Discussion Paper

Practical Experiences with the Basel Convention: Challenges, Good Practice and Ways to Improve Transboundary Movements of E-Waste in Low and Middle Income countries

A Collaboration between PREVENT and StEP
PREVENT E-Waste Working Group

The PREVENT Waste Alliance aims to support the establishment of a circular economy worldwide. The E-Waste Working Group of the PREVENT Waste Alliance brings together stakeholders from public, private sectors, academia and civil society to exchange on approaches, develop and pilot solutions to e-waste management with a focus on low and middle income countries. prevent-waste.net/en/topics/e-waste

Solving the E-Waste Problem (StEP)

StEP is an international initiative comprised of manufacturers, recyclers, academics, governments and other organizations committed to solving the world’s waste e-waste problem. By providing a forum for discussion among stakeholders, StEP is actively sharing information, seeking answers and contributes to implementing solutions. www.step-initiative.org

Abbreviations

ESM – Environmentally Sound Management
PIC – Prior Informed Consent
OECD – Organisation for Economic Cooperation and Development
EU – European Union
EERA – European E-Waste Recyclers Association
SME – Small and Medium Enterprise
HS – Harmonised System
StEP – Solving the E-waste Problem

Disclaimer

This report is based upon the inputs of members from StEP and PREVENT who participated in the joint working group and does not necessarily represent the views of all PREVENT or StEP members. It aims to provide a constructive input to the discussion around the continued implementation of the Basel Convention and its processes worldwide.
Challenges, good practice and ways to improve transboundary movements of e-waste in low and middle income countries

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Executive Summary

This paper aims to gather practical experiences with the export of waste electrical and electronic equipment and fractions thereof (herein referred to as e-waste) from low and middle income countries to environmentally sound management (ESM) facilities abroad according to the Prior Informed Consent (PIC) notification procedures of the Basel Convention. The working group would like to raise awareness on how effective implementation of the procedures in these countries is a crucial element to enabling formal ESM of e-waste. The paper aims to start a discussion on how to improve implementation and compliance for both recyclers and authorities, so that resources can be freed to tackle illegal traffic of e-waste.

The Basel Convention is an important Multilateral Environmental Agreement for controlling transboundary movements of hazardous and other wastes, and the goals of the Convention in preventing dumping of hazardous and other wastes, promoting ESM and providing a regulatory system to control transboundary waste movements are indisputable. Under the Basel Convention, transboundary movements of hazardous wastes and other notifiable wastes must follow a Prior Informed Consent (PIC) notification process in which the competent authority in the state of export is to provide a notification to the competent authorities of the State of import and any State of transit. The State of import shall respond to the notifier, e.g. consenting the movement, and a State of transit may provide written or tacit consent. However, the national implementation and associated processes relating to these transboundary movements can vary between the parties, leading to challenges in complying with the provisions of the Basel Convention in practice.

In chapter 1 this paper outlines the regulatory framework governing transboundary movements of e-waste, before explaining in more detail in chapter 2 how the Prior Informed Consent (PIC) procedure according to the Basel Convention works. In chapter 3, results from discussions and questionnaire responses from the working group on practical experiences of past and ongoing shipments are analysed.

The implementation in different countries can generally be categorised as:

I. Countries in which authorities lack experience facilitating the provision of consent for transboundary movements of hazardous wastes and other wastes according to the Basel PIC procedure
II. Countries in which the PIC procedure is implemented, however, some key actors might not fully understand or be aware of their role in the PIC procedure
III. Countries in which the PIC procedure is implemented, but the nature of the procedure and processes behind it, as well as differing ways of implementing it lead to major delays

Depending on which category applies, the following high-level challenges were identified:

- Lack of practical experience or awareness in conducting transboundary movements in competent authorities, exporters and customs
- Differing definitions, tariff codes, administrative processes and documentation needs between countries
- Large administrative process time and costs for exporters, with lengthy response times that may...
lead to notifications taking from several months to even years, sometimes resulting in aborted efforts in applying for notifications

- Slow approval or no response by transit nations, as well as problems arising from re-routing of ships and outright bans on transit by several countries
- Lack of awareness, harmonised HS Codes and enforcement in customs can lead to penalties for compliant Basel shipments, while undeclared hazardous waste shipments pass unnoticed illegally.
- Large volumes of capital are immobilised by financial guarantees.

These problems can make it overwhelmingly difficult for formal recyclers to comply with the notification process in some countries, making formal ESM for certain e-waste fractions a major challenge. The relevance in practice is demonstrated through short case studies on the permit process for island nations in the EU (Malta and Cyprus), exporting lithium-ion batteries from Nigeria and importing through customs to South Africa.

Developing solutions to these challenges is often more difficult than describing the problem, and even though Basel Convention guidance documents do provide some ways forward, there appears to be an urgent need to harmonise PIC processes amongst the parties of the Basel Convention.

Within the working group, discussions led to different ideas that could possibly result in a better implementation of the PIC procedures within the existing framework of the Basel Convention. It is believed that most of these solutions do not require amendments to the text of the Convention, as improved implementation should be possible within existing rules. The following ideas are discussed in chapter 4:

- Harmonise codes, approval processes and accountability within competent authorities
- Set up a digital platform for notifications procedures with fixed time frames and built-in explanatory elements
- Streamlined and harmonised processes for PIC procedures for deliveries of wastes to qualified/certified recyclers, with an example of a fast-track notification process (as trialled in the EU).
- An automatic tacit consent if the transit countries do not respond or an automatic tacit consent if wastes do not formally enter the country, which often is the case with container hubs in deep sea-ports
- Support the establishment of local or regional treatment facilities to reduce need to export, with an example of the regional dynamics in Latin America
- Improve the understanding of the Basel Convention and its provisions amongst authorities and exporting companies through process-linked capacity building approaches

While some of the experiences reported in this paper could be viewed as criticizing, the working group believes it is necessary to talk transparently about the challenges faced by practitioners in the hope that this can become the start of a constructive dialogue that can support all actors to better implement and comply with the Basel Convention. In a next step, the working group aims to look for opportunities where solutions, together with holistic capacity building approaches, can be piloted and implemented in practice.
1 Introduction

At the beginning of 2021 members of the PREVENT E-Waste Working Group and StEP decided to work together to collect experiences from their membership on the practical implementation of the Basel Convention in low and middle income countries and work on developing solutions to existing challenges. Around 30 members representing international organisations, recyclers, logistics operators, waste management service providers and end-processors from over 20 countries worldwide joined exchanges in the working group. This paper shares the insights from this work.

Entering into force in 1992, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal originally aimed to prohibit the dumping of hazardous and other wastes in low and middle income countries. The provisions of the Basel Convention centre around the following objectives:

- To reduce hazardous waste generation and promote the environmentally sound management (ESM) of hazardous and other wastes.
- To restrict transboundary movements of hazardous wastes and other wastes except where it is perceived to be aligned with the principles of ESM.
- To provide a regulatory system applying to cases where transboundary movements are permissible.

