

# Basel Convention Update and Outlook: Electronics and the Circular Economy

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**Conference – ISRI and ITI**

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# Agenda

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Basel Convention and the Circular Economy

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Management of used equipment for repair and refurbishment

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Recent and Proposed Amendments: plastics, e-waste, and hazardous waste classifications

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Opportunities to accelerate the circular economy

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Managing business and legal risk

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## Basel Convention and the Circular Economy

- Basel Convention (189 parties) informs national waste legislation world-wide
- Imposes controls and trade bans on covered waste shipments – plastics, electronics, batteries
- Implications for EPR, recycling and sourcing of recycled content
- Legal uncertainty around shipments for repair, refurbishment, reuse
- Circularity goals must account for current *and future* Basel waste listings and controls on covered recyclables

# Big Changes Underway

- New listings covering most plastic wastes (effective Jan. 1, 2021)
- Proposed amendments
  - Waste classification for waste equipment managed for repair and reuse (EU and others)
  - Waste classification and control of all *non-hazardous e-waste* – Annex II (CH/GH)
  - Expansion of “hazardous waste” categories and characteristics (Annexes I and III with focus on lithium batteries)
- Outcomes will determine viability of circular economy world-wide
- U.S. uniquely disadvantaged



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# Implications for Sustainability, Circularity and Trade

- Repair/remanufacture of equipment
- Electronics recycling
- EV battery recycling
- Automobile recycling
- Plastics recycling
- PV panel recycling, etc.

