Institute for Global Environmental Strategies

Regional Framework of Information Management to Ensure Trans-boundary Movement of Recyclables

Shiko Hayashi
Sustainable Consumption and Production (SCP) Group
Institute for Global Environmental Strategies (IGES), Japan

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Outline of the presentation

1. Background
2. Current issues of trans-boundary movement of recyclables
3. A mechanism of illicit trade of hazardous wastes
4. Concept of information management mechanism for sound trans-boundary movement of recyclables
5. Current practices for ensuring international traceability
6. Regional framework of international traceability system for ensuring a trans-boundary flow of recyclables
7. Policy recommendations
1: Background

- It has been an international concern on e-waste trade ending up at informal recyclers in developing countries, which does not have adequate capacity to recycle.
- A trade disguised as second hand products and metal scraps are indicated as the major sources of trans-boundary movement of E-wastes.
- However, few studies have revealed a mechanism of illicit trade of E-wastes shipped as metal scraps.
- Current international discussion has been shifting from restricting trans-boundary movement of hazardous wastes to ensuring visible flow of recyclables.

2: Current issues of trans-boundary movement of recyclables

Illicit trade of E-wastes

- How is the illicit trade of E-wastes trafficking facilitated?

  - Non-recyclable hazardous wastes are mixed with non-hazardous recyclable materials and classified as non-hazardous, and exported by course of export/import of non-hazardous recyclable goods (CLI, 2010)
  - Although China bans the import of printed-circuit boards from Japan in principle, a great deal of printed-circuit boards generated at home-appliance recycling factories in Japan have been imported into China along with other metal scrap as a form of mixed metal (Shinkuma and Huong, 2009)
  - There is an estimate of 130,000 – 2 million tons of electric home appliances would be mixed in the metal scraps with an assumption of 1 to 10% of mixture rate. This would account for 1.5% – 23% of the electronic home appliances discarded every year in Japan. (Terazono et al., 2011)

⇒ Metal scraps would be a major source of disguised trade of E-wastes, and the amount cannot be ignored.
3: A mechanism of illicit trade of hazardous wastes

Why the current legal framework cannot stop the disguised trade of E-waste as metal scraps?

1. Duality of E-wastes and high demand from developing Asia
   - E-wastes and electronic scraps contain both pollution potential and resource potential.
   - As rapid economic growth of Asian countries, metal scraps are important source of raw materials for their industry.

2. Exporters play a major role for custom procedure
   - Exporters play a major role to assure complying with legal requirement of the shipment.
   - If exporters would be engaging in falsification of custom procedure, the shipments are classified as goods rather than hazardous wastes.

3. Complexity of the classification for hazardousness under Basel Convention
   - Printed Circulate Boards (PCBs):
     - listed in unregulated items (Annex IX list B, B1110)
     - lead, which is contained in PCBs, is regulated by (Annex I)
     - lead is also listed in Annex III (harmful properties)
   ⇒ It is difficult to determine whether PCBs are regulated or not by Basel Convention.

4. Trade regulations differ among Asian countries
   - Regulation for mixed metal scraps/E-waste
     - Japan: lead contents over 0.1% by weight should be regulated.
     - South Korea: No numerical standard specified for lead contents though import/export of E-scraps, even for recycling purpose, is targeted to reporting requirement.
     - China: PCBs are prohibited to import, but if the content of PCBs does not exceed 3% by weight of metal scraps , it is possible to export PCBs along with mixed metal.
     - Taiwan: Mixed metal scraps which are not regulated by Basel Convention can be imported or exported.

5. Difficult to check at custom
   - The most does not have national tests to analyze samples against hazardous characteristics.
   - It is particularly difficult to do spot check if exporters do not notify the shipment as hazardous wastes.
4: Conceptual framework of information management to ensure trans-boundary movement of recyclables

Ensuring Transparency
- Audit by third party
- Certification to good/responsible Recyclers

Management of Hazardous Substances in Products
(Accountability of exporting countries)
- Clear criteria for hazardous waste
- Response to trans-boundary movement of hazardous wastes disguised as used products or non-toxic contained products

Ensuring Traceability
- Building Traceability System for imported recyclables in each country
- Ensuring the traceability on international movement of recyclables (Esp. target to items declared as used products or non-toxics contained products.)

