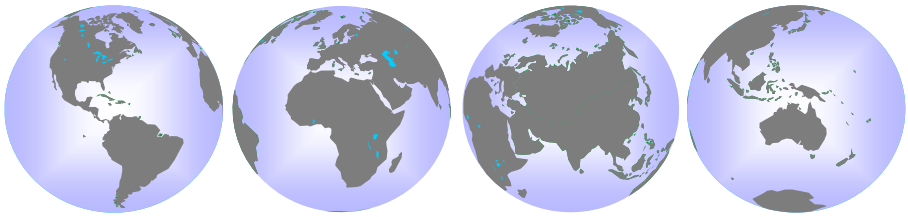
ILMC

International Lead Management Center



International Lead Management Center

Responsible Care

Lead Risk Reduction

“The ILMC Experience”

Association of Battery Recyclers
2009 Spring Meeting
Ritz Carlton Hotel
Amelia Island
Florida
USA

Brian Wilson
ILMC Program Manager

The Formation of the ILMC

In 1996 the Environment Ministers of the Organization for Economic Cooperation and Development (OECD) issued a Declaration on Lead Risk Reduction seeking to voluntarily develop and strengthen national and cooperative efforts considered necessary to reduce risks from exposure to lead.

In the build up to the OECD Declaration the International Lead Industry, through the Offices of the Lead Development Association International (LDAI) and the International Lead Zinc Research Organization (ILZRO), lobbied strongly for a voluntary approach to Lead Risk Management on the basis that restricting lead product production throughout the OECD, as originally proposed under a draft Council Act, would not necessarily restrict the availability of those products amongst member countries under prevailing World Trade Organization (WTO) rules. Indeed, the likely consequence was that it might even export any environmental threats and occupational exposure to the developing world if production moved to countries outside the OECD.

What is the ILMC?

The acceptance of these arguments by the OECD Ministers lead to an innovative approach to the management of lead risk and the creation of the International Lead Management Center, the ILMC, in the summer of 1996.
It was also agreed with the Ministers that the objectives of the voluntary lead risk reduction program would be best demonstrated by:

- introducing specifically designed Risk Management Pilot Programs.
- sharing risk management procedures through an information data base.
- an outreach program enabling the ILMC to work with International Agencies and
- opening an inquiry desk to facilitate the free transfer of risk reduction strategies.

Pilot Programs – Country Projects

In 1997 the ILMC embarked on a series of Pilot Programs dealing with a variety of Lead risk management issues:

Philippines: In the Philippines the ILMC worked with the major secondary lead recycler to explore and implement environmental and occupational health improvement strategies to facilitate ISO 14001 Certification.

Russian Federation: There were three projects in the Russian Federation. In St. Petersburg the focus was on setting up an atmospheric monitoring system and establishing a correlation with occupational exposure. In the Rudnya Valley, the main issues to be resolved were soil contamination and population exposure around the town's lead smelter. At the Kursk secondary lead smelter and battery manufacturing plant the Company wanted to introduce medical surveillance for its employees and training programs were set up to teach the laboratory technicians lead in blood analysis.

Mexico: In Mexico the ILMC were asked to assist with the preparation of a Reference Manual in Spanish to assist small and medium sized businesses in the Mexican Lead Industry to conform to the prevailing national environmental and occupational health legislation.

Peru: Specialist advice on materials handling and storage were required of the ILMC to resolve a childhood lead exposure issue at the Port of Callao in Peru.

Zambia: In Zambia the ILMC was asked to examine the remediation options to deal with the legacy of population exposure and contaminated land following the sudden closure of the lead mines at Kabwe.

Pilot Programs – Information Exchange Projects

In addition to the Country based Pilot Programs, the ILMC was also engaged in two Information Projects for worldwide distribution.

Ceramic Foodware:

An Information Handbook detailing best practice for the safe production, use and disposal of Lead Glazed Ceramicware was made available in hard copy and electronically on the ILMC web site.