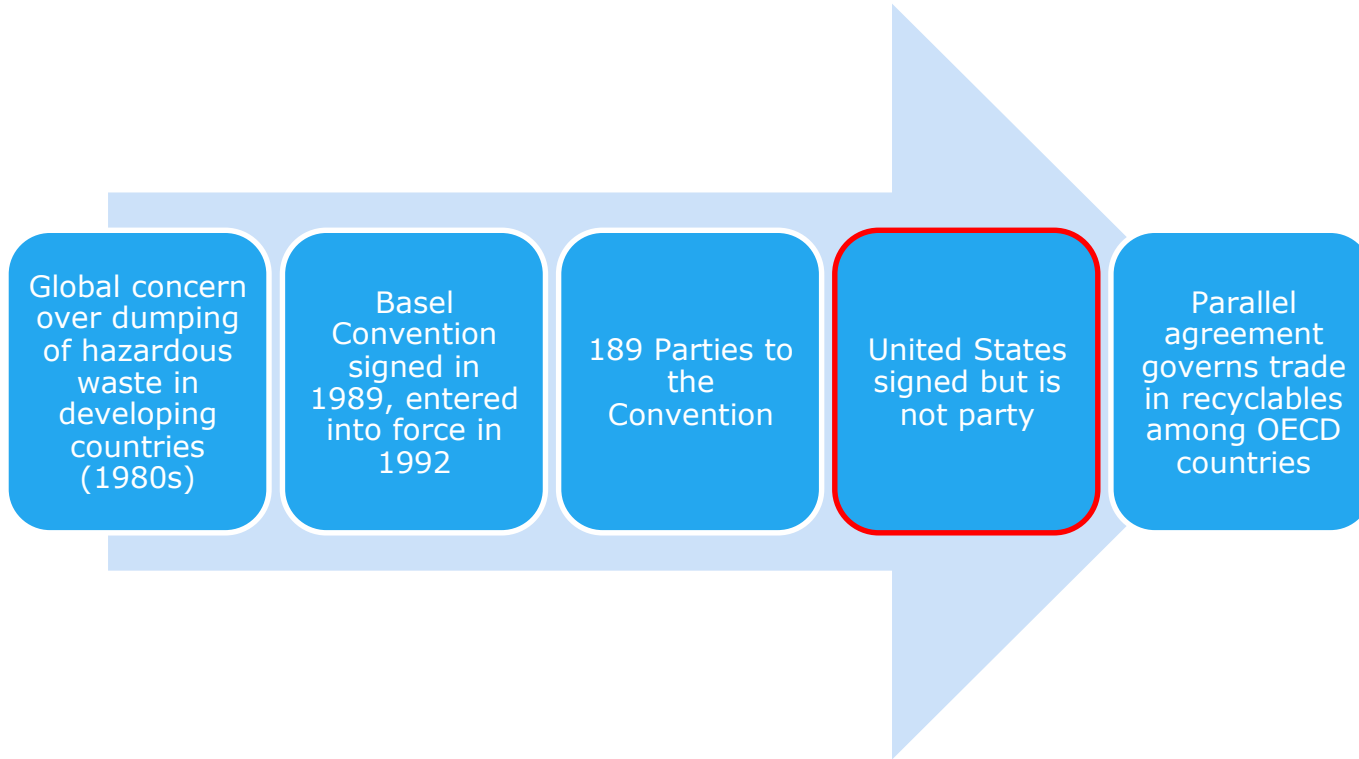


# Trade Disruption Risks

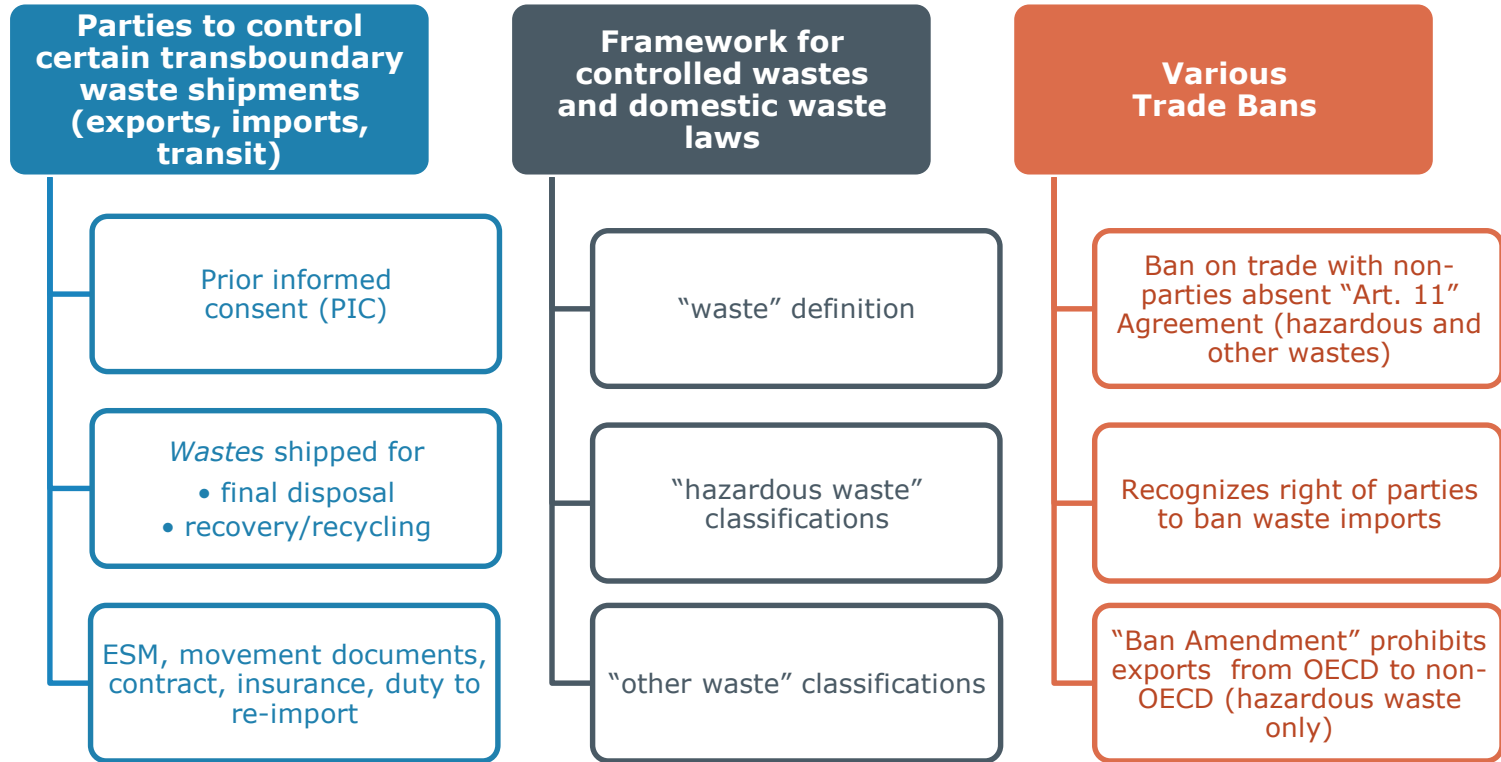
- Covered wastes subject to PIC trade controls world-wide.
- Covered wastes subject to party to non-party trade ban with U.S. absent Art. 11 agreement.
- Covered “hazardous waste” subject to OECD to non-OECD trade ban.
- Legal uncertainty for recyclables shipped within OECD.