Three aspects of information management for trans-boundary movement of wastes is discussed by Hosoda (2010).

5: Current practices of international traceability system

1. Online Reporting System in Taiwan (the Solid Waste Export Report System)
   - Targeting import/export wastes and wastes for recycling purpose as well.
   - Importers of wastes from abroad need to report when they receive the importing wastes and when the treatment is completed.
   - Waste treatment companies that receive wastes from Taiwan comply with the online reporting system when the treatment is completed.
   - Onsite visits of oversea treatment facilities: Expert group has been visiting more than 30 treatment facilities in 10 countries.

2. Allbaro system in South Korea
   - Multiple function of i. authorization and permission system, ii. waste transfer and takeover information management (waste manifest), iii. waste statistical analysis and provision
   - Exporting/importing wastes portal system
   - During the transportation of wastes, the containers cannot be opened and tracked by GPS system.
   - Both importers and treatment companies of wastes update the quantity data on amounts of shipment when they ship out and when they receive accordingly.
3. European Data Interchange for Waste Notification Systems (EUDIN) in EU
   - Standardized interface for the exchange of data concerning trans-boundary shipment of wastes among member countries in EU (Belgium, Netherland, Germany, and Austria)
   - Three types of report for each individual transport are prescribed: transport report, confirmation of receipt, and confirmation of recovery/disposal.
   - In the future, these reports shall be sent either by the use of a web-application or by using direct system-to-system communication.

4. Resource Circulation Network Inc. in Japan
   - Target products: Mixed plastic wastes
   - Private-based service identifying a good & reliable recyclers in China with a certification system as well as ensuring a traceability of trans-boundary movement of mixed plastic wastes from Japan to China.
   - At present, one certified companies in Japan and one certified recyclers in China.
7: Conclusion (Policy recommendations)

Policy recommendations for international traceability system

Target items: Recyclable resources difficult to identify hazardousness
(e.g. Mix metal scraps (HS7404.49) / non-separated recyclables)

◆ Short-term policy recommendations
  • Disseminating voluntary and private-based activities for ensuring international traceability by subsidizing to these activities (e.g. Resource Circulation Network)
  • Exporting countries of recyclable wastes establish such a reporting-back system, so exporters could ensure a flow of recyclable wastes to reliable recyclers in the abroad (e.g. Taiwanese Online reporting system) as well as ensuring proper treatment of imported wastes by developing domestic traceability system.

◆ Long-term policy recommendations
  • Develop a domestic traceability system for imported recyclable wastes (esp. for mixed metal scraps) in each country and coordinating these domestic systems in the region, so as being able to track trans-boundary movement of recyclable wastes (e.g. Allbaro system).
  • At Tripartite Environmental Ministers Meeting (TEMM), Circular Economy/ 3Rs/ Sound Material Cycle Society group, the regional cooperation on information management to control trans-boundary movement of e-wastes has been one of main discussion topics for recent years.

Thank you for your attention!

hayashi@iges.or.jp

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Appendix : Possible Options for Regional Framework on Information Management

Policy options for alternative approaches
Targeting some recyclables which is difficult to identify its contents (or hazardousness), a regional framework of information management are necessary to develop at the stages of pre-shipment, during trans-boundary movement, and of post-shipment.

1. Combination of a certification scheme to ensure responsible recyclers and an international traceability system
To develop a certification scheme for responsible and reliable recyclers with ensuring the traceability of trans-boundary movement of recyclables.

2. Attachment of a proof of non-contamination to recyclables
To attach proofs of non-contamination or non-mixture of hazardous substances to exporting recyclable resources at pre-shipment stage.

