reclamation of other inorganic materials		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
Option 0	Status quo			
Option 1	R5 Recycling of inorganic materials other than covered by R4 (e.g. physical/mechanical treatment, chemical treatment)		<p>US: It is unclear what types of operations/activities could be covered by “chemical treatment”. It would be helpful to include examples for clarity.</p>	R5. Recycling of inorganic materials other than covered by R4 [, ... R6, R7, R8...] (e.g. [regeneration,] physical/mechanical treatment, chemical treatment)
			<p>HWE: Depending on situations, these (sub)processes are disposal, recovery or even neutral</p>	

			<p>operations. Hence, they are not discriminating criteria and mentioning them here is not helpful. However, the various situations could be illustrated in a separate document, e.g. an annex IV guidance.</p> <p>Reclamation is important otherwise some recovery operations which are not recycling operation would be excluded (legal terminology in some countries/regions)</p>	
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R6 Regeneration of acids or bases		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
Option 0	Status quo		
Option 1	Delete R6 and merge with R3 option1 and R5 option1		<p>Canada supports status quo and sees value in retaining separate operations for R3, R5 and R6 to accurately categorize and assess wastes for prior informed consent and the technical review during the notification process. This also provides clarity in national reports and knowledge on the fate of waste being moved across borders.</p> <p>Creating broad disposal operations could lead to operational challenges and a loss of valuable information in national reports.</p>
			<p>US: Deleting this operation will reduce information about the purpose of the transboundary movement and proposed management of imported wastes needed by competent authorities to determine whether to consent or object to a notification (e.g., taking into account whether the proposed destination facility has the necessary permits, capacity to manage the waste in an environmentally sound manner, etc.). This operation has been commonly used by Parties per data submitted in National Reports.</p>
			<p>HWE: Deleting R6 and merging it with another code would reduce clarity, traceability, information available for competent authorities and make shipment and environmental controls more difficult</p>

no details

R7 Recovery of components used for pollution abatement		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
Option 0	Status quo		
Option 1	Delete R7 and merge with R3 option1, R4 option1 and R5 option1		Canada supports status quo and sees value in retaining separate operations for R3, R4, R5 and R7 to accurately categorize and assess wastes for prior informed consent and the technical review during the notification process. This also provides clarity in national reports and knowledge on the fate of waste being moved across borders. Creating broad disposal operations could lead to operational challenges and a loss of valuable information in national reports.
			US: Deleting this operation will reduce information about the purpose of the transboundary movement and proposed management of imported wastes needed by competent authorities to determine whether to consent or object to a notification. It is unclear what the benefits of this approach are as this operation is used by Parties per data submitted in National Reports.
			HWE: Deleting R7 and merging it with another code would reduce clarity, traceability, information available for competent authorities and make shipment and environmental controls more difficult
Option 2	R7 Recycling of components used for pollution control (e.g. recycling of activated carbon)	Canada supports status quo however, example provided in brackets may provide clarity from an R2 operation if activated carbon is regenerated using a solvent operation.	HWE: Reduces the coverage of R8 as 'Recovery' covers more situations than 'Recycling' as established by §11 of the Framework for the environmentally sound management of hazardous waste of the Basel Convention (UNEP/CHW.11/3/Add.1/Rev.1). Moreover, these concepts are clearly defined and distinguished in the legislation of certain countries/regions.

no details

R8 Recovery of components from catalysts		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
Option 0	Status quo		

Option 1	R8 Recycling of catalysts (e.g. hydrometallurgy, pyrometallurgy)		<p>Canada: Preference is for the Status Quo. For option 1, the scope of the Convention could be reduced by the removal of the terminology ‘components from’. Further analysis needed.</p>	R8. Recycling of [components from or] catalysts (e.g. hydrometallurgy, pyrometallurgy)
			<p>HWE: Reduces the coverage of R8 as ‘Recovery’ covers more situations than ‘Recycling’ as established by §11 of the Framework for the environmentally sound management of hazardous waste of the Basel Convention (UNEP/CHW.11/3/Add.1/Rev.1). Moreover, these concepts are clearly defined and distinguished in the legislation of certain Countries/regions.</p>	
Option 2	Delete R8 and merge with R3 option1, R4 option1 and R5 option1		<p>Canada supports status quo and sees value in retaining separate operations for R3, R4, R5 and R8 to accurately categorize and assess wastes for prior informed consent and the technical review during the notification process. This also provides clarity in national reports and knowledge on the fate of waste being moved across borders. Creating broad disposal operations could lead to operational challenges and a loss of valuable information in national reports.</p>	
			<p>US: Transboundary movements for the purpose of “Recovery of components from catalysts” is common practice and the R8 operation is frequently used by Parties on notifications according to data submitted in National Reports. Deleting this operation will reduce information about the purpose of the transboundary movement and proposed management of imported wastes needed by competent authorities to determine whether to consent or object to a notification. There are appear to be no environmental benefits associated with deleting this operation.</p>	
			<p>HWE: Deleting R8 and merging it with another code would reduce clarity, traceability, information available for competent authorities and make shipment and environmental controls more difficult</p>	

