Workshop on Sound Management of Used Lead Acid Batteries: An Introduction

Guatemala, Ciudad de Guatemala, 24-25 Febrero 2016

UNEP Chemicals and Waste Branch and Regional Office for Latin America and the Caribbean

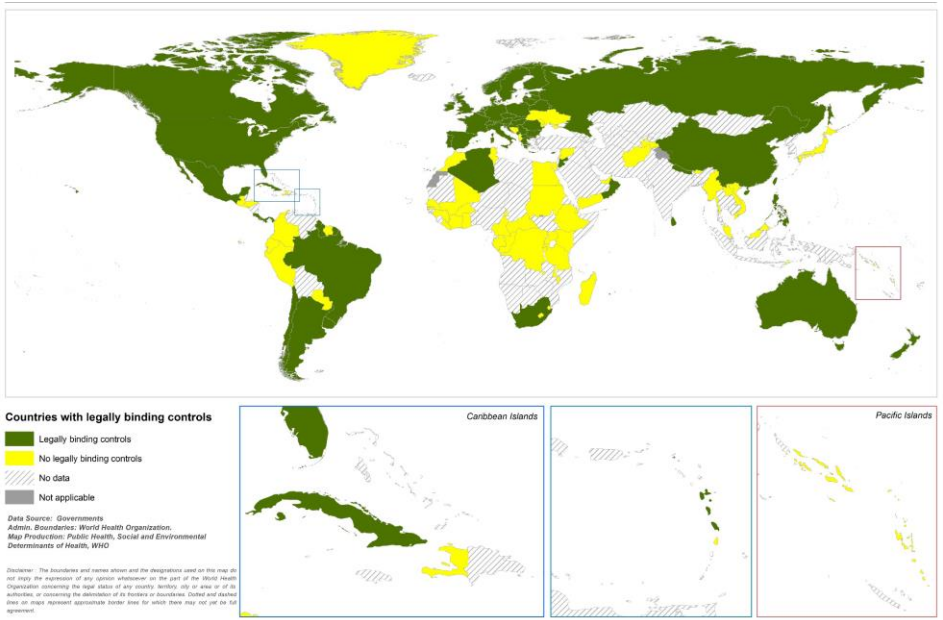
UNEP Lead and Cadmium Programme

UNITED NATIONS
ENVIRONMENT PROGRAMME
Chemicals Branch, DTIE

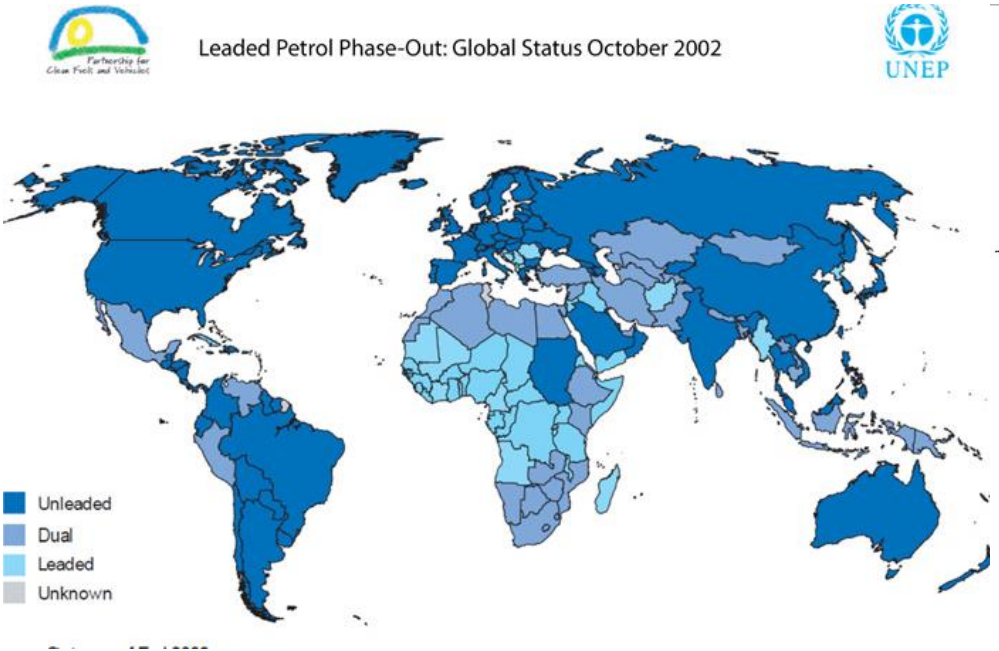
Final review of scientific information on cadmium

