

# ENVIRONMENTAL MANAGEMENT REQUIREMENTS FOR CONTRACTORS



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Greening and Sustainability Team

Division of Financial and Administrative Management

### Verification Page

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### Instructions To UNHCR Staff

This document is a template that needs to be adapted for each project. Following the adaptation of these requirements for a specific project, the UNHCR Project Representative and the Contractor must both sign the below table to confirm responsibility of their respective responsibilities and obligations as outlined in these requirements. A copy of this document and signed verification page must be submitted to the UNHCR Policy Officer for reference.

	VERIFICATION	NAME	DETAILS	SIGNATURE	DATE
1.	Adapted for	{Insert project name}	{Insert location}		
2.	Adapted by	{Insert name}	{Insert capacity}		
3.	Approved by (UNHCR Project Representative)	{Insert name}	{Insert capacity}		
4.	Approved by (Contractor)	{Insert name}	{Insert capacity}		

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## List of Acronyms and Definitions

EH&S	Environmental, health, and safety
EMS	Environmental Management System
EMP	Environmental Management Plan
EPC	Engineering, Procurement and Construction
EPR	Extended Producer Responsibility
GPS	Global Positioning System
IEC	International Electrotechnical Commission
O&M	Operations and maintenance
PPE	Personal Protective Equipment
UNHCR	United Nations High Commissioner for Refugees
WMP	Waste Management Plan

## 1. Purpose

As UNHCR has the mandate to protect the lives and livelihoods of persons of concern, social and environmental best practices are a requirement. In line with UNHCR's commitment to sustainable procurement, we aim to prioritize goods and services that minimize negative impact on the environment, that are sustainable across their entire life cycle, and whose providers operate in a sustainable manner. Social and environmental considerations form part of the evaluation and selection criteria for goods and services, including their manufacture, transport, packaging, use and disposal. The purpose of this document is to establish minimum requirements for UNHCR Contractors (including Partners) and sub-Contractors on Environmental Management for construction projects. The Contractor shall ensure that its own construction personnel are made aware of and fully comply with these Environmental Management Requirements, as well as the International Finance Corporation's Performance Standards and country specific legal requirements where applicable.

## 2. General Principles

- 2.1 UNHCR Management shall appoint the Contractor indicating area of responsibility and scope of work as per contract specification documents prepared.
- 2.2 Once appointed, Contractors will be required to return the following documentation to demonstrate their ability to include environmental and social considerations into their project design and implementation to meet UNHCR's environmental management standards:
  - 2.2.1 Environmental Management System (EMS)
  - 2.2.2 Environmental Management Plan (EMP)
  - 2.2.3 Waste Management Plan (WMP)
- 2.3 No work and/or site establishment will commence unless the specific plans submitted by the Contractor undertaking the project has been approved by the UNHCR Representative stated in Paragraph 3 on page 1. Deviation from the agreed Environmental Management requirements shall be addressed in line with Terms and Conditions of the Legal Contract between UNHCR and the Contractor.

## 3. Environmental Management System (EMS)

Once appointed, Contractors will be required to provide a comprehensive EMS that will be required to conform to the environmental legislation of the country in which the project is to take place, as well as align with international standards for sustainable development (see **Appendix I**). The EMS can either be the Contractor's existing EMS, or it can be a specially tailored EMS for a specific project with UNHCR.

## 4. Environmental Management Plan (EMP)

- 4.1 An Environmental Management Plan (EMP) covers the design, construction, commissioning, operation and maintenance, and decommissioning phases of each project component. The EMP identifies the key environmental issues across the project and provides strategies and plans for managing them effectively. UNHCR understands that a detailed EMP requires knowledge of site- and project-specific characteristics, therefore, Contractors must visit the project site in order to prepare an EMP that encompasses all potential impacts that could occur at the site. Contractors will be required to provide an EMP to UNHCR to demonstrate their ability to adhere to UNHCR's environmental regulatory standards. The EMP should at a minimum:

