

TOR Reference No.: 2017/07	Author(s): Marina de Gier/Walter Pirstinger
Version: 1	Date: 20 October 2016
TERMS OF REFERENCE FOR WORK UNDER THE AUSPICES OF IMPEL	

1. Work type and title

1.1 Identify which Expert Team this needs to go to for initial consideration	
Industry	<input type="checkbox"/>
Waste and TFS	<input checked="" type="checkbox"/>
Water and land	<input type="checkbox"/>
Nature protection	<input type="checkbox"/>
Cross-cutting – tools and approaches -	<input type="checkbox"/>
1.2 Type of work you need funding for	
Exchange visits	<input type="checkbox"/>
Peer reviews (e.g. IRI)	<input type="checkbox"/>
Conference	<input type="checkbox"/>
Development of tools/guidance	<input checked="" type="checkbox"/>
Comparison studies	<input checked="" type="checkbox"/>
Assessing legislation (checklist)	<input checked="" type="checkbox"/>
Other (please describe):	<input type="checkbox"/>
Sharing best practises and giving feed back to the Commission regarding implementation and enforcement difficulties	<input checked="" type="checkbox"/>
1.3 Full name of work (enough to fully describe what the work area is)	
<p>Improving the implementation and enforcement of the WEEE-Directive. The focus of this project will be on:</p> <ul style="list-style-type: none"> • Annex VI of the WEEE Directive, developing an uniform enforcement strategy; • To share knowledge on how to deal with the hazardous substances (BFRs) in WEEE in relation to recycling with a focus on the role and possibilities for enforcement authorities; • Classification of E-Waste, making an overview how WEEE is classified and developing an uniform guideline on classification; • To identify how inspections (can) play a role in improving the reported figures regarding number of producers and importers, EEE put on the market and collection and recycling targets. 	
1.4 Abbreviated name of work or project	
WEEE implementation and enforcement	

2. Outline business case (why this piece of work?)

2.1 Name the legislative driver(s) where they exist (name the Directive, Regulation, etc.)

European Waste Shipment Regulation (EC) No 1013/2006

- *The enforcement activities are based on the EC Regulation (EC) No 1013/2006 on the supervision and control of shipments of waste within, into and out of the European Community. This is directly applicable in all Member States of the EU. Article 50 requires Member States to enforce the regulation and to check shipments and to cooperate bilaterally or multilaterally with one another in order to facilitate the prevention and detection of illegal shipments. The “revised burden of proof” has been laid down.*
- *According to the Regulation (EU)660/2014 from 16 May 2014 amending WSR 1013/2006 member states shall cooperate bilaterally and multilaterally in one another to facilitate the prevention and detection of illegal shipments.*

Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

- *The available evidence indicates that measures on the collection, treatment, recycling and disposal of waste electrical and electronic equipment (WEEE) as set out in Directive 2002/96/EC of 27 January 2003 of the European Parliament and of the Council on waste electrical and electronic equipment (6) are necessary to reduce the waste management problems linked to the heavy metals concerned and the flame retardants concerned. In spite of those measures, however, significant parts of WEEE will continue to be found in the current disposal routes. Even if WEEE were collected separately and submitted to recycling processes, its content of mercury, cadmium, lead, chromium VI, PBB and PBDE would be likely to pose risks to health or the environment.*

DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS recast)

- *Restricted substances referred to in Article 4(1) and maximum concentration values tolerated by weight in homogeneous materials (ANNEX II)*
 Polybrominated biphenyls (PBB) **(0,1%)**
 Polybrominated diphenyl ethers (PBDE) **(0,1%)**

Remark: According to European Waste Shipment Regulation (EC) No 1013/2006 and Basel Convention respectively wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or **polybrominated biphenyl (PBB)**, or any other polybrominated analogues of these compounds, at a **concentration level of 50 mg/kg or more** are classified as hazardous wastes (subject to the procedure of prior written notification and consent, export prohibition to NON-OECD countries).

DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE)

- *Annex VI: Minimum requirements for shipments*
- **plastic containing brominated flame retardants have to be removed from any separately collected WEEE**
- *These substances, mixtures and components shall be disposed of or recovered in compliance with Directive 2008/98/EC*

COMMISSION REGULATION (EU) No 1342/2014 of 17 December 2014 amending Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards Annexes IV and V (POP)

- **Annex IV: Hexabromobiphenyl – low pop limit: 50 mg/kg, sum of tetrabromodiphenyl ether, pentabromodiphenyl ether, hexabromodiphenyl ether and heptabromodiphenyl ether – low POP limit: 1000 mg/kg**

*Art 7 (2): waste consisting of, containing or contaminated by any substance listed in Annex IV **shall be disposed of or recovered, without undue delay** and in accordance*

- *with Annex V, part 1 in such a way as to ensure that **the persistent organic pollutant content is destroyed or irreversibly transformed** so that the remaining waste and releases do not exhibit the characteristics of persistent organic pollutants.*

*Remark: Up to now **decabromodiphenyl ether** is no POP yet, but is already mentioned on a candidate list for "new" POPs under the Stockholm Convention.*

CENELEC - CLC/TS 50625-3-1

COLLECTION, LOGISTICS & TREATMENT REQUIREMENTS FOR WEEE - PART 3-1: SPECIFICATION FOR DE-POLLUTION - GENERAL

For the plastics fractions the substances to be investigated and the limits are one of the following according to the treatments performed on plastics:

- *plastics fractions declared as without BFR: **2000 ppm of Bromine** (Annexes C and D);*
- *BFRs in plastic fractions without restricted BFRs: **1000 ppm of restricted BFRs** (Annexes C and D);*

It is assumed that plastics from WEEE containing less than 2000 ppm of Bromine do not contain POP-PBDEs. Nevertheless they may contain Deca-BDE, which is no POP yet.

COMMISSION DECISION of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council

*Wastes containing polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF), DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane), chlordane, hexachlorocyclohexanes (including lindane), dieldrin, endrin, heptachlor, hexachlorobenzene, chlordane, aldrin, pentachlorobenzene, mirex, toxaphene, **hexabromobiphenyl** and/or PCB exceeding the concentration limits indicated in Annex IV to Regulation (EC) No 850/2004 of the European Parliament and of the Council (1) shall be classified as hazardous.*

Note: There is no reference to the low POP limit value for PBDEs (and some other newly listed POPs), except as regards hexabromobiphenyl, for the classification as hazardous waste. Member States shall specify limit values for classification as hazardous waste at national level. In case of PBDEs some EU Member States either refer to the low POP-limit values, others to the chemical

characteristics of the specific POP, **triggering a hazardous property in the meaning of Regulation No. 1357/2014.**

The Basel Convention and in particular: The draft technical guidelines on trans-boundary movements of electrical and electronic waste and used electrical and electronic equipment, in particular regarding the distinction between waste and non-waste under the Basel Convention.

2.2 Link to IMPEL MASP priority work areas

- | | |
|--|-------------------------------------|
| 1. Assist members to implement new legislation | <input checked="" type="checkbox"/> |
| 2. Build capacity in member organisations through the IMPEL Review Initiatives | <input checked="" type="checkbox"/> |
| 3. Work on 'problem areas' of implementation identified by IMPEL and the European Commission | <input type="checkbox"/> |

2.3 Why is this work needed? (background, motivations, aims, etc.)

Background

1. Waste of electrical and electronic equipment (WEEE) is one of the fastest growing waste streams in the EU, with some 9 million tonnes generated in 2005, and expected to grow to more than 12 million tonnes by 2020.
2. WEEE contains a complex mixture of materials and components, which are also partly hazardous. Not properly managed WEEE can cause major environmental and health problems. Also, the production of electronics requires the use of scarce and expensive resources. Regarding hazardous substances in WEEE:
 - WEEE contains a whole range of hazardous substances such as heavy metals and POPs (BFRs) in significant quantities. The uncontrolled release of those substances during disposal and recycling may cause risks to human health and environmental problems.
 - In the mid-1990s, about 150.000 tons of BFRs were produced annually. By the end of the 1990s the produced amount had almost doubled.
 - In order to limit the impact of hazardous substances to next generations of WEEE, legislative measures were taken within EU. RoHS (2002/95/EC) defines threshold values and also stipulates the substitution for the use of some heavy metals and PBDEs and PBBs in new EEE produced for the EU market after July, 1st 2006.
 - Maximum tolerable mass fractions for PBDEs and PBBs in (waste) plastics are 0.1 wt% (PBB <50mg/kg).
 - "Monitoring of WEEE plastics in regards to brominated flame retardants using handheld XRF" (Aldrian, Ledersteiger, Pomberger; Waste Management 36 (2015) 297-304) According to this study 3.000 pieces of black (TV) and 1.600 pieces of grey (PC) plastic waste were analysed with handheld XRF technique. The high percentage of pieces exceeding the legal limit values for PBDEs (15% for TV and 47% for PC waste plastics) emphasises the importance of constant monitoring of this waste stream to ensure compliance with legal provisions. The limit value for PBB (50 ppm) was never reached due the fact that these flame-retardants were not used for years.
 - Due to the extensive usage of BFRs in the recent decades the monitoring of waste plastics in WEEE or separated from WEEE (which are destined for recovery within EU/OECD and in NON-OECD countries) is obligatory.