# Basel Convention - Quick History



# Basel Convention – Overview





# Electronics for Repair, Reuse



BC

UNEP/CHW/12/5/Add.1 Rev.1

Date: October  
20 June 2015  
Original: English



Conference of the Parties to the Basel Convention  
on the Control of Transboundary Movement of  
Hazardous Waste and Their Disposal  
Twelfth meeting  
Geneva, 4-15 May 2015  
Agenda item 4 (b) (i)

Matters related to the implementation of the Convention:  
scientific and technical matters: technical guidelines

## Technical guidelines

Technical guidelines on transboundary movement 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

### Note by the Secretariat

At its twelfth meeting, the Conference of the Parties to the Basel Convention on the Control of Transboundary Movement of Hazardous Waste and Their Disposal adopted on 10 October 2015 a decision BC/12.5, the technical guidelines on transboundary movement 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 on the basis of the draft technical guidelines contained in document UNEP/CHW/12/5/Add.1. The technical guidelines referred to above were prepared by the Secretariat under the guidance of the small intergovernmental working group for the development of technical guidelines on electronic and electrical wastes and taking into account comments received from parties and others after the sixth meeting of the Open-ended Working Group of the Basel Convention. The technical guidelines were further revised on 4 April 2015 taking into account comments received from parties and others by 6 March 2015, as well as the outcome of a face-to-face meeting of the small intergovernmental working group held on 19 and 20 January 2015 in Konstanz, Germany (see document UNEP/CHW/12/5/OP.7). The text of the final version of the technical guidelines, as adopted on 10 October 2015, is set out in the annex to the present note.



## FactSheet

### ELECTRICAL AND ELECTRONIC WASTE (E-WASTE)

This fact sheet is part of a series of fact sheets to support the implementation of the environmentally sound management (ESM) of hazardous waste and other waste, in accordance with the obligations of the Basel Convention on the Control of Transboundary Movement of Hazardous Waste and Their Disposal. The fact sheet provides information on the environmentally sound management of electrical and electronic waste (e-waste). It is primarily intended for use by waste recyclers.

In addition, the reader should take due account of the Technical guidelines on Transboundary Movement of Electrical and Electronic Waste and Used Electrical and Electronic Equipment, developed under the Basel Convention and adopted on 10 October 2015, as well as the guidance document developed by the Manila Phase Partnership Initiative (MPI) and the Partnership for Action on Computing Equipment (PACE).

#### Classification

The classification of e-waste according to Annex I of the Basel Convention, is presented in Table 1 below. Also identified therein is the applicable hazard class as determined under the United Nations Model Regulations.

#### Storage

E-waste should be stored in a manner which minimizes corrosion, spills and breakage. Proper storage should maximize value for recovery, and be secure from unauthorized access. Appropriate containers should be used for storing different types of waste separately. Storage capacity should comply with all legal and regulatory requirements. Where such provisions are not available, it is recommended to consider that the maximum amount of e-waste stored should not exceed the amount of e-waste that can be treated within six months.

Storage areas should be sheltered and have an impermeable surface with sealed drainage system with, where appropriate, provision of spillage collection facilities. Batteries, PCB/PCT-containing capacitors, mercury-containing components and other hazardous components should be stored in dedicated, labeled and appropriate containers.

Special attention should be given to storage of lithium batteries. Components which can be flammable or explosive, such as capacitors or batteries, should be stored in a manner that minimizes risks of fire, very close sparks or heat. In the case of batteries, they should be

stored in a manner that protects battery terminals from contacting conductive materials and causing electrical discharges, explosions, or fires.

#### Packaging

E-waste should be packaged in a manner that prevents breakage and the release of hazardous components to the environment, during transportation, loading and unloading. Special attention should be given to fluorescent tubes and mercury-containing lamps to prevent breakage.

All containers should be accurately labelled according to their content, packaging type, hazard classification (if applicable).