The introduction of unleaded gasoline:

Clearing house reference materials and case studies detailing the experience of individual countries in the phase out of leaded gasoline were compiled, collated and uploaded into the public domain via the ILMC web site.

Environmentally Sound Management:

When it comes to explaining “Environmentally Sound Operating Procedures”, a site visit is always better than a thousand words. In this respect, supporters of the ILMC have been demonstrating “Best Practice” with site visits, work place secondments and “on the job” training for Managers and Technicians from Pilot Program partners.

Pilot Programs – Project Partners

From the outset of the formation of the ILMC is was clear that the Lead Industry alone could not resource or fund a comprehensive series of Lead Risk Reduction Pilot Programs required under the terms of the OECD Ministerial Declaration.

Funding and Resource partnerships have therefore been a key element in the delivery of Pilot Programs.

In the Philippines, the ILMC worked with the Geneva based United Nations Conference on Trade and Development and the Environmental Management Bureau in Manila.

In the Russian Federation, the Lead Industry is represented by Electrozariad, and they were a key partner together with the Regional Offices of the Department of the Environment and Natural Resources.

However, certain legacy issues such as those in the Rudnya Valley and Kabwe required the assistance of the Blacksmith Institute to mobilise local community groups and leverage remediation funds from International Agencies.

In Mexico the ILMC worked through the Mexican Chamber of Mines, CAMIMEX (Cámara Minera de México) and with the Government's Health Ministry, the INE (Instituto Nacional de Ecología), to initiate, resource and implement the Pilot Program.

Funding in Peru came through the US AID Program and implementation of the Project was undertaken in cooperation with the for the Government Ministry for Health and the Environment, DIGESA (Dirección General de Salud Ambiental).

The Ceramic Handbook was part funded by the International Crystal Federation and prepared in Cooperation with Rutgers University.

The Clearing House Database for the introduction of unleaded Gasoline was undertaken in partnership with the Paris Bureau of the United Nations Environment Program, UNEP.

Key Success Factors

Many important lessons have been learned during the implementation of the Pilot Programs. And that is PRECIOUS.

- Identify and engage key partners, such as the Ministries of the Environment and Health
- Responsibilities are clearly defined and ownership of the Project is localized.
- Environmental goals are based on sound practices and are sustainable.
- All communications are honest and open.
- Ensure that there is a multi-stakeholder approach, including local NGOs
- Objectives are realistic, focused and agreed by stakeholders
- Understand the key issues. - The problems, the root causes and the resolution.
- Ensure that stakeholders are fully committed to work together to achieve the objectives

Lessons Learned

There were also some surprising lessons learned about implementing Lead risk Reduction Programs.

Firstly, achieving significant reductions in lead exposure does not have to be an expensive exercise.

Indeed, communicating how to achieve sound environmental management methodologies and best working practices will result in significant improvements to environmental performance and a reduction in occupational exposure.