R9 Used oil re-refining or other reuses of previously used oil		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
	No status quo			
Option 1	R9 Re-refining of used oil	<p>Canada: The revised language provides clarity by removing the ambiguous term “reuse”. Oil directly reused would not be considered waste. The operation should focus on the re-refining of used oil.</p>		R9. [Recycling of used oil (e.g. [filtering],) Re-refining [of used oil]
		<p>HWE: The word “mineral” is necessary to differentiate from other types of used oils. “Recycling and re-refining” better encompasses material recoveries of used oil.</p>	<p>US: Deleting this operation will reduce information about the purpose of the transboundary movement and proposed management of imported wastes needed by competent authorities to determine whether to consent or object to a notification. The R9 operation is one of the most commonly used by Parties on notifications, according to data submitted by Parties in National Reports. There appear to be no environmental benefits associated with deleting this operation.</p>	
Option 2	Delete R9 and merge with R3 option1, R4 option1 and R5 option1		<p>Canada sees value in retaining separate operations for R3, R4, R5 and R9 to accurately categorize and assess wastes for prior informed consent and the technical review during the notification process. This also provides clarity in national reports and knowledge on the fate of waste being moved across borders. Creating broad disposal operations could lead to operational challenges and a loss of valuable information in national reports.</p>	no details
			<p>US: Deleting this operation will reduce information about the purpose of the transboundary movement and proposed management of imported wastes needed by competent authorities to determine whether to consent or object to a notification. The R9 operation is one of the most commonly used by Parties on notifications, according to data submitted by Parties in National Reports. There appear to be no</p>	

			environmental benefits associated with deleting this operation.	
Option 3	R9 Recycling or re-refining mineral oil (e.g. filtering, distillation, other physical/chemical treatment)	US: Adding “recycling” to and removing “reuse” from this operation improves clarity and more accurately describes activities covered by the operation.	Canada Preference is for option 1. It is unclear whether environmental gains would be made through the identification of mineral [or hydrocarbon-based] oil.	R9. Recycling or re-refining mineral oil [or hydrocarbons-based oils] (e.g. filtering, distillation, other physical/chemical treatment)

R10 Land treatment resulting in benefit to agriculture or ecological improvement		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
	No status quo			
Option 1	R10 Land treatment other than in D2 in Section A resulting in benefit to agriculture or ecological improvement		HWE: Not consistent with preferred option D2 (Treatment of land) where it concerns the treatment of a soil which is not excavated (in situ treatment). D2 is an in situ soil remediation. A soil is not a waste as long as it is not excavated, the concept of recovery in this case is not relevant.	R10. Land treatment other than in D2 in Section A resulting in benefit to agriculture or ecological improvement [(e.g. valorisation of phosphorus or nitrogen content, preparation or manufacture of amendments or fertilizers, improvement of disaggregated soils without an agronomic purpose)] [(e.g. biological or chemical treatment)] [composting]]
Option 2	Delete R10 and merge with R12 quarter under R12 option 2		Canada sees value in retaining separate operations for R10 and R12 options to accurately categorize and assess wastes for prior informed consent and the technical review during the notification process. This also provides clarity in national reports and knowledge on the fate of waste being moved across borders. Creating broad disposal operations could lead to operational challenges and a loss of valuable information in national reports.	no details
			US: Deleting this specific operation and merging it with R12 could result in adverse environmental impacts given the specific circumstances and risks involved in applying sewage sludge residues (and potentially other wastes) to land for	

			<p>agriculture or other purposes. Furthermore, deleting this operation will reduce information about the proposed management of imported wastes needed by competent authorities to determine whether to consent or object to a notification (e.g., taking into account whether this is a suitable method of managing specific wastes, and whether the proposed destination facility has capacity to manage the waste in an environmentally sound manner, etc.).</p>	
			<p>HWE: Deleting R10 and merging it with another code would reduce clarity, traceability, information available for competent authorities and make shipment and environmental controls more difficult</p>	
Option 3	<p>R10 Deposition on land resulting in benefit to agriculture or ecological improvement (e.g. application of fertilizer or wetting agent)</p>	<p>HWE: The recovery consists in the use of the agronomic quality of a waste (i.e. certain non-contaminated sewage sludges) to improve the agricultural quality of a soil.</p>		no details

R11 Uses of residual materials obtained from any of the operations numbered R1-R10		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option	
Option 0	Status quo			
Option 1	Delete	<p>HWE: Improves the legal clarity of Annex IV by removing the confusing and redundant R11 code</p>	<p>Canada supports status quo and does not support deleting this operation which is currently used by Basel Parties. Residual materials can serve useful purposes by replacing other materials (e.g. bitumen in roads, or soil used for mine reclamation). The proposed captions and introductory text for Annex IV B would clarify that residual materials must be used for a useful purpose to fall under R11. Residual materials that do not serve useful purposes would fall under an Annex IV A operation, such as D3, D4 or D5. Therefore, deleting this operation will create a gap in the Convention as waste moving for this operation would no longer be captured.</p>	no details

			<p>US: There do not appear to be any environmental benefits associated with deleting R11. Without an operation to capture this practice, it would be more difficult for Parties to track the use of residual hazardous waste from R1-R10 operations once imported and importing countries will not have all the relevant information needed to determine whether such waste will be managed in an environmentally sound manner during the PIC procedure.</p>
			<p>CEWEP agrees to delete the R11 code only if the R17 (catch-all) would be added to the list of operations to avoid any gaps</p>