The Basel Convention distinguishes between hazardous and non-hazardous wastes. From an e-waste perspective, wastes presumed to be hazardous are listed in Annex VIII of the Basel convention, which includes electronic and electrical wastes containing certain hazardous substances (listed in Annex I to the Convention), such as mercury or cadmium, as well as mixed batteries or cathode ray tube glass. Wastes which are presumed to be non-hazardous are listed on Annex IX. This includes printed circuit boards without accumulators and wastes not contaminated with Annex I constituents. Parties to the Convention may define stricter requirements on which wastes they consider to be hazardous in their territory, which must be respected by other parties. Hazardous wastes or other defined wastes that require special attention may not be sent to or through another country that is a party of the Basel Convention without their consent. To support this, the Prior-Informed Consent (PIC) Procedure was established to control transboundary movement of hazardous and other wastes and it is one of the pillars of the Basel Convention regulatory system implemented across the world.

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1 Overview of the Basel Convention
2 See the Annex for e-waste classifications as listed in the Basel Convention
3 For a list of such national definitions, see: www.basel.int/Countries/NationalDefinitions/tabid/1480/Default.aspx
In 2019 the Ban Amendment of the Basel Convention came into force, prohibiting all exports of hazardous waste from the EU and OECD to non-EU and non-OECD countries (countries not listed in Annex VII of the Convention, herein referred to as low and middle income countries). This policy has been applied in the EU since 2006 through the Waste Shipment Regulation. For transboundary waste movements between OECD countries, the OECD control system for waste recovery (OECD Decision C(2001)107/FINAL) may be applied. Despite continued reports of e-waste being illegally exported to Africa or Asia from Europe under false declarations, the Basel Convention, EU Waste Shipment Regulation and the OECD Decision have contributed to controlling and reducing the export of hazardous wastes to low and middle income countries from industrialised nations.

While there has been a large focus on the export of hazardous wastes from and between industrialised nations, the export of hazardous waste for ESM from low and middle income countries receives less attention. After dismantling waste electronic and electrical equipment, various different electronic components and fractions are left over which require different treatment processes and facilities in order to recover and recycle their materials. In many low and middle income countries the necessary facilities to sustainably manage all e-waste fractions do not exist, while islands and smaller countries often do not produce enough e-waste to meet the minimum economies of scale to operate local end-processing facilities or find suitable local off-taker producing industries. For many e-waste types, such as refrigerators, mercury containing lamps, printed circuit boards or batteries there may never be enough locally produced e-waste volumes to justify the investment in a treatment facility with current ESM technologies, making export the only realistic option for environmentally sound management and recycling. Fulfilling the PIC procedure according to the Basel Convention can, however, be expensive and take a long time. Often authorities in low and middle income countries lack experience or resources in applying the procedure, making export to ESM facilities abroad even more challenging for recyclers based in such countries. At the same time, authorities face challenges of undeclared or falsely declared shipments which circumvent the Basel Convention procedures to enable dumping or informal recycling. The associated paperwork and differences in implementation of the Basel Convention procedures by different Parties has been identified as one of the key challenges to facilitating trade in recyclables along circular electronics value chains.
Objectives and scope

The issues linked to the implementation of the PIC procedure of the Basel Convention are often talked about, but practical measures to address implementation challenges are often unclear. In Europe, attempts have been made to improve transboundary movements within the EU and improve the speed of notification processes. In low and middle income countries the challenges are different and less well-known. With this paper, the working group aims to:

- Raise awareness on challenges affecting transboundary movements of hazardous wastes from low and middle income countries to qualified recycling facilities abroad
- Collect data on transboundary movements of e-waste to generate relevant knowledge
- Identify ways to improve and expedite processes around the transboundary movements of e-waste between formal recyclers
- Bring together separate actors involved in the transboundary movement process to develop holistic solutions
- Adapt and inform capacity building activities to address these issues where possible

While we look to learn from initiatives in industrialised regions, the main focus of this paper is on transboundary movements of e-waste to certified recycling facilities abroad from low and middle income countries. Across all regions it seems that there is a fundamental need to speed up and simplify the process. This could also improve traceability, for example by providing real time information about fractions, destinations, and volumes as a source of reliable data for decision makers and other parties. Authorities in many low and middle income countries are under-resourced and face an onslaught of undeclared, illicit traffic. The focus of this paper is on the experience of exporting e-waste fractions according to Basel Convention PIC procedure, and not on issues around illicit traffic. Improving the implementation of the Basel Convention and its notifications process for transboundary movements of e-waste between certified recyclers could free up resources of Basel Convention competent authorities and enforcement entities to focus on illegal shipments, whilst supporting the development of a global circular economy and local and regional ESM e-waste recycling infrastructure.

Proportion of e-waste documented as formally collected/managed in 2019.  

<table>
<thead>
<tr>
<th>Region</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Europe</td>
<td>42.5%</td>
</tr>
<tr>
<td>Asia</td>
<td>11.7%</td>
</tr>
<tr>
<td>Americas</td>
<td>9.4%</td>
</tr>
<tr>
<td>Oceania</td>
<td>8.8%</td>
</tr>
</tbody>
</table>
2 Background: E-Waste Management and the Prior Informed Consent Procedure

2.1 E-Waste Management in low and middle income countries

In low and middle income countries developing a sustainable e-waste management system takes time and generally requires an enabling policy environment. Crucial to this is financial support through, for example, extended producer responsibility schemes or similar financial mechanisms, which help to finance system operating and ongoing recycling costs for recyclers. Without supporting legal frameworks, it is possible to make money from e-waste by focusing only on the high value e-waste fractions and avoiding more costly treatment processes. In the absence of strong and well-enforced standards for e-waste recycling, the informal recycling sector often takes advantage of this, employing dangerous and highly polluting informal recycling processes such as cable burning, acid baths or informal lead smelting to recover valuable metals such as copper, gold or lead from e-waste fractions.

Formal recyclers, in this paper, are recyclers who register to receive an authorization from authorities, obtain necessary permits, and make efforts to manage their e-waste sustainably, in agreement with international standards. According to the Global E-waste Monitor 2020, in Africa only 0.9% of e-waste is documented as formally collected and managed, in the Americas this rises to 9.4%, while in Asia this is 11.7%. In the highly developed recycling industry of Western Europe, 42.5% is documented to be collected and properly recycled. To conduct sustainable e-waste management often requires high upfront capital investments in facilities, which depend on having enough e-waste, as well as covering the operating costs to be viable. In competition with the informal sector, it is in many cases very difficult to achieve this. In most countries there is a small local formal e-waste recycling industry which aims to sustainably manage e-waste, but struggles to scale up due to these effects. Hazardous wastes in particular require more costly processes, and for many recyclers, the only short- to medium term sustainable recycling ESM solution is to export such e-waste fractions to recycling facilities abroad. If trying to be legally compliant, this therefore means exporting hazardous e-waste according to Basel Convention procedures.

2.2 Prior informed consent (PIC) procedure

Each party to the Basel Convention nominates a “competent authority” as the responsible national authority which provides the consent according to the Basel PIC procedure. Usually this is a position in the respective environmental authorities or ministry. The Basel Convention Secretariat provides support to these focal points through training and capacity building activities through regional coordinating centres across the world. The contact details of the competent authorities are available on the Basel Convention web site.