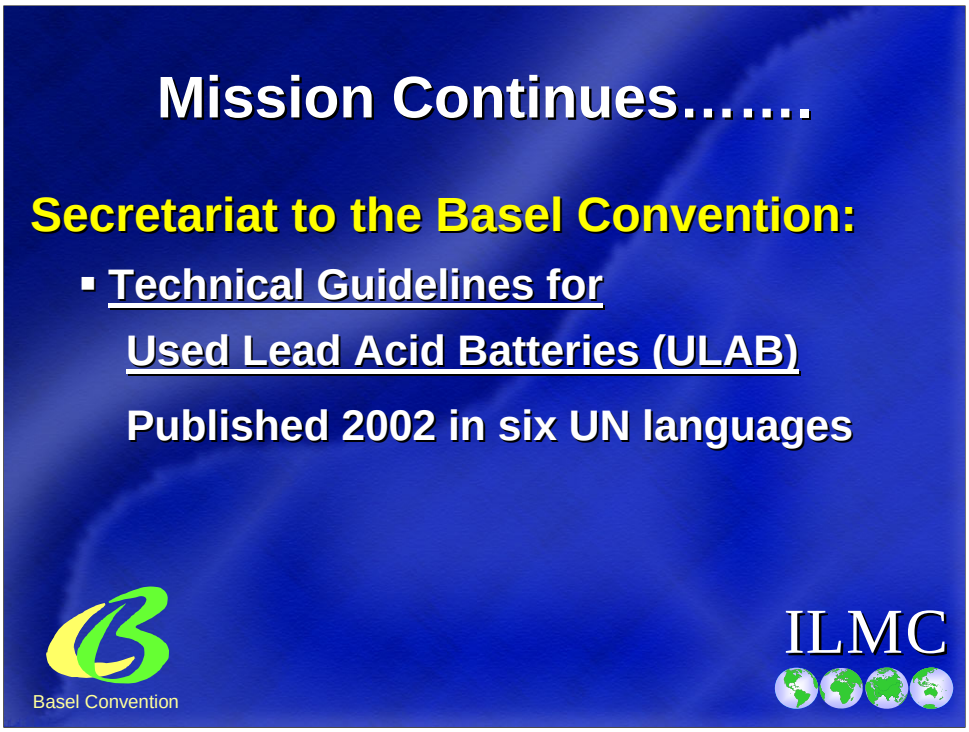
However, infrastructure is important, especially when introducing biological surveillance and environmental monitoring for the first time.

Although certain problems are country specific, many lead exposure issues are similar and so exchanging information about successful case studies is a valuable way to extend a risk reduction program.

Restricting the battery recycling activities of the "informal sector" will dramatically reduce the adverse environmental impact created by their poor recovery practices.

In cases where it is uneconomic for a country to recycle batteries, then regional solutions should be considered as a viable and sustainable option.

In 2003 the OECD accepted that the Lead Industry had met its obligations and fulfilled the commitments made as a result of the Ministerial Declaration. However, the Industry did not want to find itself under threat again by the International Community and decided to extend the risk reduction activities of the ILMC beyond the Country Based Pilot Programs and use the experiences gained on regional and global projects.



Mission Continues

Some years ago the OECD accepted that the Lead Industry had fulfilled the commitments made under the Ministerial Declaration, but the Mission continues.

ILMC has worked extensively with the Basel Secretariat providing lead risk reduction expertise for the preparation of Technical Guidelines for the Environmentally Sound Recovery of ULAB. Published in the six UN languages in 2002, to this day they are the best guidance document for the sound recycling of ULAB. Technical support has also been given to the Secretariat for a 5 year Regional Pilot Project for the Environmentally Sound Management (ESM) of ULAB in Central America, the Caribbean, Colombia and Venezuela.

SBC ESM ULAB Project - Participating Countries

Technical support has also been given to the Secretariat for a 5 year Regional Pilot Project for the Environmentally Sound Management (ESM) of ULAB in five countries in Central America, Costa Rica, El Salvador, Guatemala, Mexico and Panama; three Caribbean Island States, the Dominican Republic, Trinidad and Tobago and St. Lucia; and two countries in South America, Colombia and Venezuela.

.