Cathode ray tubes (CRT) should be secured to prevent with shrink-wrap or similar wrapping. Broken CRT glass should be packed into containers that will not leak, such as drums or superdrums. Similar, dispersive fractions of shredded copper or circuit boards should be incorporated in properly closed containers with lining, if needed.

#### Transport

Transport should be carried out by a licensed, permitted or otherwise authorized carrier, according to applicable laws and regulations.

Emergency response information (e.g. safety data sheets, SDS/MSDS) and hazardous waste manifests (consignment notes) are required by national law.



Figure 1 E-waste stacked in layers and shrink-wrapped (Source: <https://www.itsma.gov/c2>)

# Used Equipment Managed for Repair, Refurbishment, Reuse

- Legal clarity on “wastes”
- Technical Guidelines: criteria to demonstrate shipments of used equipment for **failure analysis, repair and refurbishment are non-wastes**
- Provisionally adopted at COP-14
- Country approaches evolving

UNITED  
NATIONS



BC

UNEP/CHW.14/7/Add.6/Rev.1

Distr.: General  
20 June 2019  
Original: English



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

Fourteenth meeting  
Geneva, 29 April–10 May 2019  
Agenda item 4 (b) (i)

Matters related to the implementation of the  
Convention: scientific and technical matters:  
technical guidelines

## Technical guidelines

### Addendum

Technical guidelines on transboundary 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

### Note by the Secretariat

At its fourteenth meeting, the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal adopted, on an interim basis, in decision BC/14/5, the technical guidelines on transboundary 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, on the basis of the draft technical guidelines contained in document UNEP/CHW.14/7/Add.6. The text of the technical guidelines, as adopted, is set out in the annex to the present note. The present note, including its annex, has not been formally edited.

# EU Amendment – Preparing for Re-use

- EU amendment proposal for Annex IV:
  - ***R20: Preparing for re-use (e.g. checking, cleaning, repair, refurbishment)***
- Would expand scope of “waste operations” to include certain types of repair and refurbishment activities.
- Increases risk that shipments for re-use, repair, refurbishment will be covered waste shipments (subject to PIC controls and trade bans).
- To be considered for adoption at COP-15 (June 2022)

# What Are *Hazardous* Wastes?

## Wastes Deemed Hazardous by Convention

- Wastes containing constituents listed in **Annex I**, (e.g., lead) or listed as Annex I waste stream
- *unless* the waste does not possess hazardous characteristics listed in **Annex III** (e.g., corrosive, toxic)

## Wastes Deemed Hazardous Under National Law

- Parties can include additional wastes via national law
- National definitions and testing procedures govern hazardous classifications

E-wastes and batteries listed on Annex VIII are *presumed hazardous*

E-wastes and batteries listed on Annex IX are *presumed non-hazardous*

# Review of Annexes

- Mandate for Expert Working Group
- EWG-RA to meet in January 2022
- COP-15 (2022): Expected to update e-waste listings (Annexes VIII A1180 and IX B1110)
- COP-16 (2023) Expected to update Annex I (hazardous constituents) and Annex III (characteristics)
  - Proposals to add cobalt, lithium, aluminum compounds
  - Proposal to categorically list e-waste
  - Revise hazard characteristics to align with GHS
- Attention to waste classification for lithium-ion batteries