- 4.1.1 Identify and evaluate likely environmental and social risks and impacts of the project and their significance during all stages of the project lifecycle (development, construction, installation, operation and maintenance, and decommissioning).
  - 4.1.2 Ensure the conservation of water in the construction and post-construction (commissioning and use) phase through wise and only necessary use of water, as well as recycling greywater where applicable and appropriate.
  - 4.1.3 Provide a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize impacts.
  - 4.1.4 Designate the relevant party responsible for all likely impacts identified.
  - 4.1.5 Include a grievance mechanism to ensure that grievances from UNHCR staff and any other stakeholders will be responded to and managed appropriately.
  - 4.1.6 Provide means for adequate engagement with affected stakeholders throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.
- 4.2 Supervision and monitoring are fundamental for the successful implementation of an EMP and will be the responsibility of the Contractor and progress reports will need to be provided to UNHCR as per best practice guidelines. Therefore, Contractors must ensure that they have considered the budget to support implementation of the EMP.
- 4.3 The EMP must, at a minimum, conform to the environmental legislation of the country in which the project is to take place, as well as align with international standards for sustainable development (see **Appendix I**). Intended discrepancies to environmental regulations that cannot be avoided must be justified and an equivalent mitigation action provided that offers adequate corrective measures. In the event of non-compliance to environmental regulations, policies and laws, and other environmental framework, the applicable terms and conditions as contained in the RFP and Renewable Energy Development and Service Agreement shall apply.
- 4.4 Contractors are encouraged to pursue cost effective measures.
- 4.5 An example EMP is provided in **Appendix II**

## 5. Waste Management Plan (WMP)

- 5.1 UNHCR requires any contracted service provider that undertakes projects with UNHCR to adopt resource efficiency and pollution prevention and control in line with internationally disseminated technologies and practices. UNHCR understands that a detailed WMP requires knowledge of site- and project-specific characteristics, therefore, Contractors must visit the project site in order to prepare a WMP that encompasses all potential impacts that could occur at the site. Contractors will be required to provide a WMP to UNHCR to demonstrate their ability to adhere to UNHCR's environmental regulatory standards.
- 5.2 The WMP should at a minimum:
- 5.2.1 Identify any likely sources of waste<sup>1</sup> and their significance during all stages of the project lifecycle (development, construction, installation, operation and maintenance, and decommissioning).

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<sup>1</sup> Sources of waste are not limited to refuse but include air pollution, water pollution, soil contamination, and any other significant environmental or human health hazard that may arise from the project implementation.

- 5.2.2 Provide a plan for management of any liquid and solid wastes to ensure that they do not contaminate any surface water, soil, or underground waters.
- 5.2.3 Propose a framework for collection, re-use, refurbishing, recycling, and disposal of waste in an environmentally friendly manner.
- 5.2.4 With regard to e-waste, the bidder needs to demonstrate that it:
- 5.2.4.1 Is knowledgeable of and will be fully compliant with the e-waste legislation regulations of the country in which the project is to take place.
  - 5.2.4.2 Takes full responsibility for the e-waste generated during its contractual period.
  - 5.2.4.3 Has a plan for maintenance and repair during operation: Repairability of the power generation and distribution network components must be ensured to endure their lifespan and avoid the generation of unnecessary electrical and electronic waste in the process of commissioning, operation, maintenance, and decommissioning. A European standard for reparability (EN45554) exists that rates products on their ease of reparability and helps distinguish between an easily repaired product and a product that is not repairable.
  - 5.2.4.4 Will safely manage the end-of-life of all parts that are swapped out for the duration of the Operations and Maintenance (O&M) contract; this includes
    - a) outlining, if necessary, for safe storage of e-waste prior to collection for recycling; this can be demonstrated by outlining safe storage requirements, or by having identified (or planning to identify and contract) an appropriate storage partner;
    - b) outlining logistics for the lawful and safe transportation of the e-waste; this can be demonstrated by outlining the transport route for the e-waste (e.g., to Addis, port in Djibouti, etc.), having found (or is planning to identify and contract) a transport partner, or having found (or is planning to identify and contract) an adequate recycler, nationally or internationally, who would take care of the transport; and
    - c) outlining, or confirming acceptance of, the full financial responsibility for all end-of-life operations.
  - 5.2.4.5 Will agree to provide periodic (frequency to be agreed upon) proof of:
    - a) A contract with a formal government certified or registered e-waste handler or recycler (preferred), nationally or internationally, satisfying the conditions in **Appendix III**;
    - b) If storage of e-waste is needed prior to pick up for recycling, the provision of a **safe storage solution** for e-waste and used lithium-ion batteries following the guidelines detailed in **Appendix IV**;
    - c) The arrangement of safe transportation for all e-waste, as detailed in **Appendix IV**. In the case of a recycler in another country, additional precautions and arrangements have to be made for safe export.
- 5.3 The WMP must, at a minimum, conform to the waste and e-waste regulations of the country in which the project is to take place, as well as align with international standards for sustainable development (see **Appendix I**). It should be noted that the Contractor is responsible to comply with any new regulatory obligations coming into effect during its contractual relationship with UNHCR.
- 5.4 The Contractor shall bear the cost of implementation of the WMP.