R12 Exchange of wastes for submission to any of the operations numbered R1-R11		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
Option 0	Status quo		
Option 1	R12. Keep status quo and add option 2 as new operations	<p>Canada: Adding option 2 to the status quo expands the scope of the Convention and this option should be considered as adding new operations. Further evaluation needs to be undertaken for each of these new operations.</p>	<p>US: If R12 is retained and one of the proposals under Option 2 is adopted, there will likely be confusion about how what types of operations are covered under R12 and how to distinguish those from the new R operations covering mechanical/physical/chemical treatment. It would be helpful to have additional information about how this would work in practice.</p>
			<p>HWE: Depending on situations, all these interim sub-operations are disposal, recovery or even neutral operations. Hence, they are not discriminating criteria and mentioning them here is not helpful. However, the various situations could be illustrated in a separate document, e.g. an annex IV guidance.</p>
Option 2	Split and replace by four operations mirroring D operations:		<p>Canada: Splitting into separate operations creates a different scope for the Convention. First, it expands the scope by adding 4 new operations and second it could reduce the scope by removing R12 (exchange of waste) if not adequately captured by the new proposals.</p> <p>Detailed information is required to fully evaluate the implication on the scope of the Convention on the</p>

no details

			addition of these four new operations. Complete information should be provided to describe the operations and the waste streams that would be subjected to these operations.	
			HWE: Depending on situations, all these interim sub-operations are disposal, recovery or even neutral operations. Hence, they are not discriminating criteria and mentioning them here is not helpful. However, the various situations could be illustrated in a separate document, e.g. an annex IV guidance.	
2.1	R12 (mirroring D8) Biological treatment prior to submission to any of the operations in Section B.			Biological treatment [not specified elsewhere in Section B,] [other than covered by ...] prior to submission to any of the operations in Section B [(e.g. aerobic or anaerobic processes such as activated sludge treatment, aerated lagoons and stabilisation ponds)]
2.2.a	R12bis (mirroring D9) a) No splitting Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation) prior to submission to any of the operations in Section B.	US: Compared to the status quo, this option more clearly identifies a number of activities that the R12 operation is often used to describe. If this option is retained, we encourage Parties to establish a way to identify the specific type of operation on the notification form.	US: Splitting the operation can help improve understanding among competent authorities about how imported waste will be managed.	[Manual treatment (e.g. separation),] Physical/mechanical treatment [other than covered by R12ter] (e.g. [separation, size reduction,]evaporation, drying, [autoclaving]), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation[, oxidation, reduction]) [not specified elsewhere in Section B] prior to submission to any of the operations in Section B
2.2.b	R12bis (mirroring D9) b) Split in 3:	US: Establishing unique operations to identify distinct types of management practices involving manual, mechanical, physical, chemical treatment facilitates	US: In practice, it could be difficult to distinguish between the types of activities described by the sub-options to Option 2.2.b.	

		better understanding during the PIC procedure of how imported waste will be managed.		
2.2.b.i	R12bis(i) Manual or mechanical [operations] [treatment] other than covered by R12ter (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in Section B		US: In practice, it would be difficult to distinguish between the types of activities that would be covered by mechanical treatment under Option 2.2.b.i. (manual or mechanical) and mechanical treatment under Option 2.2.b.ii (physical treatment or mechanical treatment).	[R12bis(i) Manual or mechanical [operations] [treatment] other than covered by R12ter (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in Section B
2.2.b.ii	R12bis(ii) Physical treatment (e.g., evaporation, filtration) or mechanical treatment (e.g., crushing) not specified elsewhere in Section B, prior to submission to any of the operations in Section B		US: As above, in practice, it would be difficult to distinguish between the types of activities that would be covered by mechanical treatment under Option 2.2.b.i. (manual or mechanical) and mechanical treatment under Option 2.2.b.ii (physical treatment or mechanical treatment).	no details
2.2.b.iii	R12bis(iii) Chemical treatment (e.g., neutralization, precipitation) not specified elsewhere in Section B, prior to submission to any of the operations in Section B]	US: Given the unique risks involved in applying chemical treatment methods to hazardous waste, establishing a separate operation to address these activities will help Parties track transboundary movements destined for this purpose and help competent authorities ensure that importing facilities have adequate ESM capacity during the PIC procedure.		no details
2.2.c	R12bis (mirroring D9) c) Split in 4:	US: Establishing unique operations to identify distinct types of management practices involving manual, mechanical, physical, chemical treatment can facilitate better understanding during the PIC procedure of how	US: In practice, it may be difficult to distinguish physical/chemical treatment from chemical treatment, causing confusion. We suggest clarifying the meaning of “/” in the context of physical/chemical treatment. Does the “/” mean <i>AND</i> (treatment using physical <i>and</i> chemical methods), <i>AND/OR</i> (physical treatment <i>with or without</i> chemical treatment or chemical treatment <i>with or without</i> physical treatment), or does it mean that	

		imported waste will be managed.	the operations are limited to those that involve physical chemistry? If the latter, the drafted option may still cause confusion because the examples are an indicative and not an exhaustive list. We welcome additional information about the benefits of establishing two separate operations to cover these activities.	
2.2.c.i	R12bis(i) Manual treatment (e.g. separation), prior to submission to any of the operations in Section B.	US: Given the risks involved in handling hazardous waste using manual methods, establishing a unique operation to address these activities would help be more protective of human health and the environment.	US: In practice, there could be some confusion over distinguishing manual from mechanical treatment activities since there can be manual elements involved in mechanical operations. We suggest clarifying that this operation is meant to capture activities that primarily involve manual treatment to distinguish the operation from mechanical treatment operations that require some manual labor.	no details
2.2.c.ii	R12bis(ii) Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying), prior to submission to any of the operations in Section B.			no details
2.2.c.iii	R12bis(iii) Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) prior to submission to any of the operations in Section B.		US: As stated above, it may be difficult to distinguish physical/chemical from chemical treatment operations, causing confusion. We suggest clarifying the meaning of “/” in the context of physical/chemical treatment. Does the “/” mean <i>AND</i> (treatment using physical <i>and</i> chemical methods), <i>AND/OR</i> (physical treatment <i>with or without</i> chemical treatment or chemical treatment <i>with or without</i> physical treatment), or does it mean that the operations are limited to those that involve physical chemistry? If the latter, the drafted option may still cause confusion because the examples are an indicative and not an exhaustive list We welcome additional information about the benefits of establishing two separate operations to cover these activities	R12bis(iii) Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) [not specified elsewhere in Section B,] prior to submission to any of the operations in Section B.