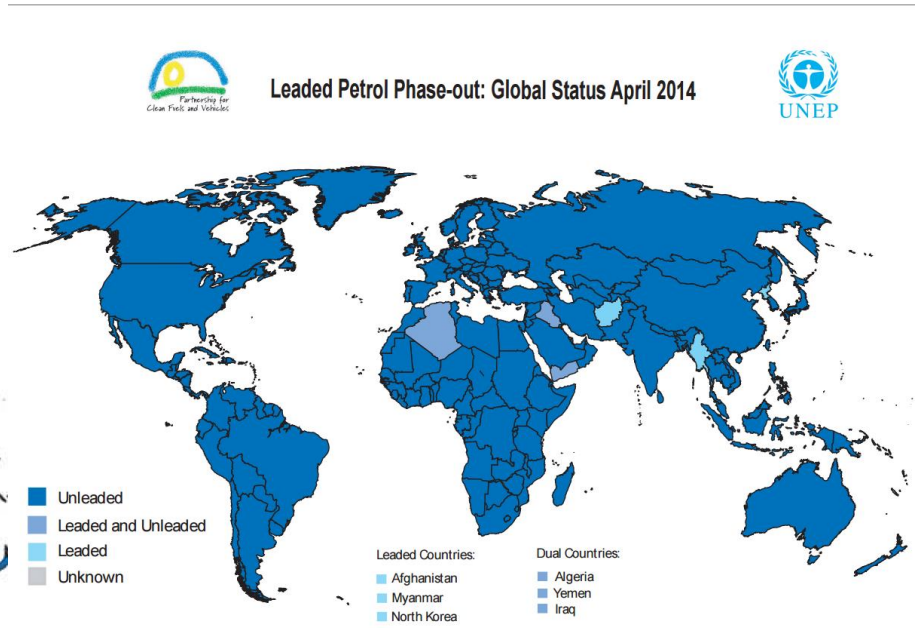
Version of December 2010

- Reviews of Scientific Information on Lead and Cadmium (2010)
- Partnership for Clean Fuels and Vehicles
- Lead Paint Alliance



Lead in petrol





Compilation on abatement techniques

- UNEP Governing Council in Feb 2013 requested UNEP to compile information on techniques for emissions abatement and on the possibility of replacing lead and cadmium with less hazardous substances or techniques.
- UNEP issued a survey to governments and stakeholders. 19 governments, including COSTA RICA, and the European Union and its Member States, 1 intergovernmental organization, 4 non-governmental organizations and 2 other organizations responded (http://www.unep.org/chemicalsandwaste/LeadCadmium/Publications/DevelopmentofTechniquesforEmissions/tabid/838787/Default.aspx).

Compilation on abatement techniques – Overview

- Submissions from governments and other stakeholders included information on (1) government policies and regulations on the management of lead and cadmium, (2) technologies and alternatives to reduce their use and emissions, and (3) inventories and risk assessments.
- Governments also reported on the risk assessments conducted in regulatory and voluntary processes, and their work on establishing inventories of use and emission of lead and cadmium.
- Some submissions also pointed out health and environmental risk posed by the recycling of used lead acid batteries, the production of batteries, and other used of lead and cadmium.

Compilation on abatement techniques – Overview

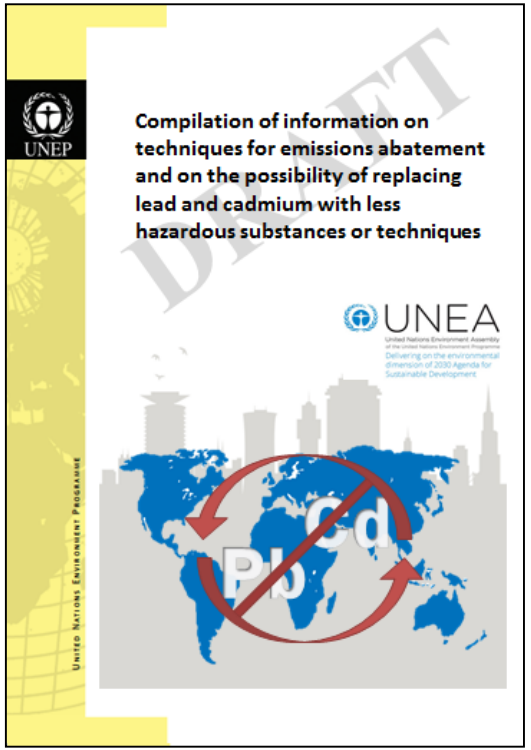
- A number of governments reported on their regulation, product standard and voluntary measures regarding lead and cadmium. These include, but is not limited to:
  - Restriction of lead in automobile fuels
  - Restriction of lead and cadmium in paints, batteries, plastics stabilizers, automobiles, electric and electronic equipment, jewellery, ceramics, toys etc.
  - Regulation of air emission and water discharge of lead and cadmium
  - Environmental quality standards
  - Management of hazardous waste
  - Battery recycling, including environmentally sound management of used lead acid batteries