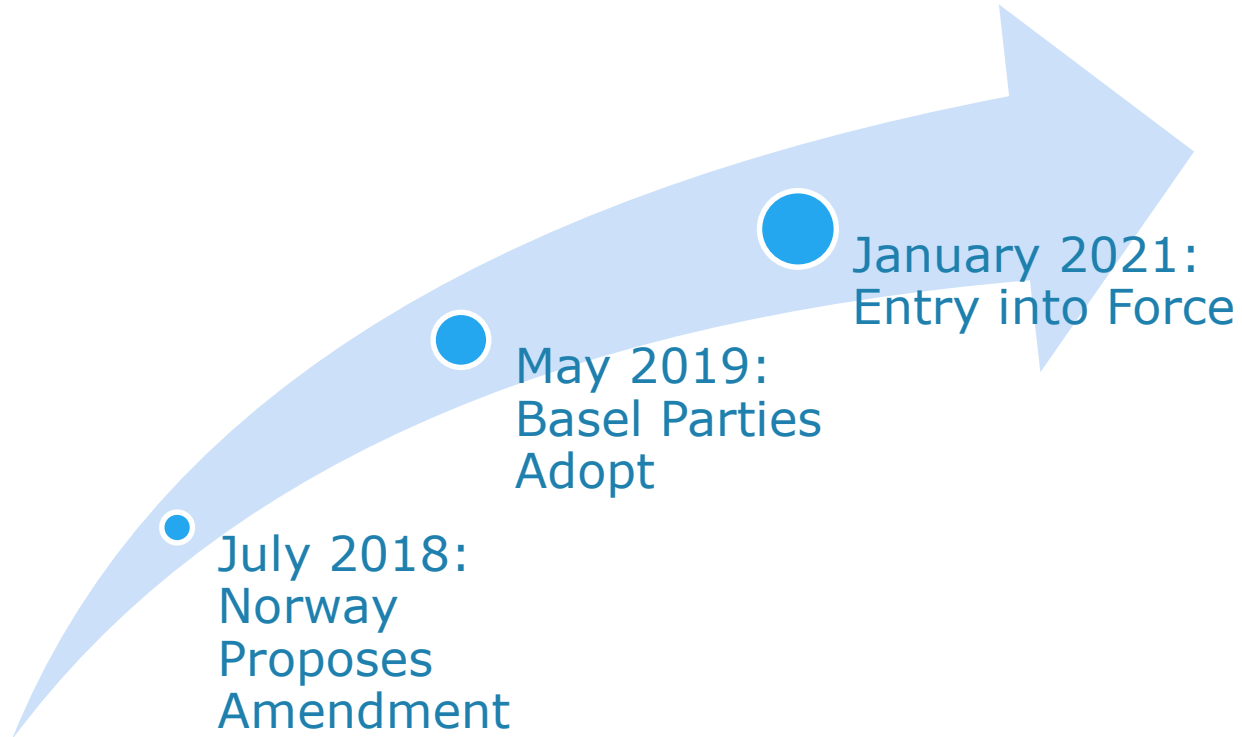


# What are *Other* Wastes?

- Annex II “other” wastes requiring special consideration
  - Y46: Wastes collected from households
  - Y47: Residues arising from the incineration of household wastes
  - Y48: New plastics listing
- Note – Annex II “other” wastes are subject to:
  - Prior notice and consent
  - Ban on shipments to/from non-parties
  - (But not subject to Ban Amendment)

Controlled the same way as hazardous wastes for most purposes.

# New Plastics Amendment



# Plastic Wastes After Amendment

<p>Annex II Y48 Other</p>	<p>Annex VIII A3210 Hazardous</p>	<p>Annex IX B3011 Non-Hazardous</p>
<p>All Plastic Waste not in Annex VIII or IX</p>	<p>If waste contains Annex I constituent and possess Annex III characteristic</p>	<p><u>Almost exclusively</u> consisting of single polymer, destined for <u>recycling</u>* in an environmentally sound manner and <u>almost free from</u> contamination:</p> <ul style="list-style-type: none"><li>• Non-halogenated polymers (illustrative list)</li><li>• Resins &amp; thermosets (illustrative list)</li><li>• Fluorinated polymers (exclusive list - no PTFE or ETFE)</li></ul> <p><u>Mixed</u> waste, only if PE, PP, or PET destined for "separate recycling" almost free from contamination</p> <p><b>*Recycling defined as R3 operation in Annex IV does not include "use as a fuel"</b></p>
<p>Controlled</p>	<p>Controlled</p>	<p>Not Controlled</p>



# Swiss/Ghana CH-GH Proposal (COP-15 June 2022)

## Current e-waste listings

A1180 presumptively hazardous entry in Annex VIII

B1110 presumptively non-hazardous entry in Annex IX

## Swiss/Ghanaian proposal

Revised but remains in Annex VIII

Becomes Y49 controlled “other” waste in Annex II

Not controlled

Prior informed consent

PIC + Ban Amendment

# Possible PIC Improvements?

- Russia Amendment Proposal (Par. 2, Art. 6):
  - 30-day time limit for Parties to review PIC notifications
  - To be considered at COP-15 (June 2022)
- E-Notification:
  - Work program exploring options for e-notification and documentation
    - more robust work plan expected after COP-15
- Basel PACE Partnership:
  - Developing work plans, pilot programs, guidance documents, and trainings aimed at improving the management of e-waste