			(physical/chemical vs. chemical treatment).	
2.2.c.iv	R12bis(iv) Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation), prior to submission to any of the operations in Section B			R12bis(iv) Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation.), [not specified elsewhere in Section B,] prior to submission to any of the operations in Section B
2.3	R12ter (mirroring D13) Mixing, including blending, prior to the submission to any operation in Section B		US: Blending and mixing can be technically considered slightly different processes, and so we would welcome additional information about why to include blending as a type of mixing. In many cases, the two terms may be used synonymously, but there are cases where blending is considered a distinct process from mixing. An alternative proposal to R12ter could be: “Mixing <i>or</i> blending, prior to...”	no details
2.4	R12quater (mirroring D21) [Other treatment than covered by R12, R12bis, R12ter and R16 above prior to submission to any of the operations in Section B.		US: The operations proposed – mechanical, manual, chemical, biological treatment – capture a very broad range of waste management operations already. The disadvantages of a “catchall operation” for treatment operations outweigh the potential benefits. “Catch-all” operations reduce the information in notifications about the management of wastes proposed for export during the PIC procedure. This makes it more difficult and time-consuming for importing countries to determine what permitting and other requirements might apply to ensure the environmentally sound management of the imported waste(s), thereby increasing risks of mismanagement and increasing the efficiency of the PIC process. If waste management technology evolves such that an additional operation needs to be added to Annex IV in the future, Parties could consider establishing a process for adding such an operation in the future.	no details

			HWE: Catch-all code. Reduces clarity, traceability, information available for competent authorities and make shipment and environmental controls more difficult
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R13 Accumulation of material intended for any operation in Section B		Rationale (compared to the status quo and if appropriate to other options)	Rationale, if appropriate, against an option
	No status quo		
Option 1	R13 Storage prior to submission to any of the operations in Section B	Canada supports this option with inclusion of ‘temporary’, which specifies the temporary nature of the operation.	R13 [Temporary] storage prior to submission to any of the operations in Section B

NEW OPERATIONS			
	Four recommended new operations	Rationale to include new operations additional to the current operations	Rationale, if appropriate, against including a new option
1.	R14 Preparing for re-use (e.g. checking, cleaning, repair, refurbishment)]		<p>Canada: As currently proposed, Canada does not support this addition. Further information is required to understand the need for this operation along with the associated environmental gains. In its current form, the entry does not offer legal clarity and could lead to a wide range of interpretations. This may inadvertently capture an undefined scope of products and wastes that would become controlled by the Convention, potentially resulting in significant trade impacts while not addressing environmental impacts. The decision to expand the Convention’s controls to materials or products not currently considered wastes under the Convention need to be assessed against the wording, relevance of the proposal, and expected implications, in particular environmental gains.</p> <p>US: Adding repair, refurbishment, and related activities (e.g., cleaning, checking) to Annex IV could create the impression that all used equipment sent for these purposes would be considered waste under the Convention. If</p>

			<p>this R14 operation is adopted together with the proposed Swiss-Ghanaian amendment to the Convention's electrical and electronic waste listings, then all used electrical and electronic equipment sent for repair, refurbishment and related activities (e.g., cleaning, checking) could be classified as waste subject to the Convention's prior informed consent requirements. Treatment of used equipment as waste would disrupt legitimate trade in used equipment sent for repair, refurbishment and reuse, and it is not clear that this disruption would result in net benefits to health and the environment. The additional administrative step of prior informed consent, which could add a couple of months or more to an export, could reduce the value of used equipment and likely discourage environmentally responsible and cost-effective practices to extend the useful life of these items. This outcome could contribute to shortened lifespans of electrical and electronic products and generate more e-waste and reduce access to affordable, refurbished products.</p>
			<p>ITI: ITI has significant concerns with this proposal. As proposed, the amendment would undermine consensus guidance in the Technical Guidelines on e-waste clarifying that electrical and electronic equipment destined for legitimate repair, refurbishment and reuse are not waste and would impede circular economy initiatives around the globe. We encourage the Parties to clarify that this proposal is not intended to disturb the guidance in the Technical Guidelines provisionally adopted at COP-14, to finalize the Technical Guidelines, to gain experience from the implementation of the Technical Guidelines and only then to consider the benefits of addressing this issue in the context of an amendment to Annex IV.</p> <p>If the Parties decide to proceed with this proposal, we urge them to revise it to make clear that it only applies to equipment that is already waste. Alternative</p>

			<p>language to do so could read, “Preparing an object or substance that has previously become waste to be used again” accompanied by a footnote reading, “This category does not include activities to repair or refurbish objects that are not waste.”</p>
<p>2.</p>	<p>[R15 Co-processing (e.g. reducing energy requirements)]</p>	<p>US: Based on the information provided by stakeholders involved in transboundary movements of hazardous waste sent for co-processing in cement kilns, it appears that establishing a unique operation for co-processing would improve clarity since currently notifiers use a combination of R1 and R5 to describe the operation, which can cause confusion during the prior informed consent procedure. Establishing a specific R code to address this common practice would seem to provide environmental benefits by facilitating competent authorities’ understanding of how wastes proposed for import are intended to be managed.</p> <p>CEMBUREAU: “R15: co-processing”, will significantly improve the clarity and simplify notifications management. Operators and the authorities will only use 1 code instead of a combination of various codes</p>	<p>US: It would be helpful to have additional information about what other types of operations could be covered by R15 to determine whether establishing this operation could introduce confusion.</p> <p>HWE: R15 is an unnecessary and dangerous code. Waste recovery operations in cement kilns are fully covered by R1 or R5. There is no situation where energy and material recovery occur simultaneously for the same waste in equivalent proportions in a cement kiln. It would be very tempting to use R15 instead of D10 and R1 to circumvent export bans. Cf. attached HWE note.</p>