Compilation on abatement techniques – Examples

- Submission from Costa Rica states:
  - The lead additive in fuel has been eliminated
  - The limits on the amount of lead and cadmium in the atmosphere is being established
  - There is only one lead smelter company in the country, PB Metals, with technologies to collect, transport, and recycle lead-acid batteries since 2012
  - Batteries containing cadmium are subjected to be controlled by special waste regulations
- Argentina, Ecuador, and Malaysia also submitted information on the lead-acid batteries.

Compilation on abatement techniques (Cont.)

- Additional submissions (only in English please !) emailed to lead-cadmium.chemicals@unep.org (cc. eisaku.toda@unep.org AND juan.caicedo@unep.org) by Monday, 29 February will be included in the final document.
- Report will be available before UNEA 2 in May 2016 at http://www.unep.org/unea2/.



End-uses of Lead

- Lead-acid batteries are the major end-uses of lead.
  - 78 % of reported global consumption of lead in 2003
    (The Final Reviews of Scientific Information on Lead and Cadmium (UNEP 2010))
  - 89 % of lead consumption in 2009
    (The Global Chemicals Outlook: Towards Sound Management of Chemicals (UNEP 2013))
  - Continues to be over 80 % in 2011
    (International Lead and Zinc Study Group, 2012)
- The major application of lead-acid batteries is starter batteries for vehicles
- Other uses of lead include pigments and compounds, cable sheathing, rolled/extruded products and ammunition.