- The main aim is to prevent next generation of hazardous wastes by using waste plastics contaminated with PBDEs and PBBs for new plastic products (see requirements of the POP-Regulation and ROHS).
- 3. The new Directive introduces a collection target of 45% of electronic equipment sold that will apply from 2016 and, as a second step from 2019, a target of 65% of equipment sold, or 85% of WEEE generated. The new collection targets agreed will ensure that around 10 million tons, or roughly 20kg per capita, will be separately collected from 2019 onwards. Article 11 (in combination with annex V) sets the recycling targets for the different product categories.
- 4. The improvement of collection, treatment and recycling and avoiding illegal export (to countries with poor treatment facilities) of electronics at the end of their life is essential to contribute to a circular economy.

This project has three main aims/parts:

1. Improving the enforcement of illegal shipments of WEEE to countries with poor treatment facilities (African countries) by creating a guideline for a more uniform interpretation and enforcement of Annex VI of the WEEE Directive. Annex VI of the WEEE Directive gives Member States tools to fight illegal export of waste more effectively. Annex VI requires exporters to test and provide documents on the nature of their shipments when the shipments run the risk of being waste. Although Annex VI gives more tools, there are still elements, which Member States can interpret (e.g. when is testing done properly, classification) and enforce differently. Different interpretation and enforcement will cause effects like port hopping and discussions on return shipments.
2. To carry out a desk study on the implementation of the WEEE Directive in national legislation concerning treatment of waste plastic containing brominated flame retardants (BFR). Furthermore improving the monitoring of waste plastics of WEEE containing BFR, stimulate enforcement actions in this field by exchanging information, working methods, case studies. The main aim is to prevent next generation of hazardous wastes by using waste plastics contaminated with PBDEs and PBBs for new plastic products (see requirements of the POP-Regulation and ROHS).
3. The third main aim is to improve the reporting of Member States regarding collection targets (and underlying figures like number of producers and importers - including free riders -, equipment put on the market) and recycling targets by exploring how enforcement activities can benefit a more accurate reporting of these targets and a positive contribution to more and better collection and recycling. Because the WEEE Directive is a Directive, the implementation in national regulation can differ among Member States. The Commission itself is already taking action to work on a more uniform way of reporting. In this part of the project we will share experience, best practices and the possibilities and impossibilities on how enforcement can benefit a more accurate reporting but also a positive contribution to more and better collection and recycling of WEEE. In this part of the project we will also discuss the classification problems of WEEE and work on a more uniform interpretation. Also knowledge will be shared on how to deal with the hazardous substances in WEEE.

2.4 Desired outcome of the work (what do you want to achieve? What will be better / done differently as a result of this project?)

1. To work towards an adequate level of inspections in all Member States and a consistent level of enforcement regarding Annex VI of the WEEE Directive

2. To work towards an adequate level of inspections in all Member States and a consistent level of enforcement regarding hazardous substances (BFR) in WEEE
3. Better reporting on collection and recycling targets by Member States
4. Providing feedback to the Commission on the difficulties regarding implementation and enforcement difficulties
5. More uniform system of classification.

2.5 Does this project link to any previous or current IMPEL projects? (state which projects and how they are related)

No (indirect to NCP Days and Enforcement Actions and the WEEE project 4 years ago)

3. Structure of the proposed activity

3.1 Describe the activities of the proposal (what are you going to do and how?)

The scope of this project is quite broad. Especially under part 3 (aim 3) there are a lot of subjects to discuss. This project will take 2 or 3 years.

In 2017 the focus will be on part/aim 1 and 2 and a start will be made with part/aim 3.

Part 1 and 2.