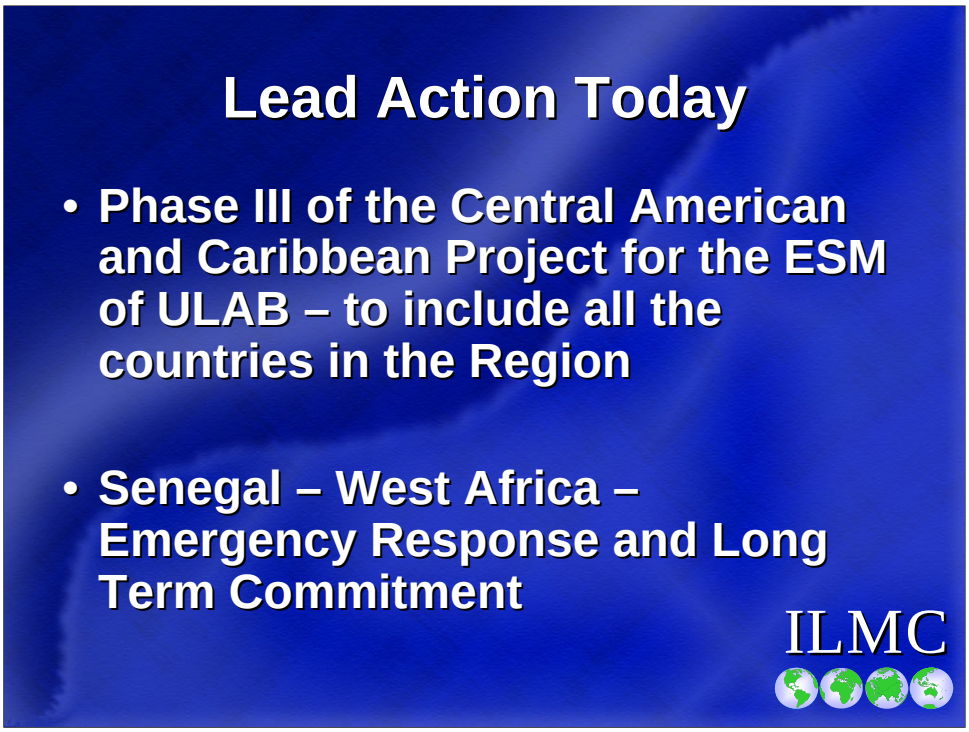
SBC ULAB Project – Outcomes

The outcomes from this project were:

1. A Model seven step process to achieve Environmentally Sound Management (ESM) of Used Lead Acid Batteries (ULAB).
2. A strategy to restrict the illicit activities of the *"informal sector",* whilst providing them opportunities to work in the "*formal sector*" collecting ULAB for shipment to a licensed smelter.
3. A comprehensive Training Manual that covers all the requirements of the Technical Guidelines and the Model seven step approach to achieving environmentally sound management of used lead acid batteries at a National Level.
4. A Regional Strategy agreed by all ten Countries in the Pilot Project for the Environmentally Sound Recovery of Used Lead Acid Batteries in accordance with the Basel Technical Guidelines.

SBC ULAB Training Manual – Cambodian Project

The Training Manual has since been used by the Cambodian Ministry of the Environment to prepare a national inventory of ULAB and formulate a National Action Plan for the ESM of the recovery process.



Lead Action Today

Currently there are two active Lead Risk Management projects involving the ILMC and two in the planning stage.

The preparations for Phase III of the Central American and Caribbean Used Lead Acid battery recovery project that will include all the countries and island states in the region.

Secondly we are supporting a major international emergency response mission in Senegal to eliminate the adverse health and environmental impacts associated with informal ULAB recycling in Dakar.