		<p>operations. The new operation R15 “co-processing” is necessary for standardizing at worldwide level the simultaneous material recycling and energy recovery that happens when waste is co-processed, in cement plant or in other industries. In most cases, co-processing happens with a significant reduction of CO2 emissions of the plant itself.</p>	
			<p>CEWEP does not support the introduction of the new operation R15: Co-processing. The fact that a new code is created mainly (if not only) for waste treatment in Cement kilns is not providing any additional legal clarity, rather the contrary. This entry is already covered by R1 and R5. We believe that the Basel Convention, as well as the European legislation, should maintain a technology-neutral approach towards the recovery operations such as waste incineration or co-incineration. To ensure a level-playing field, the introduction of R15 should be avoided, as it is very technology-specific and may result into multiple requests from other industries to have their own entry as well. This is more likely the more complex and hybrid the waste treatment operations become. If added, a new R15 code will probably act like a catch-all code for all waste transfers involving a cement kiln. Even D10 operations could be artificially leveled up to R15. In fact, the current list of operations covers comprehensively the use of waste in cement kilns, with different codes depending on the kind of waste input. According to the promoters of the new code R15, co-processing would cover the situation where energy and material recovery would occur simultaneously for the same waste in equivalent proportions, i.e. falling under R1 and R5.</p>

			<p>However, from a technical point of view, this hardly happens. When waste with high calorific value is introduced at the burner, the calorific value of the waste is used to generate energy and the recovery of the ash is a secondary result, and therefore it can be qualified as R1. On the contrary, waste which is introduced at cold end (i.e. via the normal raw meal supply) cannot be qualified as R1 as such waste has no calorific value, and therefore it can be qualified as R5. When the amount of mineral residues is high, the operation may fall under R5 and not R1. Finally, waste introduction without calorific value through the burner (e.g. contaminated water and soils) can also be considered as D10 if there is no energy recovery. This distinction is also made clearly in the Cement and Lime BREF, which presents in one section (1.2.4.2) the “use of wastes as raw materials” and in another one (1.2.4.3) “Use of wastes as fuels”, presenting different types of wastes and the different introduction points</p>
			<p>GAIA: This overlaps with R1, particularly with the current proposal for including ‘thermal treatment’. The non-incineration ‘thermal’ technologies co-process and need external energy input. GAIA are opposed to this inclusion. Also, cement kilns are heavy greenhouse gas emitters and if the waste burned is from plastic then there is little or no gain from this being considered an R category. Again, this links in with climate metrics. The revised Basel Annexes should be challenging the R category descriptions to adequately reflect the global need to reduce greenhouse gas emissions (GHG), not including more R-categories where high GHG emissions occur from the burning of fossil fuels and calcium carbonate.</p>
3.	R16 Repackaging prior to submission to any of the operations in Section B	Canada: Potentially supports the concept to include an entry to address this item. However, a more detailed description of R16 is required to define which waste	

		streams may be covered by this entry and how this operation would be used in practice.	
4.	R17 Other treatment than covered by R1 option2, R3 option1, R4 option1, R5 option1 and R14 above	<p>CEWEP is in favour of adding R17 to cover e.g. all the uses of the residues from waste treatment. It is necessary to include catchall operations in Annex IV in order to cover recovery operations which are not known to date, which become available due to scientific, technical or other developments or which have otherwise not been listed in Annex IV. Examples of operations that occur in practice but are not yet listed include but are not limited to the following:</p> <p>Underground storage - where waste is serving a useful purpose by replacing other materials;</p> <p>Utilization as building material for road construction or for engineered landfills - where waste is serving a useful purpose by replacing other materials;</p> <p>Utilization for purposes of reclamation in excavated areas or for engineering purposes in landscaping - where waste is serving a useful purpose by replacing other materials. Catch-all operations should of course only be used if no other specific operation applies, and this could be</p>	<p>Canada: Adding catch-all operations could have unexpected consequences on the scope of the Convention by creating a circular definition for “disposal” and “waste”. A clearer approach is to directly add new operations or modify existing ones. It is not clear the environmental gains that will be accomplished from adding catch-all entries.</p>

		clarified in a dedicated guidance	
			<p>US: “Catch-all” operations such as R17 would result in the loss of important information from notifications about the management of wastes proposed for export during the prior informed consent process. Notifiers could use the catch-all operations code on export notifications instead of using more specific disposal or recovery operation codes that more precisely reflect how wastes proposed for export would be managed. As a result, importing countries would face greater challenges determining what permitting and other requirements might apply to ensure the environmentally sound management of the imported waste(s), thereby increasing risks of waste mismanagement. The use of “catch-alls” would likely require competent authorities in both exporting and importing countries to spend more time and resources determining how wastes proposed for export would be managed. This could result in delays in the PIC procedure at a time when Parties are processing increased numbers of notifications with the implementation of the Convention’s plastic waste amendments.</p>
			<p>HWE: This catch-all code would considerably undermine the traceability, the information available for competent authorities and the sovereignty of countries of destination. Opposed to the objective of the Basel Convention</p>

Options for possible amendment proposals to Section B of Annex IV
Section B details