The Basel Convention requires the consent of a State of import and any State(s) of transit, and a contract between the exporter and the disposer specifying environmentally sound management of the

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10 Baldé et al. Global E-Waste Monitor 2020
Practical experiences with the Basel Convention

wastes, before wastes can be exported, as well as the establishment of a notification procedure.

Example of documents required:

- Properly filled in Notification and Movement document
- Contract between the exporter and the disposer
- Financial guarantee
- Insurances
- List of all intended carriers
- Route description, including all transit states

**Necessary information for notification form**

- details on exporter
- details on importer
- number of notification
- total intended number of shipments
- total intended quantity
- period of time (first and last departure)
- packaging
- intended carrier
- waste generator
- disposal / recovery facility
- disposal / recovery operation
- designation and composition of the waste
- physical characteristics
- waste codes
- countries concerned
- customs offices (point of entry / exit)
- exporters declaration
- number of annexes
- acknowledgement of importing country
- written consent of exporting country
- specific conditions

**Border clearance requirements and identification of cargo**

In most countries environmental authorities are the competent authority, and responsible for sending or receiving PIC notifications. However, there may be numerous agencies and ministries involved in identifying the cargo of import or export, and they may have differing requirements and expectations. For instance, e-waste may be seen as “metal scrap” by the standards authority, but not by customs or the environmental authority. This in turn involves the ministry of trade and then various other authorities. Customs play an important role in enforcing transboundary waste legislation through identifying and stopping suspected non-compliant shipments that are suspected of not following the PIC procedure and reporting these to the competent authority, as well as facilitating legal shipments. Most countries apply the Harmonised System (HS) codes as the basis for their tariffs, which share the same six digits and enable collection of international waste trade statistics. The HS codes for waste are very broad and no specific listing existed for e-waste scrap in the HS 2017 edition, so there was little harmonization at customs for this waste type. However, as of January 2021, the new HS 2022 edition has come into force with a new heading 85.49 for “Electrical and electronic waste and scrap.”

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12 The forms for the notification and the movement document, approved by the Basel Parties, including instructions on how to fill them out are available at: [www.basel.int/Procedures/NotificationMovementDocuments/tabid/1327/Default.aspx](http://www.basel.int/Procedures/NotificationMovementDocuments/tabid/1327/Default.aspx)

13 HS Codes 2022 Edition [World Customs Organization (wcoomd.org)](http://wcoomd.org)

14 World Customs Organisation, 2020: Current situation, analysis and observations on waste control at borders, by customs [wcoomd.org](http://wcoomd.org)
3 Experiences with the PIC notifications procedure in practice in low and middle income countries

3.1 Implementation differences across the world

Parties to the convention are obliged to provide national reports on the number of shipments processed each year to the Basel Convention Secretariat, however, only around half do so yearly, with just 105 of 188 parties (56%) submitting their reports for 2019. To get a better understanding of what is happening on the ground, the working group therefore surveyed its members and their networks, receiving responses from exporting recyclers, importing end-processors and transboundary shipment facilitation companies worldwide.

The responses show that implementation of the Basel Convention and related procedures differs substantially between countries, depending upon the available resources and capacities at local authorities and the transposition of the Basel Convention into national law. According to the experiences collected, the implementation can be generally grouped into the following three categories:

I. Countries in which authorities lack experience facilitating transboundary movements of hazardous and other wastes according to the Basel PIC procedure

The country has signed up and ratified the Basel Convention, but the competent authorities may still not be aware of the different annexes of the Convention and have no experience in processing the notification and movement documents in practice. Economic operators wishing to export may need to educate the authorities on how to conduct transboundary movement and the PIC procedure. The responsible staff seem to change often in the authorities and this process needs to be restarted each time. When faced with a new procedure, some officers say they will come back to the applicant in a few months. There is a lack of knowledge both within the authorities and with local logistics companies and recyclers. Sometimes different authorities are involved, for example the central banks that question why there is an export of something with no value, causing further delays and difficulties. Different institutions may also try to make money on the export process, feeling they should be involved as well, driving up the costs considerably - instances have even been reported where the economic operator was recommended to pay bribes at the border to conduct the transboundary movement illegally because it would be simpler.

II. Countries in which the PIC procedure is implemented, however, some key actors do not understand or are unaware of their role in the PIC procedure

In some countries, the process to obtain the consent for the transboundary movement may run quite smoothly, in particular if there have been multiple shipments over the years and exporters have built up good relations with the Basel competent authority. However, key enforcement actors in the transboundary movement at the ports or at customs may not be aware of the Basel Convention and tend to block or not sign-off on shipments even if carrying all required documents and consents, according to the Basel Convention. This can lead to high standing charges at customs or other inspection authorities. At the same time large volumes of illegal shipments pass through which simply are not declared as hazardous waste, undermining the implementation of the Basel Convention.

III. Countries in which the PIC procedure is implemented, but the nature of the procedure and processes behind it, as well as differing ways of implementing it lead to major delays

Once the PIC procedure is implemented, other factors which delay or block the transboundary movements come into play. The EU has its own set of rules which adhere to the Basel Convention through the Waste Shipment Regulation and the issues have been documented at large in the EU by European E-Waste Recyclers Association (EERA), who have piloted simpler and faster procedures. In countries where implementation is effective, there have been reports of authorities demanding many documents beyond their area of responsibility (or expertise), surpassing the legal requirements set by the Basel Convention. Environmental agencies may want to avoid abuse by enforcing very strict (and sometimes impossible) requirements. This stems from a fear of making a mistake which can lead to mistrust between competent authorities in different countries, as the authorities do not wish to be held responsible for illegal traffic of hazardous and other wastes.

According to the survey responses, there are examples of countries in category I across Africa, Latin America and Asia. Illegal traffic of hazardous and other waste is a daily routine in countries where there’s an absolute lack of enforcement capacity. In some countries across these regions, the PIC procedure works reasonably well. However, thorough implementation at all levels is missing and illegal traffic of hazardous and other waste prevents a level playing field from being established, creating a disadvantage for recyclers which comply with the Basel Convention.

Despite the issues listed above, shipments have been carried out successfully from many regions and are possible with facilitation through competent logistics support and guidance approaches. In several cases, experiences reported were from European service providers who, with local recycling companies, attempted to comply with international legislation in exporting and ran into difficulties as the local authorities had never had to implement the PIC procedure for exports before. In other cases, reports came from local recyclers who attempted to export according to the Basel Convention but due to a lack of response or support from their local authority had to give up on the shipment and rely on the informal sector to take across the border.

Given the transboundary nature of shipments, the likelihood of having efficient implementation of the PIC procedure from all countries along the shipping route can be low. A recycler wishing to ship waste according to Basel PIC procedures from a low and middle income country must address local authorities to get an approval from their country, the receiving country, as well as any transit countries in between. If the sending recycler belongs to a country in category II or III, they may still therefore be reliant on slow or non-responding transit countries in category I.