SBC ULAB Project – Phase III – Regional Recycling Hubs

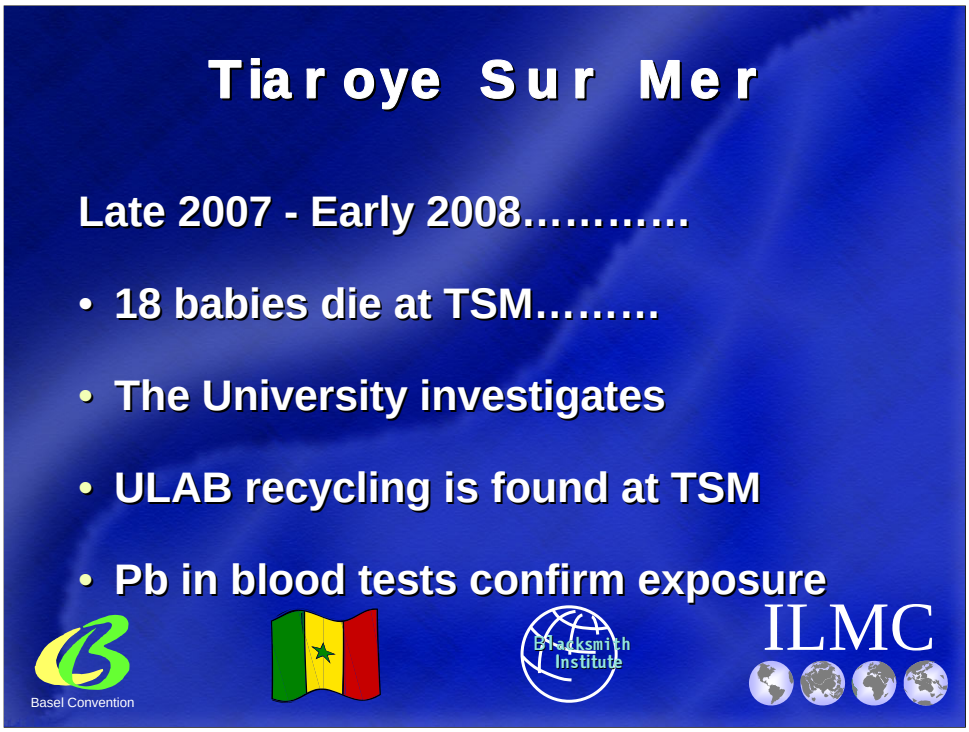
The ILMC is working with the Basel Convention Regional Center in San Salvador to prepare the groundwork for the implementation of the next phase of the Regional Strategy. That is to:

- Establish a Registry of all the smelters that are in compliance with the Basel Technical Guidelines for the ESM of ULAB. So far, ES smelters have been identified and assessed in Venezuela, Colombia, Mexico and most recently, Guatemala. New smelters are to be constructed in Costa Rica and the Dominican Republic.
- Train all Government Agencies involved in the transboundary movement of ULAB in the correct procedures for import and export in accordance with domestic legislation and the Basel Convention.
- Establish ULAB Collection Networks to ensure all ULAB are sent to ES Smelters.
- Secure the agreement and cooperation of all Governments in the Region to adopt the Regional Strategy and maximize the synergies for the ESM of ULAB in order to eliminate the illegal and polluting activities of the informal sector.

Thiaroye Sur Mer

The tragedy that is Thiaroye Sur Mer brings home to us the importance of product stewardship and how “informal” recycling of Used Lead Acid Batteries (ULAB) in the developing world is responsible for the vast majority of lead contamination and population exposure.

Thiaroye Sur Mer (TSM) is a town on the outskirts of Dakar in Senegal. The population of about 100,000 is mainly poor, living at barely subsistence levels. Traditionally TSM has been a fishing community and for many years local blacksmiths extracted lead from used car batteries to cast fishing weights. However, a decline in the fishing industry, and an increase in the availability of ULAB lead to Blacksmiths and other “informal” traders to look for alternative outlets for the lead recovered from the used batteries.