Uses of Lead

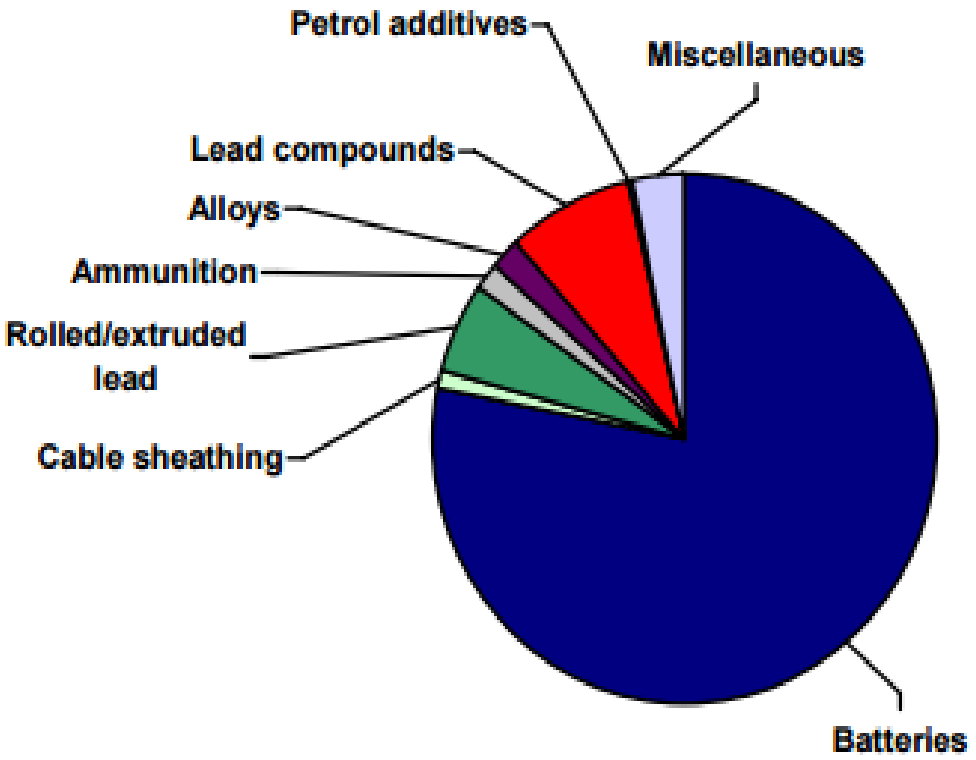
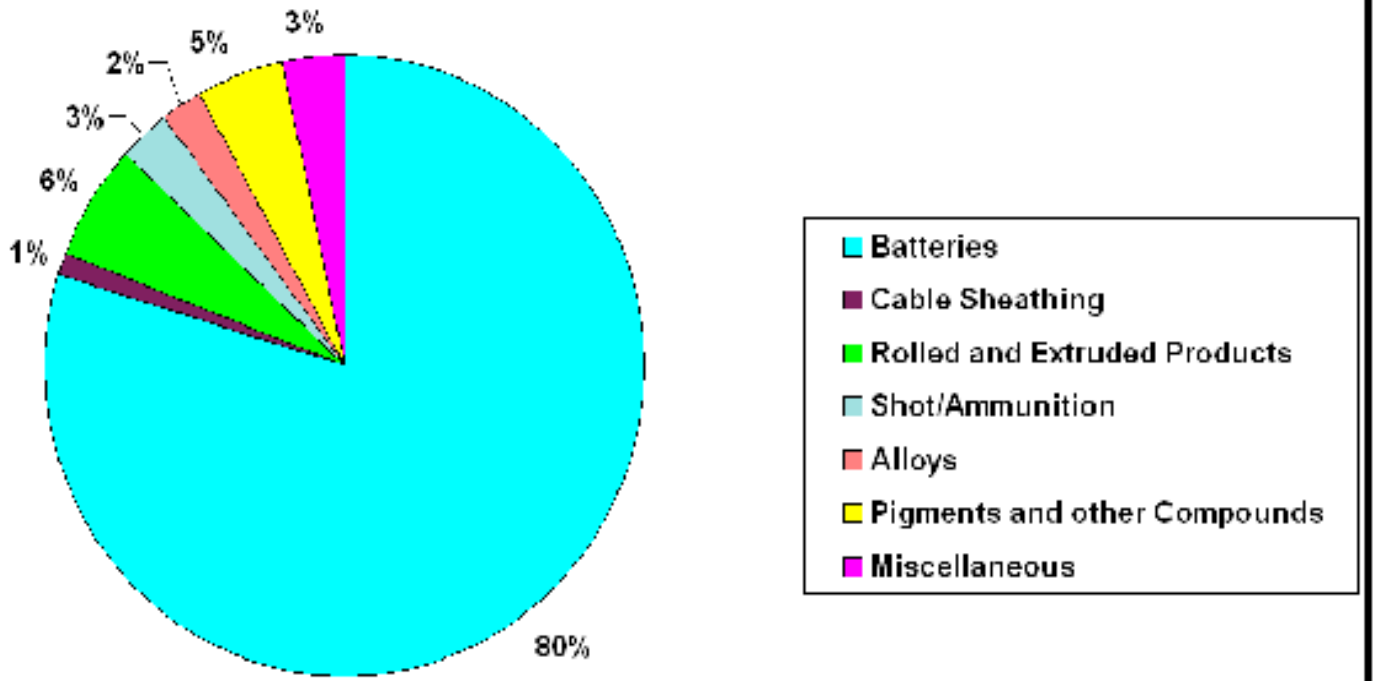


Figure 6

Intentional lead consumption by end-uses in 2003 as reported by member countries of the International Lead and Zinc Study group (ILZSG) representing about 86 percent of the total global consumption of lead. (ILZSG, 2006)