3.2 Transit approval presents a major barrier

A limited number of countries simply refuse to review and approve the transit of hazardous and other wastes. If routings of shipping vessels happen to include those countries, there may simply be no possibility to get the material from country A to country B with transit approval. The competent authorities of the country of export regularly insist to see formal approval of all transit countries, some of which may never react.

Sea carriers are very reluctant, and some even refuse to take hazardous waste onboard their vessels because they fear the risk of a vessel being blocked in a transit country. Often, port authorities demand documentation that is outside of the scope of the Basel Convention, further complicating matters for importers and exporters. This is regardless of whether a container leaves a vessel in the port or
not. This compounds the current situation where a considerable number of shipping companies refuse to transport e-waste because of the potential dangers for other cargo (e.g. fire hazard). This is particularly the case for transport of lithium ion batteries, which has been achieved in rare cases only. The result is that thousands of tonnes of batteries, but also other types of waste that are listed under the Basel Convention, are stored for long periods. Their recycling potential therefore remains untapped.

Many of these issues need to be updated to reflect container shipping in the modern world. With modern container ships, software aims to reduce the number of containers unloaded in a given port, meaning that the hazardous waste most likely will not leave the shipping vessel. In addition, it is common for sea carriers to change the routing at the last minute according to urgent circumstances, leading to entry to non-notified ports and potentially causing the vessel to be held until the consent to transit is obtained. Generally, carriers only publish their transboundary ports (where containers change vessels) and do not share their transit countries. When they do they rarely, if ever, guarantee this routing, as this can change at the last moment for various reasons. The result is that a fully compliant shipment can leave on a journey and become an illegal shipment halfway through the journey due to a route change. There have been instances even within the EU where authorities have stated that they would take legal action if this were to happen, and hence this is not only a theoretical problem.

### Example approval times for shipments to Belgium

<table>
<thead>
<tr>
<th>Origin</th>
<th>Destination</th>
<th>Approval Time</th>
<th>Start Date</th>
<th>Final Agreement Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>Belgium</td>
<td>8 months</td>
<td>15.06.2019</td>
<td>15.03.2020</td>
</tr>
<tr>
<td>Japan</td>
<td>Belgium</td>
<td>16 months</td>
<td>11.10.2019</td>
<td>25.02.2021</td>
</tr>
<tr>
<td>Argentina</td>
<td>Belgium</td>
<td>6 months</td>
<td>29.04.2019</td>
<td>17.10.2019</td>
</tr>
</tbody>
</table>

### Bans on transit of hazardous waste

Uruguay recently banned transit of hazardous waste, making waste shipments from Argentina to the EU even more complex. The ban on transit for sea carriers which do not discharge containers is a real issue. There is no risk for the transit port and country, but this position leads to much higher transport costs or the inability to recycle the material. Containers shipped from the Far East and South-America (including Argentina) have currently Tangier as transit port on the routing to Belgium. Due to slow administrative processing in Morocco and the mandatory translation of the entire notification file into French, there has been no improvement in lead times.
3.3 How long does it take to get a notification?

Wastes presumed to be non-hazardous, such as printed circuit boards, have been exported from various countries to Europe from across the world by working group members, for example from Kenya, Chile, Ecuador, Democratic Republic of Congo, Togo, Senegal and Tanzania. With some logistics and targeted support, non-hazardous wastes can be exported without too much difficulty under current rules. An example of this was a shipment from Georgia to France in 2021, where the customs were notified on 19.05.2021 and the next day the container was brought to the port for shipping. After passing through Antwerp, the final port of discharge on 18.06.2021, the container arrived at the treatment facility in France on 23.06.2021. From recycling yard in Georgia to the final destination in France the total cost was US$ 2,600. When it comes to movements of hazardous wastes and other wastes where a PIC procedure is required, the timeline and costs increase substantially. In many countries the authorities react slowly, or not at all and it can be a major challenge for recyclers to ship e-waste fractions to downstream recycling facilities where multiple transit authorities are involved. PIC notifications can take anywhere from several weeks (in countries where processes are well-established) to several months or, in some cases even years to be processed.

Getting the paperwork together for waste shipments can take considerable time, in particular for consignments that cross multiple (transit) countries. With limited personnel responsible for and informed on the Basel Convention, competent authorities can take a long time to process transboundary movement applications. In the survey responses, arranging new PIC notifications can take from 2 months up to 5 years. These consents often come with administration costs, which range from free (for some transit approvals), to several thousand EUR. The highest cost of a single notification process was EUR 20,000 from the survey respondents. However, in general it was stated that the notification process costs are more or less similar to the costs for freight shipment (before the supply chain pressures of 2021).

Island nations >> higher system costs through export for ESM

Malta and Cyprus belong to the EU and therefore must meet the requirements of the EU WEEE Directive for treating their e-waste and adhere to the EU Waste Shipment Regulation for any exports. Although a part of the EU, as small island nations they face the same issues as low and middle income countries of having no local treatment facilities and limited available local volumes for certain fractions of e-waste. Typical shipments are of refrigerators from Malta to Italy or of used batteries from Cyprus to Belgium. Getting a new permit can take around 6 to 8 months, and getting a yearly renewal can take around 4 to 5 months. In the case of sending to Belgium, it is first necessary to get yearly clearance from the receiving authorities to receive a shipment in their country, which can take up to 2 months. Following this, all authorities in the countries of all 8 to 10 ports where the vessel will stop must be contacted and give permission (in some countries approvals also cost money). Following this, the loading of the shipment can be scheduled and the Cyprus and Belgian authorities again notified. Costs add up at each stage of the process and as a result EPR schemes on Islands have a higher cost compared to those on mainland Europe.

The transit issue is well documented, and within the Basel Convention the Compliance Committee has been working on this issue. Current provisions allow for tacit consent, where after a certain time period without reply, an automatic approval for transit is given, provided that a Party to the Convention has informed the other Parties through the Basel Convention Secretariat. This is not utilised in many countries, however, and higher uptake of this could alleviate some issues around transit. In January
2021 Russia submitted a proposed amendment to paragraph 2 of article 6 of the Basel Convention, limiting the response time of a transit notification to 30 days, which will be considered at the Conference of Parties in 2022.

At the end of 2020, Ghana and Switzerland submitted a proposal to the Basel Convention parties for consideration at the fifteenth meeting of the Conference of Parties (due to take place in 2022). This proposal suggests making all e-waste fractions notifiable under the Basel PIC procedure. The aim of this proposal is to provide more transparency over non-hazardous e-waste shipments worldwide, with the aim of stopping e-waste dumping through false declarations. However, in countries where the Convention is poorly implemented, this may further hinder exports to ESM facilities abroad as more shipments may be subjected to longer delays and costs for shipping e-waste fractions internationally to end of life treatment facilities. Additionally, in these countries there are already numerous (illegal) shipments bypassing the Convention, and hence there is no expectation that making all shipments notifiable will lead to increased compliance.