1. Making an area on Basecamp for exchange of ideas (January 2017)
2. Project team meeting to prepare questionnaire for part 1 and part 2 (March 2017)
3. Send out a questionnaire on how MS interpret and enforce Annex VI and deal with BFR in waste plastic of WEEE containing BFR. In these questionnaire we will also focus on court cases and success and failure criteria (March/April 2017)
4. Making two guidelines based on the input of Member States on Annex VI and BFR based on the answers of the questionnaires (July 2017)
5. Workshop in which we will discuss these guidelines and share best practises on some issues of part 1 and 2 (October 2017);
6. Final guidelines on Annex VI and BFR (November 2017)

Part 3 (will be worked out in a new ToR for 2018)

In 2018 we will continue with part 3 of the project. Part 1 and 2 are supposed to be ready.

3.2 Describe the products of the proposal (what are you going to produce in terms of output / outcome?)

- Guideline Annex VI
- Guideline/report on BFR in WEEE waste plastic.

3.3 Describe the milestones of this proposal (how will you know if you are on track to complete the work on time?)

See 3.1 with time schedule.

3.4 Risks (what are the potential risks for this project and what actions will be put in place to mitigate these?)

As said part 3 is quite a broad subject in which a lot of issues can be discussed. To keep it manageable, we will not take up all the issues at the same time. We will start with part 3 in 2018. Also a risk can be the different implementation within MS of this Directive. The people involved in part 3 can be different than the people involved in part 1 and 2.

4. Organisation of the work

4.1 Lead (who will lead the work: name, organisation and country) – this must be confirmed prior to submission of the TOR to the General Assembly)

Co-lead By Austria and The Netherlands (Walter Pirstinger and Marina de Gier)

4.2 Project team (who will take part: name, organisation and country)

tbd

4.3 Other IMPEL participants (name, organisation and country)

tbd

4.4. Other non-IMPEL participants (name, organisation and country)

tbd

5. High level budget projection of the proposal. In case this is a multi-year project, identify future requirements as much as possible

	Year 1 (exact)	Year 2	Year 3	Year 4
How much money do you require from IMPEL?	15.990			
How much money is to be co-financed	2.000 (venue/lunch)			
Total budget				

6. Detailed event costs of the work for year 1

	Travel € (max €360 per return journey)	Hotel € (max €90 per night)	Catering € (max €25 per day)	Total costs €
Event 1	2.160 (6x360)	1.080 (6x2x90)		
<i>Projectteam (6 persons)</i>				
<i>March</i>				
<i>tbd</i>				
<i>6</i>				
<i>2</i>	8.250	4.500		
Event 2				
<i>workshop</i>				

<i>Oktober</i>				
<i>tbd</i>				
<i>24/25</i>				
<i>2</i>				
Total costs for all events				

7. Detailed other costs of the work for year 1

7.1 Are you using a consultant?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7.2 What are the total costs for the consultant?	
7.3 Who is paying for the consultant?	
7.4. What will the consultant do?	
7.5 Are there any additional costs?	<input type="checkbox"/> Yes <input type="checkbox"/> No Namely:
7.6 What are the additional costs for?	
7.7 Who is paying for the additional costs?	
7.8. Are you seeking other funding sources?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Namely:
7.9 Do you need budget for communications around the project? If so, describe what type of activities and the related costs	<input type="checkbox"/> Yes <input type="checkbox"/> No Namely:

8. Communication and follow-up (checklist)

	What		By when
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<p>8.1 Indicate which communication materials will be developed throughout the project and when</p> <p><i>(all to be sent to the communications officer at the IMPEL secretariat)</i></p>	<p>TOR[✓] *</p> <p>Interim report[✓] *</p> <p>Project report[✓] *</p> <p>Progress report(s)[✓]</p> <p>Press releases</p> <p>News items for the website[✓] *</p> <p>News items for the e-newsletter</p> <p>Project abstract[✓] *</p> <p>IMPEL at a Glance[✓]</p> <p>Other, (give details):</p>	<p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	
<p>8.2 Milestones / Scheduled meetings (for the website diary)</p>			
<p>8.3 Images for the IMPEL image bank</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>		
<p>8.4 Indicate which materials will be translated and into which languages</p>			
<p>8.5 Indicate if web-based tools will be developed and if hosting by IMPEL is required</p>			
<p>8.6 Identify which groups/institutions will be targeted and how</p>	<p>European Commission and member States</p>		
<p>8.7 Identify parallel developments / events by other organisations, where the project can be promoted</p>			

[✓]) Templates are available and should be used. *) Obligatory

9. Remarks

Is there anything else you would like to add to the Terms of Reference that has not been covered above?