R1 Use as a fuel (other than in direct incineration) or other means to generate energy					
	No status quo				
Option 1	R1. Use as a fuel or other means to generate energy	Including	Rationale	NOT Including	Rationale
1.a.	R1. Use as a fuel or other means to generate energy [or to reduce energy requirements]	or to reduce energy requirements	GAIA: This is a worthy and sensible inclusion, since it illustrates the situation where a plant does not have a positive energy balance but which offsets some of its process energy by the electricity produced on-site. The specific wording of the phrase could be tightened. However, many of the novel thermal treatment technologies operate with a net negative energy balance due to their high energy demands, and it seems counter to the concept of R-categories to include this type of technology in Section A.	or to reduce energy requirements	HWE: Redundant and misleading as one might think of insulation CEWEP does not support the introduction of this text. It is not clear what it refers to.
Option 2	R1. Thermal treatment with the principal result to generate energy (e.g. incineration)				
Option 2 with all details	R1. Thermal treatment with the principal result to generate energy [except where covered by R15] [or to reduce energy requirements] (e.g. incineration [with energy recovery])	Including	Rationale	NOT Including	Rationale

<p>2.a.</p>	<p>R1. Thermal treatment with the principal result to generate energy except where covered by R15 (e.g. incineration)</p>	<p>except where covered by R15</p>	<p>In CEMBUREAU's view this clarification shall be added, in combination to the new operation R15. The reasons for supporting are described in more details under the R15 operation page.</p>	<p>except where covered by R15</p> <p>HWE: R15 is unnecessary and dangerous. Waste recovery operations in cement kilns are fully covered by R1 or R5. There is no situation where energy and material recovery occur simultaneously for the same waste in equivalent proportions in a cement kiln. If R15 was adopted, it would be very tempting to use R15 to circumvent D10 and R1 export prohibitions. Cf. attached HWE note.</p>
<p>2.b.</p>	<p>R1. Thermal treatment with the principal result to generate energy or to reduce energy requirements (e.g. incineration)</p>	<p>or to reduce energy requirements</p>		<p>or to reduce energy requirements</p> <p>HWE: It is difficult to understand what exactly "reduce energy requirements" refers to: the installation itself, external users, etc.</p> <p>CEWEP does not support the introduction</p>

					of this text. It is not clear what it refers to.
2.c.	R1. Thermal treatment with the principal result to generate energy (e.g. incineration with energy recovery)	with energy recovery			with energy recovery

R2 Solvent reclamation/regeneration					
Option 0	Status quo				
Option 1	R2 Delete and merge with R3 option1 and R5 option1	no details			
Option 2	R2. Recycling of solvents (e.g., distillation, filtration, centrifugation) other than covered by R9	Including	Rationale	NOT Including	Rationale
2.a.	R2. Recycling/ reclamation of solvents (e.g., distillation, filtration, centrifugation) other than covered by R9	/reclamation		/reclamation	HWE: In the case of solvents, the intention is definitely recycling, not reclamation.

R3 Recycling/reclamation of organic substances which are not used as solvents					
Option 0	Status quo				
Option 1	R3. Recycling of organic substances (e.g. physical/mechanical treatment, chemical treatment)	Including	Rationale	NOT Including	Rationale
1.a.	R3. Recycling of organic substances (e.g. [regeneration,] physical/mechanical treatment, chemical treatment)	example regeneration	BIR: To be inclusive	example regeneration	

R4 Recycling/reclamation of metals and metal compounds					
Option 0	Status quo	No details			
Option 1	R4. Recycling of metals and metal compounds (e.g. smelting, hydrometallurgy, physical/mechanical treatment)	Including	Rationale	NOT Including	Rationale
1.a.	R4. Recycling of metals and metal compounds (e.g. smelting, hydrometallurgy, physical/mechanical treatment [, precipitation, pyrometallurgy, distillation, metal casting])	examples precipitation, pyrometallurgy, distillation, metal casting	BIR: To be inclusive	examples precipitation, pyrometallurgy, distillation, metal casting	

R5 Recycling/reclamation of other inorganic materials					
Option 0	Status quo	No details			
Option 1	R5. Recycling of inorganic materials other than covered by R4 (e.g. physical/mechanical treatment, chemical treatment)				
Option 1 with all details	R5. Recycling of inorganic materials other than covered by R4 [, ... R6, R7, R8...] (e.g. [regeneration,] physical/mechanical treatment, chemical treatment)	Including	Rationale	NOT Including	Rationale
1.a.	R5. Recycling of inorganic materials other than covered by R4 [, ... R6, R7, R8...] (e.g. physical/mechanical treatment, chemical treatment)	a reference to ... R6, R7, R8...		a reference to ... R6, R7, R8...	
1.b.	R5. Recycling of inorganic materials other than covered by R4 (e.g. regeneration , physical/mechanical treatment, chemical treatment)	example regeneration	BIR: To be inclusive	example regeneration	
R8 Recovery of components from catalysts					
Option 0	Status quo				
Option 1	R8. Recycling of catalysts (e.g. hydrometallurgy, pyrometallurgy)	Including	Rationale	NOT Including	Rationale
1.a.	R8. Recycling of [components from or] catalysts (e.g. hydrometallurgy, pyrometallurgy)	components from or	HWE: Useful words to clarify the kinds of waste which undergo this operation	components from or	Canada: Where the 'or' is positioned is confusing. We suggest removing the 'or'.
R9 Used oil re-refining or other reuses of previously used oil					
	No status quo				
Option 1	R9. Re-refining of used oil	Considering	Rationale	NOT Considering	Rationale
1.a.	R9. Recycling of used oil (e.g. Re-refining) of used oil	Replace re-refining by recycling and add re-refining as an example		Replace re-refining by recycling and add re-refining as an example	Canada: Re-refining provides better clarity to avoid overlap with R1, R3 (or R15 if adopted).
1.b.	R9. Recycling of used oil (e.g. filtering , Re-refining)	example filtering		example filtering	
Option 2	Delete and merge with R3 option1	no details			
Option 3	R9. Recycling or re-refining mineral oil (e.g. filtering,	Including	Rationale	NOT Including	Rationale

	distillation, other physical/chemical treatment)				
3.a.	R9. Recycling or re-refining mineral oil [or hydrocarbons-based oils] (e.g. filtering, distillation, other physical/chemical treatment)	or hydrocarbons-based oils	HWE: Useful words to clarify the kinds of waste which undergo this operation	or hydrocarbons-based oils	