Thiaroye Sur Mer

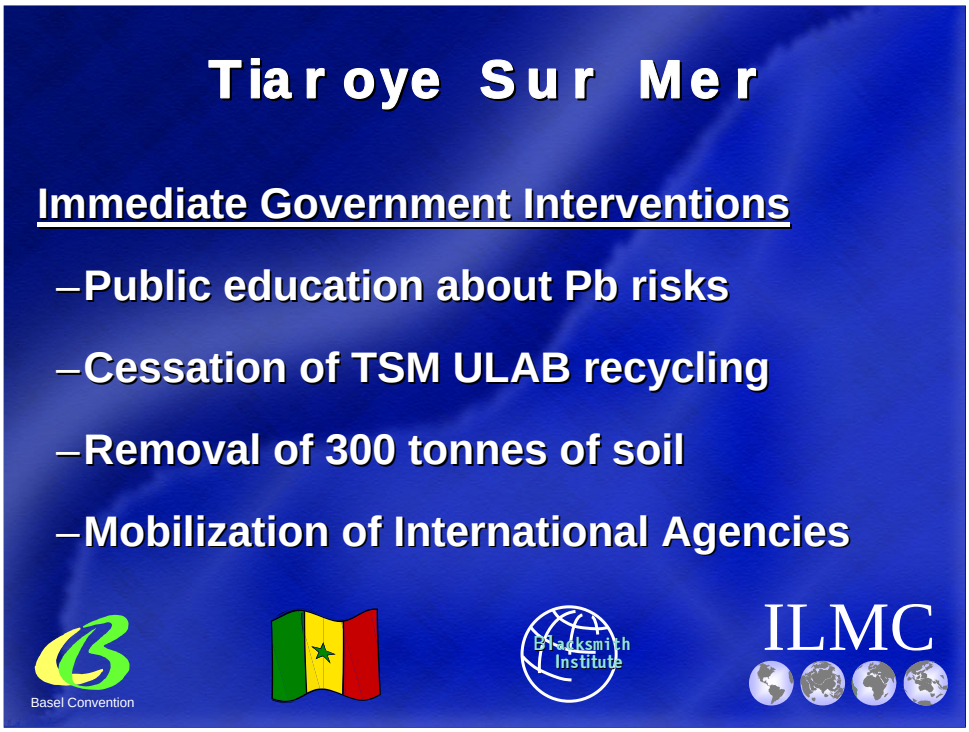
In late 2007 and the early part of 2008 as many as eighteen babies died in TSM over a period of only two or three months. Now is it not uncommon for babies to die in poor communities, especially in a country where malaria is endemic and in a township without running water and proper sanitation. In fact, parents thought that their children had died of malaria.

However, a doctor at the University in Dakar thought that even in a community such as TSM, eighteen infant deaths was just too many. So she went to TSM to investigate.

What she observed was to shock her. As she approached one of the houses she saw fifty or so people, mainly women, but some men and young children, breaking ULAB and removing the metallic grids after washing off the oxide paste in a pond and then placing the grid metallics in bags.

At once she realized that the population were probably being exposed to lead oxide dust and asked community leaders if she could carry out lead in blood tests on the children.

The lead in blood results showed high levels of lead exposure in the infants and children.



Tiaroye Sur Mer

When the doctors reported their conclusions to the Ministries of Health and the Environment, the Government of Senegal intervened:

- A public education program was initiated to explain to the population at TSM of the dangers of poor ULAB practices.
- All ULAB recovery operations at TSM were stopped.
- 300 tons of lead contaminated soil from the areas where most of the battery breaking was undertaken was removed and replaced with clean lead free sand.
- The Government decided to contact and consult with the International Community with a view to seeking guidance, advice and support to resolve the problem of lead contamination at TSM and set up an environmentally sound process for the recycling of ULAB.

Tiaroye Sur Mer

The Environment Ministry of Senegal contacted the Blacksmith Institute in New York, and they specialize in remediation of contaminated sites, for assistance with the soil remediation at TSM.

Dakar is host to the Basel Convention Regional Centre (BCRC) for West Africa and the office is attached to the Ministry of the Environment, so not surprisingly, the Government of Senegal and the BCRC contacted the SBC in Geneva seeking urgent assistance to set up an environmentally sound ULAB recycling process. The same day the SBC received the request from the Government of Senegal, it was passed to the ILMC for our immediate attention.