## I. International Regulations<sup>2</sup> and Standards

- [ISO 14000 family of standards](#)
- [Eco-Management and Audit Scheme \(EMAS\)](#)
- [International Electrotechnical Commission](#)
- [IFC Performance Standards on Environmental and Social Sustainability](#)
- [The World Bank Environmental and Social Policies](#)

## II. Other resources

- [UNHCR Strategic Framework for Climate Action](#)
- [UN Environmental Management System Tool](#)
- [Guide to Developing an Environmental Management System](#)
- [UNEP E-Waste Management](#)
- [UNEP E-waste Document Repository](#)
- [E-waste Processor Pack: A guide to selecting and managing recycling partners for OGS companies](#)
- [Operational Guidelines for Handling Used Batteries in the Off-Grid Solar Sector](#)
- [E-Waste Legislative Framework Map](#)
- UNHCR Health and Safety Requirements for Contractors

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<sup>2</sup> The latest editions of the regulations shall apply.

**Example Environmental Management Plan**

	Project Activity or Topic	Potential Impacts	Proposed Mitigation measures	Implementation Schedule	Institutional Responsibilities
<b>1. Development</b>					
1.1				Before starting construction/ during construction/ during operation/ etc	Bidder/ Contractor/ O&M team/ etc
<b>2. Construction phase</b>					

## E-Waste Dismantler and Recycler Guidelines. <sup>3</sup>

### I. Procedure to Select and Operate with an E-Waste Processor

Your e-waste dismantler or recycler, nationally or internationally, should be selected and contracted according to the procedure illustrated in the flowchart below, adapted from the GOGLA Business E-Waste Blueprints <sup>4</sup>:

The Contractor should first look for a recycler nationally. If no national recycler fulfills the needs and standards, the contractor should look for a recycler internationally.

When a recycler is identified, the following steps need to be followed:

1. The Contractor conducts a pre-screening checking all the requirements provided in the form below.
2. The Contractor conducts a site visit and audit, filling in the form below. The recycler should pass or have a plan to address all critical criteria. The Contractor should keep the audit document and accept to share it with the UNHCR.
3. If the recycler: a) complies to all local legislation and b) passes or has a plan to address all critical technical criteria, it should then send a quote to the Contractor, which is to be reviewed.
4. In case of favorable decision, there should be a legally binding contract between the two parties. For guidance, the template of a comprehensive legally binding contract can be found in the GOGLA Business E-Waste Blueprints. <sup>5</sup>
5. If the recycler is not national, the Contractor should learn about the requirements (e.g., state authorizations) for e-waste export in the country and ensure these are followed for the export of the waste.

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<sup>3</sup> Adapted from: Olatunde A., Steinfeld, C., 2021. E-waste Processor Pack: A guide to selecting and manging recycling partners for OGS companies Retrieved from: <https://www.gogla.org/resources/e-waste-processor-pack-a-guide-to-selecting-and-manging-recycling-partners-for-ogs>

<sup>4</sup> Adapted from: Olatunde A., Steinfeld, C., 2021. E-waste Processor Pack: A guide to selecting and manging recycling partners for OGS companies Retrieved from: <https://www.gogla.org/resources/e-waste-processor-pack-a-guide-to-selecting-and-manging-recycling-partners-for-ogs>

<sup>5</sup> Adapted from: Olatunde A., Steinfeld, C., 2021. E-waste Processor Pack: A guide to selecting and manging recycling partners for OGS companies Retrieved from: <https://www.gogla.org/resources/e-waste-processor-pack-a-guide-to-selecting-and-manging-recycling-partners-for-ogs>