R10 Land treatment resulting in benefit to agriculture or ecological improvement

No status quo

Option 1
R10. Land treatment other than in D2 in Section A resulting in benefit to agriculture or ecological improvement

Option 1 with all details
R10. Land treatment other than in D2 in Section A resulting in benefit to agriculture or ecological improvement [(e.g. valorisation of phosphorus or nitrogen content, preparation or manufacture of amendments or fertilizers, improvement of disaggregated soils without an agronomic purpose)] [(e.g. biological or chemical treatment)] [composting]]

1.a.
R10. Land treatment other than in D2 in Section A resulting in benefit to agriculture or ecological improvement (**e.g. valorisation of phosphorus or nitrogen content, preparation or manufacture of amendments or fertilizers, improvement of disaggregated soils without an agronomic purpose**)

Including

(e.g. valorisation of phosphorus or nitrogen content, preparation or manufacture of amendments or fertilizers, improvement of disaggregated soils without an agronomic purpose)

Rationale

NOT Including

(e.g. valorisation of phosphorus or nitrogen content, preparation or manufacture of amendments or fertilizers, improvement of disaggregated soils without an agronomic purpose)

Rationale

Canada: Some of the examples provided are preparatory operations and their inclusion reduces legal clarity of what this operation entails.
HWE: Some of the examples proposed are not direct land treatment but operations which are prior to land treatment. For instance preparation or manufacture of amendments or fertilizers. This

					operation who better fit with R5
1.b.	R10. Land treatment other than in D2 in Section A resulting in benefit to agriculture or ecological improvement (e.g. biological or chemical treatment)	e.g. biological or chemical treatment			<p>Canada: Examples appear to conflict with D8 and D9 and potentially options for R12 if adopted.</p> <p>HWE: It is unlikely that chemical treatments provide agriculture or ecological improvement</p>
1.c.	R10. Land treatment other than in D2 in Section A resulting in benefit to agriculture or ecological improvement (e.g. composting)	e.g. composting			
Option 2	R10. Delete and merge with R12 quarter under R12 option 2	no details			
Option 3	R10. Deposition on land resulting in benefit to agriculture or ecological improvement (e.g. application of fertilizer or wetting agent)	no details			

R11 Uses of residual materials obtained from any of the operations numbered R1-R10		
Option 0	Status quo	
Option 1	Delete	no details

R12 Exchange of wastes for submission to any of the operations numbered R1-R11					
Option 0	Status quo				
Option 1	R12 Keep status quo and add option 2 as new operations	no details			
Option 2 split in 4	R12 Split and replace by four operations mirroring D operations:				
2.1	R12 (mirroring D8) Biological treatment prior to submission to any of the operations in Section B				
2.1 with all details	R12 Biological treatment [not specified elsewhere in Section B,] [other than covered by ...] prior to submission to any of the operations in Section B [(e.g. aerobic or anaerobic processes such as activated sludge treatment, aerated lagoons and stabilisation ponds)]	Including	Rationale	NOT Including	Rationale
2.1.a	R12 Biological treatment [not specified elsewhere in Section B,] prior to submission to any of the operations in Section B	not specified elsewhere in Section B		not specified elsewhere in Section B	
2.1.b	R12 Biological treatment [other than covered by ...] prior to submission to any of the operations in Section B	other than covered by ...		other than covered by ...	
2.1.c	R12 Biological treatment prior to submission to any of the operations in Section B [(e.g. aerobic or anaerobic processes such as activated sludge treatment, aerated lagoons and stabilisation ponds)]	(e.g. aerobic or anaerobic processes such as activated sludge treatment, aerated lagoons and stabilisation ponds)		(e.g. aerobic or anaerobic processes such as activated sludge treatment, aerated lagoons and stabilisation ponds)	
2.2	R12bis (mirroring D9), three alternatives				
2.2.a	R12bis (mirroring D9) Option a) no splitting				
2.2.b	R12bis (mirroring D9) Option b) split in 3				
2.2.c	R12bis (mirroring D9) Option c) split in 4				
2.2.a no splitting	R12bis(i) Manual or mechanical operations other than covered by R12ter (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in Section B				

2.2.a no splitting, with all details	[Manual treatment (e.g. separation),] Physical/mechanical treatment [other than covered by R12ter] (e.g. [separation, size reduction,]evaporation, drying, [autoclaving]), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation[, oxidation, reduction]) [not specified elsewhere in Section B] prior to submission to any of the operations in Section B	Including	Rationale	NOT Including	Rationale
2.2.a.a.	R12bis [Manual treatment (e.g. separation),] Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation) prior to submission to any of the operations in Section B	Manual treatment (e.g. separation)		Manual treatment (e.g. separation)	
2.2.a.b.	R12bis Physical/mechanical treatment [other than covered by R12ter] (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation) prior to submission to any of the operations in Section B	other than covered by R12ter		other than covered by R12ter	
2.2.a.c.	R12bis Physical/mechanical treatment (e.g. [separation, size reduction,]evaporation, drying), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation) prior to submission to any of the operations in Section B	examples separation, size reduction		examples separation, size reduction	
2.2.a.d.	R12bis Physical/mechanical treatment (e.g. evaporation, drying, [autoclaving]), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation) prior to submission to any of the operations in Section B	example autoclaving		example autoclaving	
2.2.a.e.	R12bis Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction) or chemical	examples oxidation, reduction		examples oxidation, reduction	