3.4 Different definitions and lack of harmonised processes lead to further delays

In national legislation countries may choose to define additional hazardous wastes, or in certain cases, to classify some e-waste types as a non-waste. This leads to different provisions applied in different countries. In some countries practically all electronic wastes are classified as hazardous, whereas in other countries certain electronic waste categories or fractions are not considered to be hazardous. In the EU in this case they might be classified as “amber-listed” waste (non-hazardous waste but with a PIC requirement) or as “green-listed” waste (non-hazardous waste without a PIC requirement). Definitions of waste and cargo also differ between the Basel Convention lists, the International Maritime Organisation shipping lists or countries’ own lists. Considering the paperwork needed for shipments, this complicates matters even more.

Notification for the PIC procedure can be done via paper or in some countries it must be done electronically, and often transit countries have different requirements, which can all lead to duplications and double efforts. With each step, administrative costs increase while waste storage costs continue while the shipment is pending. Part of these costs are inherent to doing business in the e-waste industry, but often exporters and importers must employ dedicated staff to manage this process, and spend considerable time explaining requirements to suppliers, government officials and customs agents.

Export is also challenging when new types of waste are being registered, such as solar lamps. Customs agencies sometimes do not have dedicated HS codes for the types of waste that formal recyclers want to ship, leading to arbitrariness in the taxation policy. One step further, some types of waste not only lack a dedicated HS code, but have never been shipped out of the country in question. Furthermore, port authorities often unilaterally change their clearing and transit procedures, complicating a harmonization of the rules for different countries.

In Latin America recyclers have gained some knowledge about harmonised tariff codes and use the ones that present less restrictions and problems (prior to the new HS edition 2022). Recyclers from the region report that Basel Convention coding is not required for international commercial trading op-
erations and the lack of e-waste related HS codes meant that waste exporters use very different tariffs from country to country and there had until now been no standardization. Most e-waste recyclers in the region just use the tariff that the importer requires.

### 3.5 Financial guarantees require simplification

According to Paragraph 11 of Article 6 of the Basel Convention “any transboundary movement of hazardous wastes and other wastes shall be covered by insurance, bond or other guarantee as may be required by the State of import or any State of transit which is a Party”. This guarantee aims to cover costs for any incident during the transboundary movement or any liability of the State of export and transit, such as when clean-up costs must be covered. However, it does not cover the costs of managing wastes from any illicit shipments, as these do not declare correctly in the first place.

The financial guarantee can take diverse forms of financial means (insurance, bond or other type of bank guarantee) and technical provisions (such as language, timings, formalities, format), which differ amongst the parties and across borders. Without a standardised approach, the coverage of the financial guarantee very often leads to lengthy discussions between authorities and recyclers with different interpretations, for example:

- **Costs of transport**: Many states work with a standard cost price per kilometer, which does not reflect costs of deep-sea transport.
- **Costs of recovery or disposal, including any necessary interim operation**: Establishing a cost of alternative recovery can be challenging, as companies cannot get quotations from their competitors.
- **Costs of storage for 90 days**: There are major differences if the material is stored in the container or not (demurrage, detention etc).

Industry representatives report that competent authorities tend to stay on the safe side and therefore work out worst-case scenarios, resulting in excessively high financial guarantees. Often notifications refer to numerous shipments, of which in practice at any given moment in time only one or at maximum a few shipments can be in process. The most expensive guarantee reported by the working group was €150,000 which must be made available for each shipment, locking funds until the transboundary movement is complete. In the EU it has been estimated that 1 billion EUR is immobilised through financial guarantees, while they need to be put into action in approximately one shipment in 10,000.

The wording of the Basel Convention requires that any financial guarantee is always allocated to an individual notification, which does not allow to “pool” the risks that are intended to be covered by this financial guarantee.

The monitoring and management of the financial guarantees represent a major task in terms of detailed (financial and logistics) management, both for the competent authorities and the companies involved. The concept therefore needs to be reviewed, or at least supported through implementation of more standardised guidance on how to apply financial instruments and calculate the guarantee. Many further elements have been detailed in reports by the Committee working on improving the implementation of the Basel Convention, which has gone through efforts to create guidance to define how these guarantees need to be established.

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20 EERA, 2019: Background Document Concept NSRR Fast Track Notification
Nigeria  Different approval processes lead to major delays across West Africa

Closing the Loop (CTL), a Netherlands-based Social Enterprise cooperated with Hinckley Recycling, a Government accredited recycler in Nigeria to export 5 tonnes of lithium ion batteries from Nigeria to Belgium for the first time in March 2020\(^\text{22}\). The shipment passed through several West African countries and the notification application was delayed in each leading to a processing time of 8 months in total. Upon completion of the notification process, the shipment itself took four weeks.

Complying with the Basel process in Nigeria required documentation disclosure from a number of government agencies. This proved challenging due to unclear instructions from the agencies themselves due to lack of experience with this type of shipment, as well as slow bureaucratic processes. For example, the Central Bank of Nigeria (CBN) had just developed an online system that does not recognise that waste can be transported out of the country and therefore believes that all items must have an export value, requiring a fictitious value for the (negative value) shipment to be approved.

In Ivory Coast, the competent authority required different documentation to Nigeria, requiring supply of new documents. One country demanded a copy of the movement document as a hard copy for pre-approval, whereas this document is usually only created when the shipment actually leaves. Another example is that some countries accept a bank statement in lieu of the existence of a Bank Guarantee, whereas others insisted on the Guarantee Certificate itself. Throughout this shipment, it was clear that there is no uniform procedure for applying the Basel process across these countries. Due to budgetary constraints, most of the government agencies had only one person who is knowledgeable on the Basel Convention and authorised to assist in the process, creating very long waiting times due to the caseload within the agencies. Furthermore, the local logistics company did not know how to safely handle and ship this type of cargo, requiring additional capacity building efforts.

The low level of awareness on the exact process for applying the PIC procedure highlights a need for building capacity to harmonise the PIC procedure across the region and also safe handling of dangerous goods cargo.

3.6 “Promoting” illegal trade: no control, traceability or data about fractions traded

Engaging with the Basel process is difficult for many recyclers in low and middle income countries. Some companies sending waste are simply unaware of international shipping procedures according to Basel Convention procedures. Most countries have frameworks that prohibit waste or hazardous waste to be imported without consent yet transboundary movement of these materials happen daily.

Recyclers in Latin America report that unless the material shipped can clearly be identified as hazardous waste, it would seem that there are no consequences for shipping it without proper declaration, as the customs authorities in Latin America, Europe, USA or Asia do not request any kind of documentation to comply with Basel Convention. Shipping lines used in these instances did not know about the procedure and the paperwork that should accompany these kinds of shipments. Some Customs Authorities in Latin America have strict controls in ports, but the recyclers interviewed felt this was not

\(^{22}\text{Closing the Loop 2020: Making a Business Case for African Battery Recycling}\)
due to environmental issues but as an opportunity to impose taxes and fines. Tariffs are imposed on certain exportation material, even if it is not reasonable, simply because there are taxes imposed on those tariffs.