UNEP

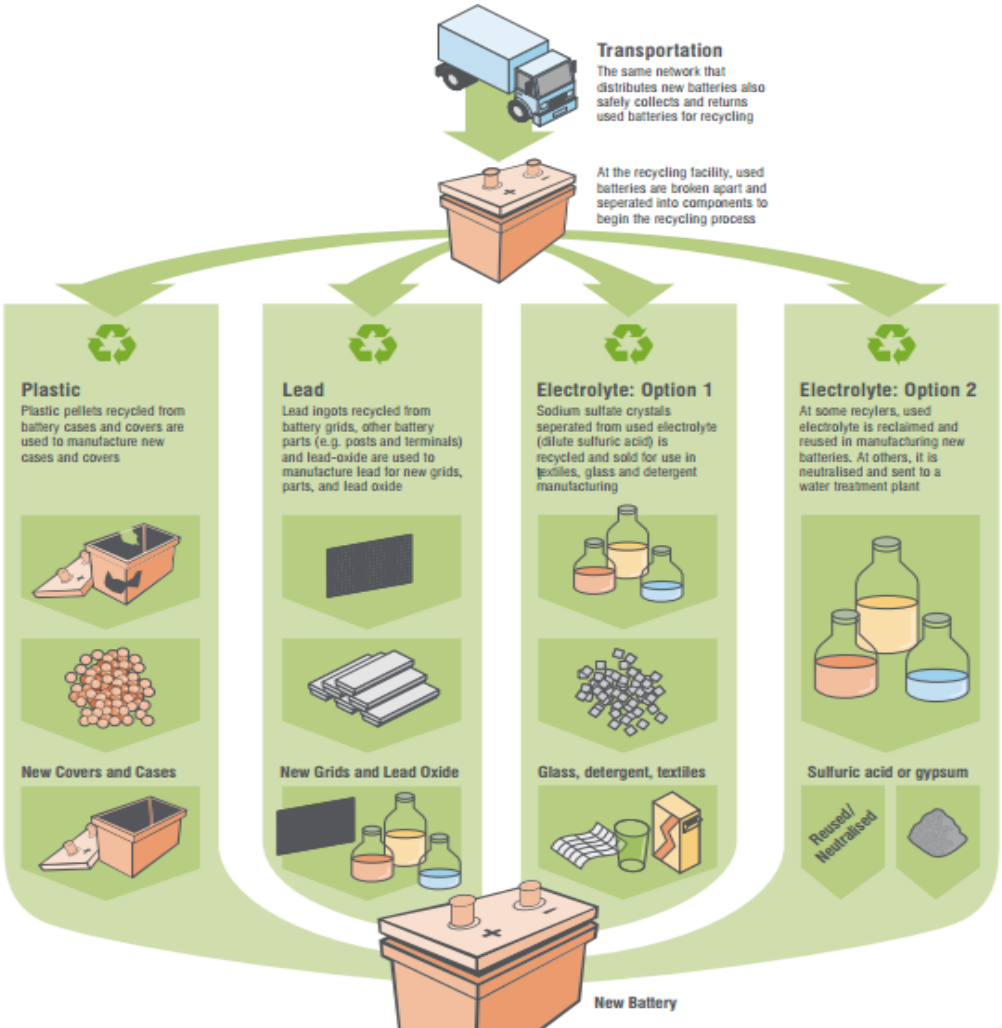
Uses of Lead Updated



http://www.ilzsg.org/static/enduses.aspx?from=1

UNEP

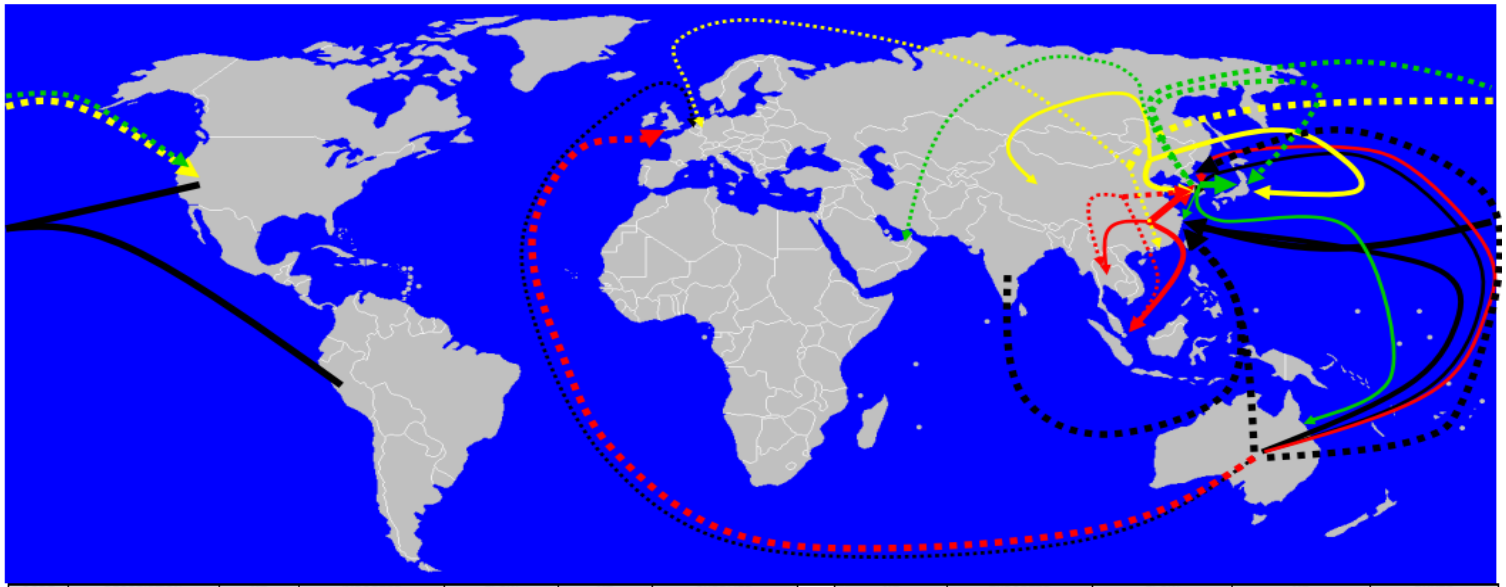
Used Lead Acid Batteries (ULAB) are recycled…