## CHOOSING A PARTNER FOR E-WASTE PROCESSING & RECYCLING

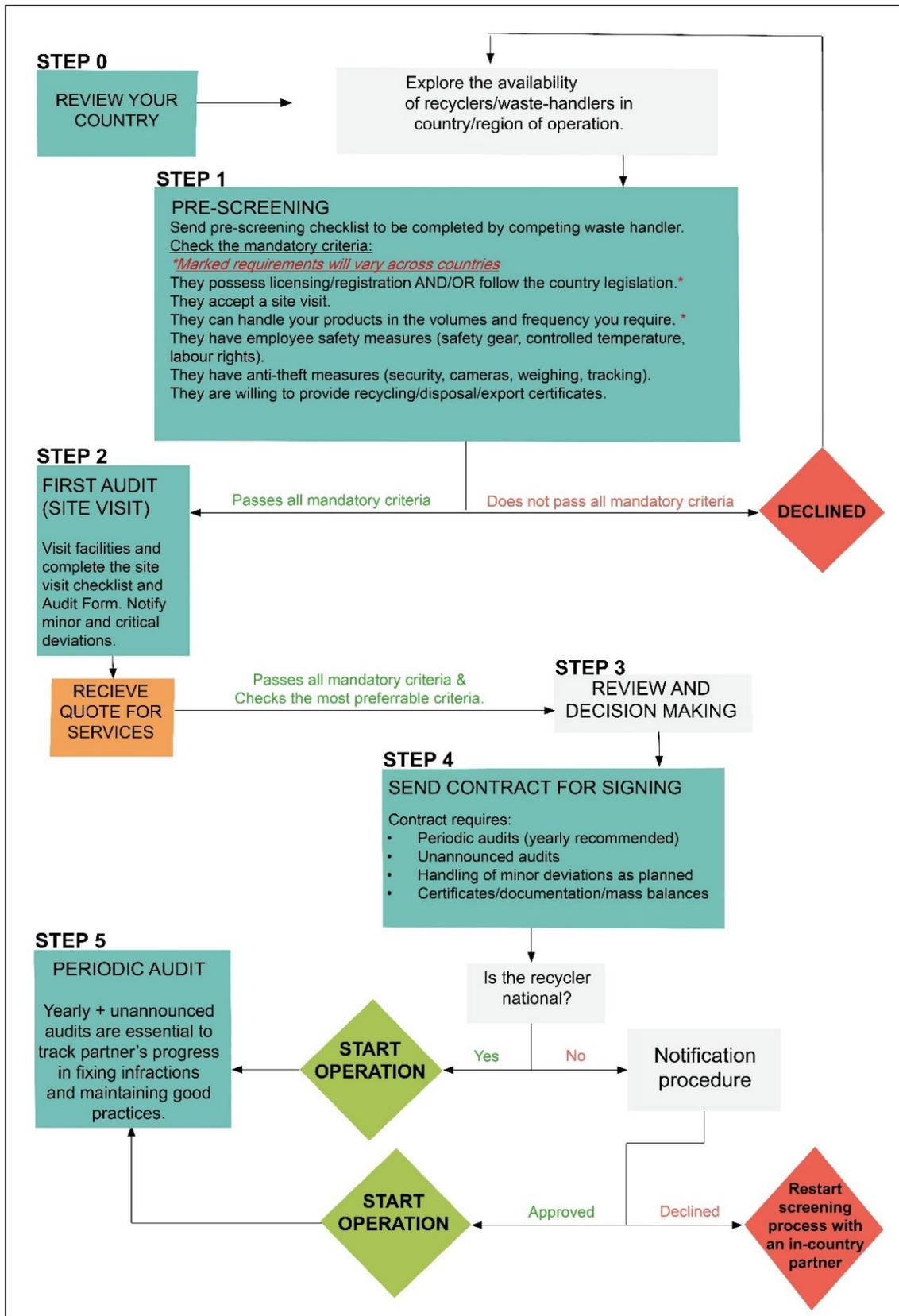


Figure 1: Flowchart to select a recycler and operate

## Safe E-Waste Handling, Storage and Transportation<sup>6</sup>

E-Waste must be stored in designated and controlled areas that have suitable conditions to keep the electronic component in good condition, before being sent to an intermediate process facility or to the recycling facility.