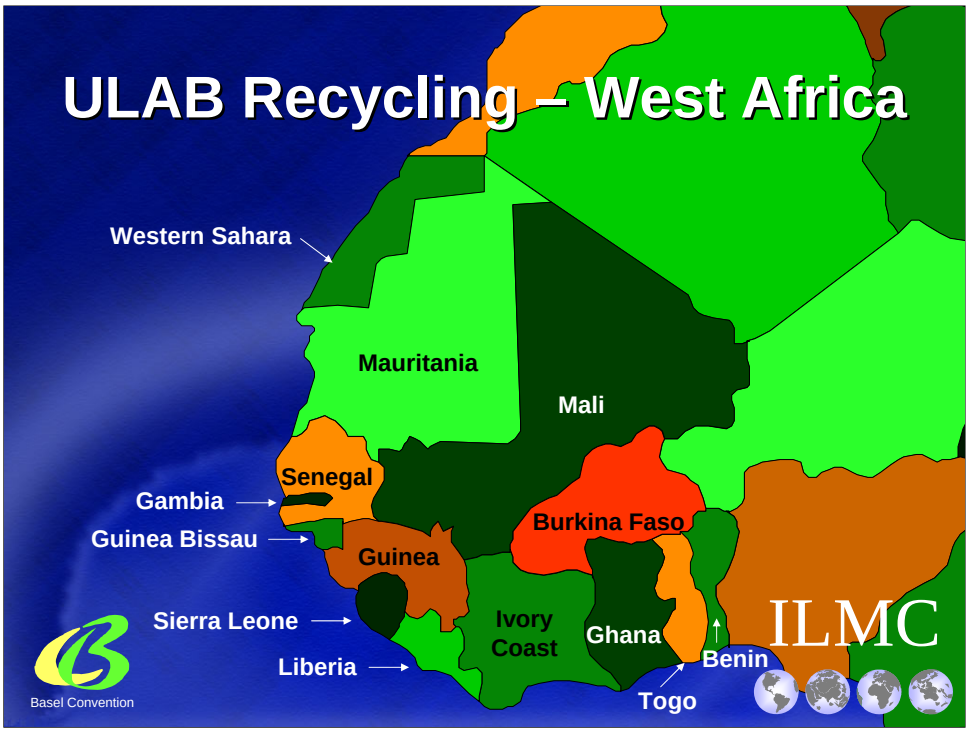
The Senegalese Ministry of Health contact the local office of the World Health Organisation (WHO) and the headquarters in Geneva, because of the health needs of the children at TSM with high lead in blood elevations.

Tiaroye Sur Mer

Last year the ILMC undertook two joint missions on behalf of the Basel Secretariat in conjunction with the Blacksmith Institute to resolve the issues at TSM and set out a plan to eliminate the exposure problems including an environmentally sound procedure or process for ULAB recovery.

The short and long term plan of action agreed with the Government of Senegal involved the Blacksmith Institute remediating the site at TSM and the ILMC setting up a ULAB collection center in Dakar in accordance with the Basel Technical Guidelines and in conjunction with the local population.

Working with the International Lead Zinc Study Group (ILZSG), an application has been made to and approved by the Common Fund for Commodities (CFC) for the necessary funds to set up the ULAB collection center. Sites close to TSM have already been surveyed and we anticipate the operation will be commissioned later this year.



West Africa – Regional Project for the Environmentally Sound Management of Used Lead Acid Batteries

Of course the situation in Dakar is not an isolated case and the ILMC is also working closely with the Basel Convention Regional Center in Dakar with a view to developing a Regional solution to ULAB recovery in West Africa. There is already interest from the Philips Lighting Group in the Netherlands, who have commissioned a study of ULAB recycling in Ghana and the ILMC is providing technical support to "Partners in Development" who undertaking the study.