… but with severe environmental and health damages.

http://www.worstpolluted.org/projects_reports/display/90

International dimensions



CODE	DESCRIPTION	MT	IMPORTER	FLOW	MT	SUPPLIER		MT	EXPORTER	FLOW	MT	BUYER
HS-96-260700	Lead ore and concentrates	9,137,452	China		1,561,591	USA		4,129,240	Australia		1,341,182	Republic of Korea
					1,560,677	Peru					1,331,272	China
					1,398,944	Australia					625,582	Belgium
		2,519,861	Republic of Korea		1,253,127	Australia		1,420,271	India		1,367,849	China
HS-96-7801	Unwrought lead	1,394,756	Republic of Korea		791,524	China		3,717,895	Australia		1,195,804	United Kingdom
					360,684	Australia					769,271	Republic of Korea
		682,283	Singapore		501,000	China		3,625,219	China		466,203	Singapore
		740,944	Thailand		391,070	China					339,320	Thailand
HS-02-8471	Automatic data processing machines and units thereof (computers)	863,658	China		245,103	China		3,557,016	China		1,074,218	USA
		556,022	Japan		322,326	China					545,681	Hong Kong
		535,343	Republic of Korea		353,862	China					503,744	Netherlands
HS-92-850710	Lead-acid electric accumulators (vehicle)	544,844	Japan		337,476	Republic of Korea		2,640,108	Republic of Korea		346,910	Japan
					92,841	China					345,854	USA
		328,197	Australia		102,496	Republic of Korea					220,185	United Arab Emirates

Figure 5-1 Trade flows of products containing lead to and from the Asia and Pacific region, 2000 - 2009 period

UNEP

Workshop on Sound Management of Used Lead Acid Batteries: Goals and Objectives

- The overall goal: to advance international analysis, commitment and action to address the challenges associated with the management and recycling of ULAB.
- Objectives :
  - Review the current situation on the international movement, management and recycling of ULAB, and associated environmental and health risks.
  - Exchange information on the government policies and stakeholder actions to address these risks.
  - Identify potential future UNEP activities towards the environmentally sound management of ULAB.
  - Finalize a draft report on proposed UNEP action to promote sound management of ULAB.

Partners

- **UNEP** contributes through its **Chemicals and Waste Branch** (CWB) and the **Economy and Trade Branch** (ETB) and provides perspectives on the management of environmental and health risks of lead and the international trade of ULAB and their recycling respectively. CWB is contributing through the Geneva-based Technology and Metal Partnership Team (overall coordination) and the **International Environmental Technology Centre** (IETC) based in Osaka.
- **WHO** nominated an expert to address the human health dimension and will author a part of the report.
- **Basel Convention Regional Center for Central America and Mexico** prepares the draft workshop document and finalize a report on ULAB management with the help of experts.
- **Global Environmental Centre Foundation** compiles a report with input from these partners and experts, and makes practical arrangements for the Workshop.

Workshop programme

Session 1: Opening and Introduction

- Objective: *Develop shared understanding of global challenges of ULAB management and recycling*
- Presentations: Trade analysis, health impact, environmentally sound management

Session 2: Challenge in Asian Countries

- Objective: *Provide national perspectives and identify good practices for designing policy*

Session 3: Future UNEP activities on lead batteries

- Objective: *Identify and design possible UNEP activities: what, who, where, when and how*
- Presentations: Certification scheme for ULAB recycling, Case example and low-cost model, Better Environmental Sustainability Targets (BEST) for Lead Battery Manufacturers, IETC e-waste projects

Session 4: Summary, conclusions and evaluation

- Objective: *Agree on course of action*