	treatment (e.g. neutralization, chemical precipitation, oxidation, reduction) prior to submission to any of the operations in Section B				
2.2.a.f.	R12bis Physical/mechanical treatment (e.g. evaporation, drying), physical/chemical treatment (e.g. solvent extraction) or chemical treatment (e.g. neutralization, chemical precipitation) [not specified elsewhere in Section B] prior to submission to any of the operations in Section B	not specified elsewhere in Section B		not specified elsewhere in Section B	
2.2.b					
2.2.b.i	R12bis(i) Manual or mechanical operations other than covered by R12ter (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in Section B				
2.2.b.i. with all details	[R12bis(i) Manual or mechanical [operations] [treatment] other than covered by R12ter (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in Section B	Including	Rationale	NOT Including	Rationale
2.2.b.i.a	[R12bis(i) Manual or mechanical [operations] [treatment] other than covered by R12ter (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in Section B	maintain operations		maintain operations	
2.2.b.i.b	[R12bis(i) Manual or mechanical [operations] [treatment] other than covered by R12ter (e.g. dismantling, sorting, crushing, compacting, shredding, separating) prior to submission to any of the operations in Section B	replace operations by treatment		replace operations by treatment	
2.2.b.ii	R12bis(ii) Physical treatment (e.g., evaporation, filtration) or mechanical treatment (e.g., crushing) not specified elsewhere in Section B, prior to submission to any of the operations in Section B	no details			
2.2.b.iii	R12bis(iii) Chemical treatment (e.g., neutralization, precipitation) not specified elsewhere in Section B, prior to submission to any of the operations in Section B]	no details			

2.2.c					
2.2.c.i	R12bis(i) Manual treatment (e.g. separation), prior to submission to any of the operations in Section B.	no details			
2.2.c.ii	R12bis(ii) Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying), prior to submission to any of the operations in Section B.	no details			
2.2.c.ii with all details	R12bis(ii) Physical/mechanical treatment [other than covered by R12ter] (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, [microwave irradiation, sterilization], evaporation, drying, [autoclaving]), [not specified elsewhere in Section B], prior to submission to any of the operations in Section B.	Including	Rationale	NOT Including	Rationale
2.2.c.ii.a.	R12bis(ii) Physical/mechanical treatment [other than covered by R12ter] (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying), prior to submission to any of the operations in Section B.	other than covered by R12ter		other than covered by R12ter	
2.2.c.ii.b.	R12bis(ii) Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, [microwave irradiation, sterilization], evaporation, drying), prior to submission to any of the operations in Section B.	example microwave irradiation, sterilization		example microwave irradiation, sterilization	
2.2.c.ii.c.	R12bis(ii) Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying, [autoclaving]), prior to submission to any of the operations in Section B.	example autoclaving		example autoclaving	
2.2.c.ii.d.	R12bis(ii) Physical/mechanical treatment (e.g. size reduction, physical sorting, air classification, flotation, evaporation, distillation, soil flushing, evaporation, drying), [not specified elsewhere in Section B], prior to submission	not specified elsewhere in Section B		not specified elsewhere in Section B	

	to any of the operations in Section B.				
2.2.c.iii	R12bis(iii) Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) prior to submission to any of the operations in Section B.	Including	Rationale	NOT Including	Rationale
2.2.c.iii.a	R12bis(iii) Physical/chemical treatment (e.g. solvent extraction, desorption, leaching, ion exchange) [not specified elsewhere in Section B,] prior to submission to any of the operations in Section B.	not specified elsewhere in Section B		not specified elsewhere in Section B	
2.2.c.iv	R12bis(iv) Chemical treatment (e.g. neutralization, precipitation, dechlorination, reduction/oxidation, flocculation) prior to submission to any of the operations in Section B				
2.2.c.iv with all details	R12bis(iv) Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation,), [not specified elsewhere in Section B,] prior to submission to any of the operations in Section B	Including	Rationale	NOT Including	Rationale
2.2.c.iv.a	R12bis(iv) Chemical treatment (e.g. neutralization, [chemical] precipitation, dechlorination, reduction/oxidation, flocculation,), prior to submission to any of the operations in Section B	chemical		chemical	
2.2.c.iv.b	R12bis(iv) Chemical treatment (e.g. neutralization, precipitation, dechlorination, reduction/oxidation, flocculation,), [not specified elsewhere in Section B,] prior to submission to any of the operations in Section B	not specified elsewhere in Section B		not specified elsewhere in Section B	
2.3	R12ter (mirroring D13) [Mixing, including blending, prior to the submission to any operation in Section B]	no details			
2.4	R12quater (mirroring D21) [Other treatment than covered by R12, R12bis, R12ter and R16 above prior to submission to any of the operations in Section B.]	no details			

R13 Accumulation of material intended for any operation in Section B					
Option 1	R13 storage prior to submission to any of the operations in Section B	Including	Rationale	NOT Including	Rationale
1.a.	R13 [Temporary] storage prior to submission to any of the operations in Section B	Temporary	<p><u>Canada</u> supports inclusion of ‘temporary’, which specifies the temporary nature of the operation.</p> <p><u>HWE</u>: ”Temporary” is necessary to differentiate from permanent storage, which is a disposal operation (D1 to D5)</p>	Temporary	