3. Ban on international trade of recyclable resources
To ban exporting items, which are difficult to identify its contents

Appendix: Framework of information management to ensure sound international resource circulation of recyclables

Reliability of information on product contents
Used product
Labeling
Marking
Database
Disconnect of Information
Unsorted discarded products
Mixed metals
Recyclable resources by materials
Recyclable resources
Collection
Pre-treatment
<Recycling process>
Producers’ Informative Responsibility
15. 再生資源原料に対する国際トレーサビリティ管理の管理方策

対象品目：再生資源原料（及び非有害廃棄物）
例：ミックスメタル、塩化ビニル（PVC）、携帯電話等

＜政策オプションの提案＞

1. 国内トレーサビリティ管理の構築・強化と各国システムの連携（例：韓国のAllbaroシステム）
各国の既存システムの連携を図ることで、対象品目の輸入受取後及び処理完了後に、報告を受けることができるシステムの連携可能性について検討することが考えられる。
長所：既存の電子マニフェストシステムを活用（韓国や台湾）
短所：電子マニファクストシステムの未導入国への対応

2. 輸出先国内での適正処理を確保する処理完了報告システムの構築（例：台湾のオンライン報告システム）
自国から輸出された対象品目に対し、輸出先で処理完了後に報告を受けるシステムを国が整備することで、適正処理を担保する方法を考えられる。
長所：既存の電子マニファクストシステムの活用、国際連携の必要性が低い。
短所：輸出相手国での法的手続力が無く、適正処理業者の認定との組合せが必要。

3. 地域統一型のトレーサビリティシステムの導入（例：欧州のEUDIN）
地域統一型のトレーサビリティシステムを導入することも選択肢として考え得る。
長所：国際連携・合意の取得が困難。既存のトレーサビリティシステムとの連携。
短所：枠組への自主的な参加を促すためのインセンティブ付与制度との組合せが必要。

4. 個別の対象品目に対し、民間事業を活用したトレーサビリティシステムの導入・普及支援（例：資源循環ネットワーク）
個別の対象品目に対するトレーサビリティ管理を提供する民間サービスの構築・運用・普及支援を図る
長所：任意の取組とすることで実施可能性が高い
短所：枠組への自発的な参加を促すためのインセンティブ付与制度との組合せが必要。

＜政策オプションの提案＞

16. 適正な国際資源循環を目指した、輸出前段階及び越境移動中ににおける新たな情報管理枠組の検討

問題：製品サプライチェーン上の含有物質情報は、再生資源原料（特にミックスメタル等）への利用が困難である（添付情報の断片化、情報が生じやすいため）。適正な国際資源循環の担保には、輸出前段階及び越境移動中における新たな情報管理枠組の検討が必要である。

＜政策オプションの提案＞

1. トレーサビリティと受入れ施設の適正処理能力を担保する認証制度との組合せ
トレーサビリティの確保とともに、バーゼル条約で活発化しているリサイクル業者の認証を通じた、適正業者との適正取引導導型の情報や、税関レベルで議論されている不法産業の情報等の管理型の議論が必要である。
長所：フローの可視化が促進され適正処理能力を持ったリサイクル業者への再生資源が流れやすくなる可能性
短所：適正なリサイクル業者の認証する統一基準が存在しない。

2. 有害物質の非含有証明の添付
廃棄品の解体後、含有物質情報が確認困難となった再生資源原料に対し、有害性／有用性に関する情報を新たに付帯することが有効である。
長所：非有害な再生資源数に混入する有害廃棄物の問題に対する管理の徹底。
短所：実際の運用は、困難を伴う可能性が高い。

3. 輸出禁止
バーゼル条約のBAN改正案のように、輸出国（もしくは輸出業者）側として、含有物質情報（特に有害性）の確認が困難である対象品目の輸出を禁止する案も考えられる。
長所：対象品目の輸出を一律禁止することで、再生資源名目で輸出される有害廃棄物への管理徹底が進む。
短所：BAN改正案は、日本や米国などの反対もあり、未だ発効に至っておらず、受入国側の再生資源原料に対する需要等を考慮しても、実現可能性が低いと考えられる。

Yoshaki Totoki
IGES http://www.iges.or.jp
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