### E-Waste and Battery storage requirements are as follows:

- Protected from direct sunlight, rain, excessive humidity (not higher than 70%) and high temperatures (not exceeding 40 °C).
- Well-ventilated premises, where 3-4 air changes per hour are guaranteed. Areas not subject to flooding.
- Located far from sites of flammable materials, electrical substations and generators.
- Premises that are easy to evacuate and accessible by emergency teams and vehicles.

### Special Guidelines for handling and storing of lithium-ion batteries:

Lithium-ion batteries have the potential to set large volumes of combustible materials on fire. Incidents like hotspots, sparks or small fires occur regularly with the handling and storage of e-waste.

Exhausted batteries can still have a high residual charge, which can be dangerously released in the event of a short circuit. Therefore, all disassembly operations must be performed by personnel trained in safety and management of live equipment, according to the instructions provided by the battery manufacturer.

Lithium-ion batteries that show signs of damage or are experiencing temperature fluctuations must be isolated and monitored to verify the onset of thermal runaway. In order to avoid fire propagation, this isolation should take place in areas sufficiently away from general storage areas.

Lithium-ion batteries should be stored in a large plastic drum filled with sand. The batteries should be stored between layers of sand.

Lithium-ion batteries should be stored in locations following good practice in firefighting. The European Electronics Recyclers Association (EERA)<sup>3</sup> outlines several measures aimed at preventing incidents turning into full-scale fires; it recommends organizations make the following considerations:

- A mobile scrap handler with a long extension arm or large capacity wheel loader allows for the speedy separation of burning material to a safe area.
- **High-volume sprinkler systems or turret extinguishing systems should be turned on immediately when detecting a problem.** Fixed installations are preferable over fire hoses that must be unrolled and operated manually. Portable fire extinguishers are not suitable as their extinguishing capacity is too small and the operator must go too close to the fire.
- It is essential to 'flood' non-electrical fires with large volumes of water to keep surrounding materials cool.

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<sup>6</sup> Source: Packing lithium-ion batteries for safe transportation. Source: Magalini et al., Operational Guidelines for Handling Used Batteries in the Off-Grid Solar Sector. Retrieved from: [https://www.gogla.org/sites/default/files/wp3\\_cdc\\_battery\\_handling\\_guidance\\_final.pdf](https://www.gogla.org/sites/default/files/wp3_cdc_battery_handling_guidance_final.pdf)

- An alarm system (preferably automatic) must be in place to warn on-site staff of the danger, and to alert external firefighting services. External help must be alerted immediately.
- Management must accept potentially false alarms as preferable to delayed action.
- External firefighting services should be familiar with the location and layout of the site. It is advised that regular joint exercises with the facility's staff and external fire services take place. Firefighting strategies must be discussed with external fire services, which will often want to extinguish fires by using large amounts of water.
- Staff should be trained regularly in the recognition of dangers and emergency response in case of fires.
- Only staff trained in the use of firefighting equipment should remain to fight a fire; all other staff should be directed to assembly points.
- There must be a clear commitment by management and staff to withdraw from dangers from fire, heat, smoke or collapsing structures.

### Guidelines for Safe E-Waste and Battery Packaging for Transportation:<sup>7</sup>

E-Waste and Batteries for transportation must be:

- **Correctly classified:** Lithium-ion batteries are classified as non-hazardous. In the Basel Convention, they correspond to B1090: Waste batteries conforming to a specification, excluding those made with Lead, Cadmium or Mercury; In the European Waste Catalogue, 16 06 05 other batteries and accumulators. For transportation risks, the UN classifies these batteries as UN 3480 LITHIUM ION BATTERIES and UN 3481 LITHIUM ION BATTERIES CONTAINED / IN EQUIPMENT
- **Packed in suitable packaging:** lithium-batteries should be packed in boxes and drums (see Figures below)
- Transported by authorised carriers; and
- Packaged appropriately – marked and labelled to highlight the presence of dangerous goods.