In countries where the Convention is poorly implemented, recyclers are faced with a choice: attempt to export legally according to the Basel Convention or illegally. Faced with these challenges, formal recyclers have reported having to rely on the informal sector to get goods across some borders, or being forced to give up with shipments. Sustainable e-waste management often comes with associated costs, and if there is no national Extended Producer Responsibility scheme, SME recyclers are reliant on the value returned from the recycling process. When shipments become too difficult, recyclers are forced to choose one of the following options:

- Store wastes at own cost until viable shipment or local treatment option becomes available
- Avoid collecting hazardous waste streams with no local treatment option (leaving or selling them to others to be dumped or treated by informal waste sector).
- Export specific fractions falsely declared as used goods or undeclared

Smaller emergent recyclers simply do not have the capacity to engage in dialogue and attempt to train authorities. None of these options support the establishment of an effective local environmentally sound management of these wastes.
South Africa» Lack of enforcement at customs can undermine the Basel Convention goals

Reclite South Africa processes international e-waste shipments from neighbouring countries of diverse e-waste fractions ranging from mercury-containing lamps to batteries and solar panels. They have established good relations to their Basel Focal point in South Africa, and have approval times from two weeks to 1 month. Approvals involving neighbouring countries take longer, on average taking around 2 to 3 months.

Issues arise predominantly at the borders during import, as customs officials are not aware of the Basel procedures and often hold up or block shipments. They refuse to stamp the permits and shipments may be left standing for two days or more. Standing time costs 5000 Rand (€280) per day, which adds up to major additional shipment costs for shippers and the receiving company – this happened to a 2019 shipment from Swaziland and the additional costs ended up preventing the shipment from continuing. In 2015 a shipment of 250 tonnes of defective energy saving lamps was transported from Lesotho to South Africa with a declared value of €0. Although the shipment was cleared, the customs agent had questions and held up the import. Moving such shipments through the border requires good clearing agents and runners who accompany the truck and explain the situation to the customs agent as the truck passes through the border. From this experience it was learnt that providing a small value for the goods (in this case €10 for the whole 250 tonnes) can overcome some import and customs clearing issues.

The major problem with lack of awareness at the border is the fact that illegal waste shipments can be easily undertaken without any Basel documentation. Customs officials only check the clearing documents and that import VAT is paid, and do not check that no e-waste enters the country illegally. In 2018 a shipment of broken solar panels from Botswana arrived at Reclite’s door without any customs clearing or Basel permits, showing how easily waste can enter the country. In this case, the waste was sent back. But often, non-compliant competitors can accept e-waste imports without permits and falsely report the amount of e-waste treated to the authorities, or dump this waste at landfills. To have a fair e-waste recycling playing field, the correct enforcement controls need to be in place at the borders – which themselves have many holes.

Many partner companies are not fully aware of the Basel Convention procedures for shipping and are trained by Reclite to comply with these. All partners must make Service Level Agreements (SLA) to ensure minimum standards are adhered to in the process, including road transport insurance, packing requirements etc. – these then form part of the Basel Permit Documentation. While the private partners have therefore been trained on how to ship according to the correct procedures, customs and enforcement need better coordination on the issue.
4 Towards better implementation of the PIC process

It is clear that simply becoming a Party to the Basel Convention for a State does not suffice to generate smooth processing and facilitation of transboundary movement of hazardous and other wastes. Although member countries need to establish a dedicated Basel Focal Point and Competent Authority to facilitate the implementation of the Convention (article 5), varying national transposition of the Convention, lack of awareness and enforcement capacities lead to very different outcomes. The working group reports that through training local partners progress can be made. For instance, targeted support to exporting companies has successfully enabled export of non-notifiable and notifiable e-waste, despite some long delays. Training of companies in neighbouring countries has also established some regular compliant shipments into South Africa. Nevertheless, a holistic approach to implementation is missing across the world, leading to major inefficiencies and costs.

How can we support the development of a more streamlined process and approach?

Working group members suggest several aspects to improve the process:

1. Harmonise codes, approval processes and accountability within competent authorities
2. Simplify and standardise the concept of financial guarantees
3. A digital platform with fixed time frames and built-in explanatory elements
4. Streamlined processes for PIC procedures to qualified recyclers
5. An automatic tacit consent if the transit countries do not respond
6. Support the establishment of local or regional treatment facilities to reduce need to export
7. Improve understanding of the Basel Convention and its provisions amongst authorities and exporting companies through process-linked capacity building

To achieve these aims, the working group believes further work needs to be done on capacity building and also piloting ideas in practice with willing authorities. Solutions can be broadly categorised as those that can be implemented through adapting current processes within existing national legal frameworks to transpose the Basel Convention, or those which would require larger amendments to be adopted by the parties of the Basel Convention. We believe that much can be done maintaining the current text of the Basel Convention, as supporting better implementation should not necessarily require changes to this. We do not claim to have full or even correct answers here and only outline possible options and ideas to be further explored, piloted or taken up in future activities around implementing the Basel Convention.
4.1 Harmonise codes, approval processes in authorities

The working group discussed the following wishlist of ideas:

- Worldwide establishment of business processes and processing times for Basel procedures, and clear mechanisms in case time frames are not complied with by competent authorities to enforce accountability. At the present time, recyclers only have the option to take their local competent authority to court, which results in costs and wasted time for all parties involved.

- Predefinition of ranges of admin fees that can be charged by Competent authorities for Basel Processes to avoid inflated costs or seeing Basel transboundary movements as a revenue generating opportunity.

- The lists under Basel should include HS Codes and Harmonised tariff codes correspondence to make it very clear and easy to apply. A web-based database would be useful. It is hoped that under the HS 2022 update, the heading 85.49 for “Electrical and electronic waste and scrap” will enable some steps towards harmonisation on this tariff code.

- Determine whether it is necessary for notifications to travel with the shipment, or whether it can be replaced with some digital authorisation mechanism or commercial mechanism developed e.g., with the World Trade Organisation. Revise and update the requirements and documentation that should be presented to get exportation or importation approval.

- Electronic files should be linked to loads rather than having a requirement that paperwork physically needs to accompany the load. This is already possible (and standard practice) for all other types of cargo.

- To enable treatment of waste in internationally equivalent facilities, a larger effort is needed to establish globally recognised e-waste standards, such as those under development in IEC - TC 111.

- Regional Basel Centres actively working on awareness with country competent authorities and notifiers, controlling and monitoring response times, actively resolving disputes and providing information to focal points as well as customs, working together with other trade structures such as under the World Trade Organisation.

- To support resolution of disputes or lack of action, a formal grievance mechanism and helpdesk for entities attempting to comply with the Basel Convention should be set up both at regional and global level at the Basel Convention Secretariat.

4.2 Simplify and standardise the concept of financial guarantees

As discussed in section 3.5 and work on improving implementation of the Basel Convention, financial guarantees, insurances and bonds which differ between countries are at present overly burdensome. A process which leads to harmonised calculation methods and clearly demonstrates what is required from importing states worldwide would be beneficial. It is important that steps are taken to implement guidance being developed by the parties to improve interpretation and reduce complexity, by for example establishing a standardised calculation methodology, by having fixed costs that are charged worldwide, and by having clear timeframes when the financial guarantee ceases to apply such as upon generation of certificate from recovery/disposal operator, or after a fixed time following expiry of the notification.
The Basel Convention has provisions for a revolving fund in Article 14(2) for remediation costs in developing countries. The concept of a revolving fund could be explored further to develop a pooled financial guarantee for multiple notifications, as having a financial guarantee for every notification blocks vast sums of money.