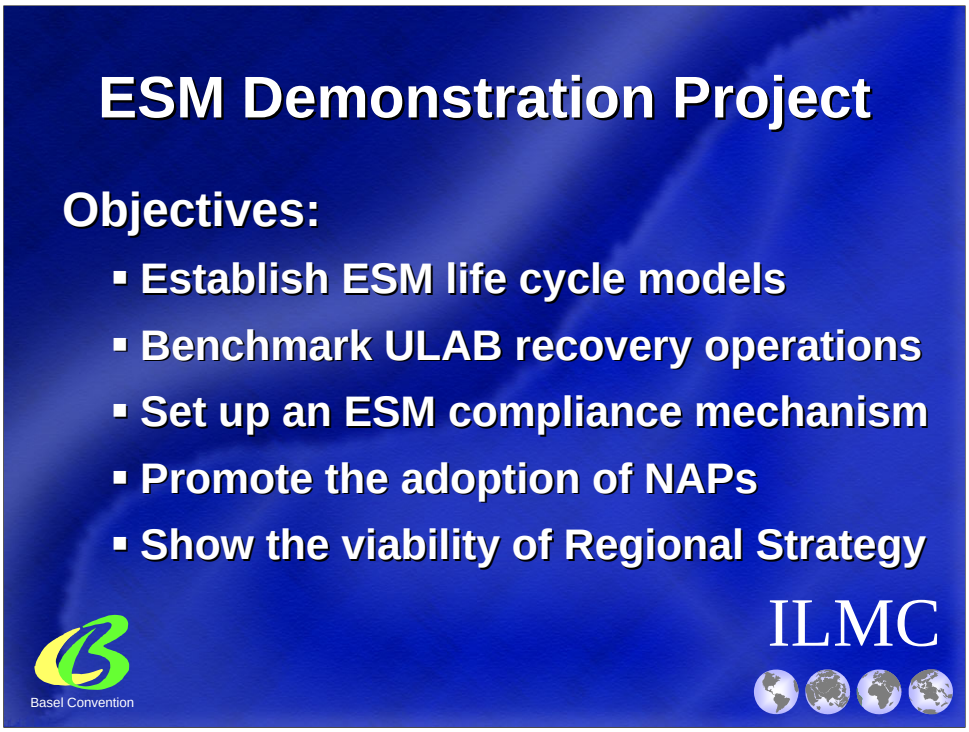
Asian ESM Demonstration Project for ULAB Recovery

With Asia becoming the bull market for automotive battery sales, it is also the region with the biggest growth in unregulated and informal ULAB recycling. However, as the buying public become more discerning about the environmental provenance of leaded products so, there is pressure from not only NGOs and Governments to eliminate the informal sector, but also from the formal Industry sector operating to international standards for environmentally sound management.

So, building on the work previously undertaken in the Far East with UNCTAD in the Philippines and the Basel Secretariat in Cambodia, the ILMC has joined with the International Labour Organization (ILO), the ILZSG, the Non- Ferrous Metals Association of China and the Common Fund for Commodities to develop a demonstration project for the Responsible Care of ULAB through Life Cycle Management of Lead Acid Batteries.

Seven countries will participate in establishing the demonstration models:

Cambodia	- Exporter of ULAB by land
China	- Domestic recycling of ULAB only
Indonesia	- Domestic and imported ULAB recycling
Philippines	- Domestic and imported ULAB recycling
Singapore	- Exporter of ULAB by land and sea
Thailand	- Domestic recycling of ULAB only
Vietnam	- Domestic and imported ULAB recycling



Asian ESM Demonstration Project for ULAB Recovery

The objectives of the Project are to:

Establish Environmentally Sound Managed Models for Used Lead Acid Batteries through Life Cycle Management of:

- ULAB Collection
- Storage
- Packaging
- Transport/Shipping
- Recycling

Benchmark and register ULAB recovery operations using an agreed Assessment Tool

Set up an ESM compliance mechanism based on the Basel Technical Guidelines, viability and sustainability

Promote the adoption of National Action Plans for the ESM of ULAB in all participating countries based on the Cambodian Model for NAP development.

Show the viability of a Regional Strategy for the ESM of ULAB where synergies are exploited to maximize the use of sound recovery operations.