# Basel Article 11 Agreements

- Parallel agreements to Basel Convention
  - Alternative shipment controls
  - Provisions not less environmentally sound
  - Can include parties and non-parties
- OECD Decision on waste destined for recovery
- Particularly important to the U.S.
  - U.S.–Canada and U.S.–Mexico bilateral agreements
  - U.S. “Import only” bilaterals with Malaysia, Philippines, Costa Rica
  - U.S. – Canada Arrangement on non-hazardous wastes

# OECD Decision

- Council Decision C(2001)107/FINAL on the control of transboundary movements of waste destined for recovery
  - Trade facilitation (tacit consent, pre-consented facilities, approvals covering shipments over 3 years)
  - Broad green list entries for e-waste
  - Automatic incorporation of Basel annex amendments unless member objects
- Recent challenges with incorporation of Basel Y48 plastic waste listings

# EU Implementation of Basel Convention and OECD Decision

## Waste Shipment Regulation

- Governs waste shipments within, into, and out of the EU for recovery
- Includes special provisions for shipments to/from countries subject to the OECD Decision
- Incorporates waste lists from Basel Annexes II, VIII, IX and the OECD Decision
- Ban on exports of hazardous and Basel Annex II wastes to non-OECD countries for recovery

## Annex VI of the WEEE Directive

- Addresses waste / non-waste issue
- Preceded Basel Technical Guidelines

## Correspondents' Guidelines No 1

- Provides more detail on waste / non-waste issue
- Adapts Basel Technical Guidelines to the framework in the WEEE Directive

# Recent U.S. – Canada Success

- Expansion of Basel Annex II threatened to close the U.S. – Canada border for shipments of plastic for recycling
- Governments announced a new arrangement to allow continued trade in non-hazardous waste between the U.S. and Canada
  - Will operate as a Basel Article 11 arrangement
  - Covers all non-hazardous waste, including Annex II plastic
- Broad scope successfully future proofs the arrangement
  - Anticipates and protects against potential amendments to Basel Annex II
  - U.S. – Canada trade in e-waste will continue regardless of Basel amendments
- Challenges with U.S. – Mexico shipments (recycling and repair)

# National Recycling Strategy

Part One of a Series on Building  
a Circular Economy for All



# US Ratification of Basel Convention

## History

- Several efforts at implementing legislation, but none have been adopted
- None got traction but now renewed interest

## Domestic Process

- 1992 Senate advice & consent to original treaty
- Impact of BAN Amendment
- New U.S. authority needed:
  - Broader universe of controlled wastes
  - Authority to stop exports when reason to believe will not be subject to ESM
  - Re-importation of wastes illegally trafficked

## Benefits

- US no longer subject to party/non-party trade ban
- US would have a seat at the table for negotiations

## Challenges

- Limited political interest to date – although several trade groups and NGOs supportive (in concept)
- PIC for Annex II wastes?
- Ban Amendment?
- Amendments to RCRA?



# Reducing Business Risk

- Attention to national UEEE and WEEE classifications and requirements
- Evolving hazardous waste classifications for lithium batteries
- Hazardous waste classifications typically country-specific determinations
- Watch for new HS 2022 Customs Codes for e-waste
- Anticipate new pathways or barriers to recycling trade (e.g., new Basel waste listings, expanded OECD membership)

# Looking Ahead

- Special EWG-RA meeting on e-waste listing (Jan. 13, 2022)
- COP-15 (cont'd in-person June 2022)
  - Review and adoption of technical guidelines
  - EU amendment on “preparing for re-use”
  - EWG-RA revisions to current e-waste listings
  - CH/GH amendment for new Annex II listing for non-hazardous e-waste
  - Russia amendment on PIC notices
- For COP-16 (2023)
  - Amendments to Annexes I and III (IV?)
  - Classification of lithium and other batteries



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# Future-proofing the Circular Economy for Electronics

- Parties will need to balance control with unintended barriers to circularity
- Companies and trade groups need to advance new trade facilitating measures with transparency and guard rails that ensure environmentally sound reuse and recovery:
  - Retain Annex IX (non-hazardous) listings for certain e-wastes
  - Legal clarity and Technical Guidelines on shipments for repair
  - Modernize PIC process
  - Identify materials for “end-of-waste” status
- Consider new Art. 11 arrangements - environmentally sound management with efficient and transparent movement
- Consider benefits of U.S. ratification of the Basel Convention



# Questions

Thank you!



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