### 4.3 Digital PIC procedure

A global web-based system hosted by the Basel Convention would provide a solution to countries where no harmonised internal market exists and could aim to do the following:

- all Basel procedures are handled, online, as soon as possible, with clear expected time frames for responses and processing by Basel Focal Points
- pre-defined requisites to be fulfilled by users, to avoid “over asking” and “unnecessary red-tape”
- the system should be self-explanatory and fool proof, providing all information required to whomever operates it, independently of their knowledge of the Basel Convention
- easy to fill in and upload information needed to the process
- provide a real-time web-based system where exporters, competent authorities, customs authorities, shipping lines and importers can fill out forms, upload documentation, revise processes, aprove or reject movements.
- have due dates for different actors to do their assigned task
- enable movement documentation to accompany the load electronically.

One digital platform with equal PIC procedures for all parties involved, would be the ideal solution for the extremely complex and time-consuming PIC procedures of today. This would require a huge effort and a far-reaching cooperation between the parties. However, it is the only way to:

- enable in future the shipments of highly valuable recyclables to pre-consented recycling facilities applying the highest standard of environmentally sound management
- allow the competent authorities to control the flows in an efficient way.

This system could also provide real-time data about movements ex: volumes, kind of material, parties involved, type or recovery or final destination activities, etc. Under ongoing revision of the EU Waste Shipments Regulation, a new digital PIC procedure will be set up. This could provide a first idea for a global system, however, as it will primarily meet the aims of EU member states, it should at the very least provide a suitable interface for the cooperation with recyclers and authorities in exporting countries.

### 4.4 Expedited/pre-consent process

Within the EU and under the OECD Control System for Waste Recovery there exists the possibility to utilise pre-consented facilities to expedite the notification procedure. Under the OECD, this also states tacit consent of 30 days for consent from any concerned countries, or for pre-consented facilities in 7 days. While these provisions exist in the framework, many authorities do not recognise the pre-consent feature at the present time. New proposals have been made in the review of the EU Waste Shipment Regulation to support this being taken up more effectively. These pre-consented facilities do

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25 [Study supporting the evaluation of Regulation (EC) No 1013/2006 on shipments of waste](http://publications.europa.eu)
not apply outside the OECD, providing no advantage to recyclers wishing to ship to such facilities from low and middle income countries. To facilitate exports from low and middle income countries, it could also be important to add the designation of pre-consented exporters to further support a pre-consent process.

**Pre-Consented-Recovery-Facility**

The Pre-Consented-Recovery-Facility status is comparable to the “Authorised Economic Operator” (AEO) or Customs-Trade Partnership Against Terrorism (C-TPAT) status in customs regulation. These are trusted trader certifications granted to companies that prove to operate in full compliance with customs and security processes. The Pre-Consented-Recovery-Facility status was first implemented in the OECD Control System for waste recovery. The status is granted to waste recovery facilities after successfully passing an audit by the competent local environmental authorities. The major advantage of a pre-consented facility status is a significant reduction in time of the approval in the PIC procedure. The pre-consented facility status makes it clear to all competent authorities concerned that the specific recovery facility has already been approved to recycle a listed number of waste streams.

Various ideas were suggested in the working group, such as a matrix in which recyclers and authorities can see pre-consented senders and pre-consented receivers globally. However, it will be a tough challenge to define the conditions to obtain the status of pre-consented facilities globally. But this should not prevent the parties from setting out these conditions in a realistic and verifiable manner. Once installed, this procedure should lead to an enormous acceleration in the recycling of complex waste streams.

As a possible start, pilot shipments could be arranged to establish how streamlining of shipments from one nation to another could take place, and what the needs would be to establish internationally recognised pre-consent facilities. The World Economic Forum is exploring avenues to develop pilot initiatives for fast tracks between non-OECD and OECD countries. Such a pilot could take place between two nations with the following considerations:

- Authorities agree to work together, with mutual recognition of authorised transporters and recyclers operating to relatively well harmonised standards can be assured.
- Select countries that have been implementing well for maybe 5 years and know the criteria for export. Able to apply risk assessments before the goods are at the port, so they can clear it faster.
- Selection of countries with a shipping route where large trade flows between the concerned countries
- Avoid routes where more transit notifications necessary (e.g. landlocked countries, direct ocean shipment possible)
- Shipping companies should be involved in the process
Pilot of Pre-Consent/Fast Track Notifications in Europe

In Europe it has been shown that the notification process can be brought down to 21 days through direct cooperation between authorities in a pilot project under the “International Green Deal North Sea Resources Roundabout (NSRR)”\(^{26}\). Following the request by two recyclers HKS and MGG, both European Electronics Recycling Association (EERA) members, Dutch, Austrian and French public and private sector experts started a NSRR working group aiming to facilitate shipments between compliant EU WEEE recyclers through harmonisation of their criteria and procedures. Among other things, the competent authorities in the working group set common criteria for pre-consented facilities, pledged to respect each other’s pre-consents and discussed procedures.

Quick wins to improve the speed of the processing of the Fast-Track Notification:

- a standard English contract could have been used (except when all relevant countries involved in the notification have one common language)
- all information as agreed could have been supplied from the very start
- no original signatures would have been required
- Electronic Data Interchange (EDI)
  - a key factor for any improvement
  - this is work-in-progress for the EU Waste Shipment Regulation team
- Financial Guarantee is only needed 0.01% of the time in the EU and is immobilizing estimated €1 Billion. Alternatives or largely simplified procedures to this concept of financial guarantees are urgently required particularly for deliveries to pre-consented facilities
- Administrative Costs are different between countries and represent an additional import/export tax which would be prohibited under the rules of the common market.

4.5 Facilitation of transit for maritime container shipments

Compared to the pre-consented facility and the digital PIC procedure, a breakthrough in transit in the case of container shipments is probably the one that can be achieved most quickly. Tacit consent is already applied in several countries, where after a certain number of days the consent for transit is given. It would be possible to urge all parties, or at least parties currently blocking transit or in major transport gateways to apply tacit consent in their local jurisdiction.

Additionally, recyclers in the working group stated that the following procedures could be a breakthrough in worldwide shipment of recyclables to pre-consented recycling facilities:

- The overall non-transit status of containers staying on board of the vessel in transit-harbors in case of approval of the country of destination in the PIC procedure
- The general tacit consent for transit in maritime shipments of containers staying on board, unless the transit country involved requires a prior written consent, whereby this transit country motivates the applicability of the transit procedure

\(^{26}\) EERA, 2019: Background Document Concept NSRR Fast Track Notification
4.6 Enable Regional approaches

The need for the large number of transboundary movements is due to a lack of local processing capacity and facilities for ESM. To reduce these movements, the Basel Secretariat through regional Basel Centres and Party members should coordinate to develop solutions where actively investing in local or regional facilities can help reduce the need of transboundary movements. Particularly regional solutions must also be backed up by effective pre-consent facility status, as reports of shipments between neighbouring countries where the PIC procedure is applied have also shown major challenges.