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<sup>7</sup> Packing lithium-ion batteries for safe transportation. Source: Magalini et al., Operational Guidelines for Handling Used Batteries in the Off-Grid Solar Sector. Retrieved from: [https://www.gogla.org/sites/default/files/wp3\\_cdc\\_battery\\_handling\\_guidance\\_final.pdf](https://www.gogla.org/sites/default/files/wp3_cdc_battery_handling_guidance_final.pdf)

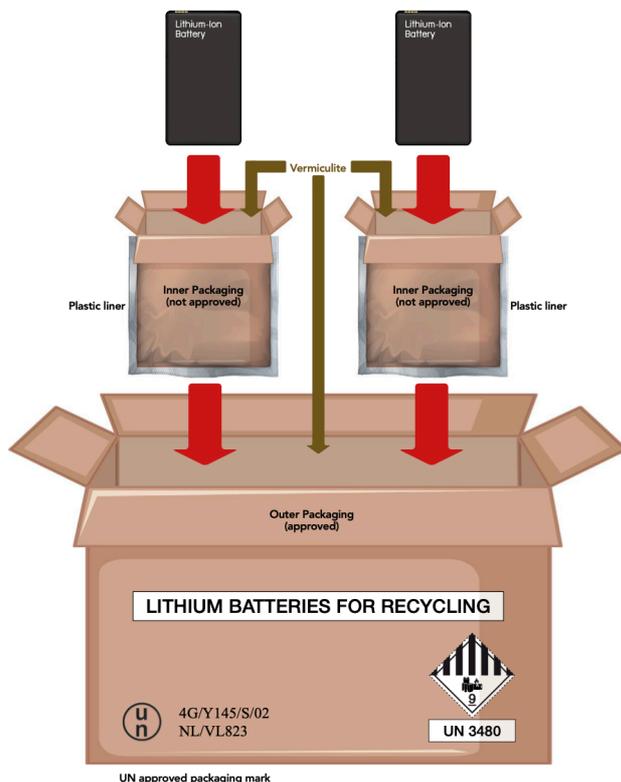
This instruction applies to UN Nos. 3090, 3091, 3480 and 3481 carried for disposal or recycling, either packed together with or packed without non-lithium batteries.

(1)	<p>Cells and batteries shall be packed in accordance with the following:</p> <p>(a) The following packagings are authorised, provided that the general provisions of 4.1.1 and 4.1.3, are met: Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G); Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H2); and Jerricans (3A2, 3B2, 3H2).</p> <p>(b) Packagings shall conform to the packing Group II performance level.</p> <p>(c) Metal packagings shall be fitted with an electrically non-conductive lining material (e.g. plastics) of adequate strength for the intended use.</p>
(2)	<p>However, lithium-ion cells with a Watt-hour rating of not more than 20Wh, lithium-ion batteries with a Watt-hour rating of not more than 100Wh, lithium metal cells with a lithium content of not more than 1g and lithium-metal batteries with an aggregate lithium content of not more than 2g may be packed in accordance with the following:</p> <p>(a) In strong outer packaging up to 30kg gross mass meeting the general provisions of 4.1.1, except 4.1.1.3, and 4.1.3.</p> <p>(b) Metal packagings shall be fitted with an electrically non-conductive lining material (e.g. plastics) of adequate strength for the intended use.</p>
(3)	<p>For cells or batteries contained in equipment, strong outer packagings constructed of suitable material, and of adequate strength and design in relation to the packaging capacity and its intended use, may be used. Packagings need not meet the requirements of 4.1.1.3. Equipment may also be offered for carriage unpackaged or on pallets when the cells or batteries are afforded equivalent protection by the equipment in which they are contained.</p>
(4)	<p>In addition, for cells or batteries with a gross mass of 12kg or more employing a strong, impact resistant outer casing, strong outer packagings constructed of suitable material and of adequate strength and design in relation to the packaging's capacity and its intended use, may be used. Packagings need not meet the requirements of 4.1.1.3.</p>

#### Additional requirements:

1	Cells and batteries shall be designed or packed to prevent short circuits and the dangerous evolution of heat.
2	<p>Protection against short circuits and the dangerous evolution of heat includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>- Individual protection of the battery terminals,</li> <li>- Inner packaging to prevent contact between cells and batteries,</li> <li>- Batteries with recessed terminals designed to protect against short circuits, or</li> <li>- The use of an electrically non-conductive and non-combustible cushioning material to fill empty space between the cells or batteries in the packaging.</li> </ul>
	Cells and batteries shall be secured within the outer packaging to prevent excessive movement during carriage (e.g. by using a non-combustible and electrically non-conductive cushioning material or through the use of a tightly closed plastics bag).

Package shall bear "LITHIUM BATTERIES FOR RECYCLING" or "LITHIUM BATTERIES FOR DISPOSAL" with lettering size of at least 12 mm high



UN approved packaging mark