Regional centres of the Basel Convention can take on a role in promoting regional cooperation and agreements, as well as on going capacity building and knowledge transfer to improve waste management in countries.

**Latin America** Regional approaches are needed to enable local economies of scale

To understand the needs and options to improve regional trade of e-waste better, the Latin American StEP working group sent questionnaires to 66 recyclers and 19 government authorities from 15 countries across Latin America, receiving 32 responses from 13 countries. Separate online exchanges were held with recyclers and authorities.

Recyclers reported that shipments of material that would qualify as hazardous wastes in several countries’ legislation are known to have been made to qualified facilities in neighbouring countries to utilise economies of scale for proper recycling and disposal. However, the PIC procedure was not applied during these transboundary movements because it would have been almost impossible to get an approval, since many Latin American countries prohibit the import of hazardous or any kind of waste.

Smuggling materials by inland transport not only implies a tax offence, but due to certain dynamics, it produces an economic distortion in the countries, expressed as abnormal, above market prices for the materials. Having all the actors, not just the formal and relevant ones, monitored would bring far greater benefits in the long run. Making it easier to comply with the PIC procedures would help the formalization of the current grey economy in Latin-American and other regions, which would also provide information and regulation on irregular activities undertaken by informal actors. Four Latin American countries are members of the OECD, and apply the OECD Control System for Waste Recovery; a simplified procedure that aims at facilitating trade of recyclables in an environmentally sound and economically efficient manner within the OECD area. Exporters in OECD Latin American countries are increasingly choosing to align to the OECD system due to its simplicity.

Most Latin-American countries are small markets individually, but an economies-of-scale approach could bring local solutions. There are some more industrialised countries, and some countries with different specializations. These countries strengths are already being exploited in many commercial aspects, yet there are still many taboos around waste recovery and valorisation. A regional approach, especially in cases like Latin America, where language and cultural barrier might not be an issue, could benefit small and medium countries through waste management clusters. The Basel Convention and all Member Countries need to actively work towards reducing the need for movement of waste globally, by investing in developing local or regional solutions.
4.7 Tackling capacity building needs for different actors

Facilitating informal networks between authorities can enhance mutual understanding, speed up facilitations and reduce mistrust issues and is one area where international organisations can support convening and capacity building around this topic. For this, it is necessary to identify the right persons for the trainings, and it could be possible to move to a shipment-chain approach in which all actors from the global or regional shipment process participate so they understand how what they do impacts the ability of their counterparts at customs or in neighbouring countries to act. For this, it is proposed to take a different approach to training on the Basel Convention where a focus is brought to the process rather than on filling out forms.

Pending shipments on regularly used routes could be selected to become real-life training examples in which exporter, exporting authorities, transit authorities, importing authorities and customs in the transboundary movement chain are brought together to ease communication and understand the process. Establishing a connection between competent authorities in exporting and importing states in this way or through informal network building in online meeting points could go some way to making notification procedures work better. Similarly, some sort of accountability and transparency could be brought into local processes for the shipments that form part of the training.

Capacity building at customs on the provisions around the Basel Convention would be useful to target illegal traffic and facilitate compliant transboundary movements, as enforcing the Convention and regulations at borders will create equalising market forces to ensure proper handling and declaration. In states where there is no response or capacity to deal with transboundary movements, recyclers in the working group have requested that local governments are pushed to take action and open up safe recycling channels abroad, rather than having to rely on the informal sector. To assist in this process, regional Basel Convention Committees (including the private sector exporters) and Basel Convention representatives could be developed to monitor implementation and progress on implementation.
5 Conclusions and next steps

Ineffective implementation of the Basel Convention notification procedures can undermine the goals of the Convention, making it more difficult for compliant recyclers to sustainably manage some e-waste types, while failing to sufficiently address non-compliant actors. Throughout this paper the challenges facing recyclers attempting to comply with these procedures in low and middle income countries have been demonstrated.

The issues with the transboundary movements of hazardous and other wastes arise predominantly from the need to harmonise codes and waste lists and poor enforcement. With a very well structured online process, much of the costs could be reduced and harmonised, while setting a cap for admin fees and response times by competent authorities in responsible for the PIC procedure would support this. Investment in promoting local or at least regional solutions would reduce dramatically the need for any Basel Convention transboundary movement request and approval, providing feasible 

\textit{ESM alternatives to transboundary movement}. This combined with a digital real-time web-based multistakeholder platform would reduce documentation and approval processes in many instances.

At the moment, each competent authority develops their own rules of how the PIC procedures should be done. A standardization and auditing of processes in the competent authorities could help overcome some issues where possible within national legal frameworks. An online platform could support standardising transparent processes at authorities, while at the same time removing the burden of mistrust between different authorities who ask for information beyond the necessary legal requirements.

Following publication of this discussion paper, the working group intends to have discussions on the findings with relevant international organisations, the Basel Convention Secretariat, and parties to the Basel Convention at the 15th Conference of the Parties on the best approach to capacity building formats, options to pilot some ideas and how these can be advanced in practice.
6  Annex

Basel Convention E-Waste Classifications

Hazardous Wastes – Annex VIII

A1180: Waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries included on list A, mercury switches, glass from cathode ray tubes and other activated glass and PCB capacitors, or contaminated with Annex I constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they possess any of the characteristics contained in Annex III (note the related entry on list B, B1110).

Examples of other entries for hazardous e-wastes:

- A1170: unsorted waste batteries
- A1190: waste metal cables coated or insulated with plastics

- A2010: glass waste from cathode ray tube and other activated glass
- A1010: metal wastes and waste consisting of alloys of e.g. Cd, Pb, Hg, etc
- A1020: waste having as constituents or contaminants Cd, Pb, etc
- A1030: waste having as constituents or contaminants As, Hg, etc

Non - Hazardous Wastes – Annex IX

B1110: Electrical and electronic assemblies:

- Electronic assemblies consisting only of metals or alloys
- Waste electrical and electronic assemblies or scrap (including printed circuit boards) not containing components such as accumulators and other batteries included on list A, mercury switches, glass from cathode ray tubes and other activated glass and PCB capacitors, or not contaminated with Annex I constituents (e.g., cadmium, mercury, lead, polychlorinated biphenyl) or from which these have been removed, to an extent that they do not possess any of the characteristics contained in Annex III (note the related entry on list A: A1180)
- Electrical and electronic assemblies (including printed circuit boards, electronic components and wires) destined for direct reuse, and not for recycling or final disposal.

B1115: Waste metal cables coated or insulated with plastics, not included in list A A1190, excluding those destined for Annex IVA operations or any other disposal operations involving, at any stage, uncontrolled thermal processes, such as open-burning.
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Representatives of the following organisations joined exchanges to develop this discussion paper. The views expressed do not necessarily represent the views of their organisations.

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- Closing the Loop
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- Ecologicon
- E[co]work India
- EERA
- EMPA
- EPRON Nigeria
- Enviroserve Kenya/Rwanda/Dubai
- European Recycling Platform
- Global Alliance for Trade Facilitation/World Economic Forum
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