

The Lead Recycling Africa Project – Newsletter # 02

Dear Reader,

In this second edition of our newsletter, we would like to present some first findings from our research on lead-acid battery recycling in Cameroon, Ethiopia and Tanzania. While the research teams did a remarkable job in the last few months, the surveys – which still need to be complemented by additional information – are not yet finished. Thus, the summaries below are only first insights that are intended to be compiled into more comprehensive country reports at a later point in time.

Furthermore, there is some news on lead-acid battery recycling in Ghana. After we reported on the deadly incident at a Ghanaian battery recycling facility in our [last newsletter](#), we have now published a [report](#) describing the various recycling chains in the country. Although it does not contain any laboratory analysis on emissions and effects on human health, it is a suitable source of information shedding new light onto some sub-standard practices such as uncontrolled acid drainage and disposal, battery braking by use of machetes, and backyard smelting. In this context it is quite remarkable that the Environmental Protection Agency of Ghana (EPA) together with international partners from the [Best-of-two-worlds project](#) conducted a training session on sound lead-acid battery recycling in Tema (Ghana) in July, which was attended by both, managers of battery recycling facilities, and inspectors from the EPA.

Last but not least, we would like to draw attention to a side-event on lead-acid battery recycling on the International Conference on Chemicals Management - ICCM4 on 2nd of October in Geneva. This side event especially aims at raising more attention to this important topic in the UN system and beyond.

We hope that this information may be of interest to you. Should you have any enquiries, please contact us at newsletter@econet.international.

Kind regards,

Your Lead Recycling Africa Project Team,

September 2015

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1. First findings from Cameroon

The on-the-ground research in Cameroon revealed that there are both, formal and informal recycling operations for used lead-acid batteries. The formal recycling is carried out by two companies located in Douala, the economic capital of Cameroon and the country's main port city. While both smelters claim that their operation is subject to an environmental authorization granted by the Ministry of Environment, neither of these two recyclers has developed any policies or practices to ensure the safe handling of batteries, acid and lead during collection, storage, transportation and processing. Secondary lead from these smelters is exported to foreign markets in the form of ingots.

Informal recycling (outside the scope of government control or licensing) is undertaken either by individuals or a small group of entrepreneurs who recover lead from discarded batteries through backyard and open air smelting. Such backyard enterprises operate in various urban areas of Cameroon, including Mokolo (Yaoundé), Camp Yabassi (Douala), Ngaoundéré and Kumba. The lead recovered through these operations is used in the artisanal manufacturing of products such as barbells for weight lifting, cheap jewellery, decorative objects, and artisanal cookware locally known as "macoccote", which is one of the most commonly used cookware in Cameroonian households.

In addition to these two recycling processes, used lead-acid batteries are also illegally exported to Nigeria.

2. First findings from Ethiopia

The field work in Ethiopia revealed that lead-acid battery recycling is currently only being conducted by small-scale backyard enterprises in the informal sector. One formal secondary lead smelter has ceased operation because of various economic difficulties.

The research team was able to investigate in seven backyard recycling enterprises located in various parts of Addis Ababa. Most of these enterprises are involved in both reconditioning and recycling practices. While reconditioning includes the refilling of electrolyte and repairs of the inner plate structure of the batteries, recycling encompasses the opening of batteries, drainage of remaining acid and extraction and smelting of lead scrap.

The survey revealed that most recyclers depend on this work for their livelihood, and that the operations are mostly carried out in the immediate vicinity of their residential homes. It is obvious that such settings bear the risk that also the workers' families and other community members are exposed to high lead contaminations. In particular because none of the seven recycling centres was provided with an adequate solid or liquid waste management system. Furthermore, operations are typically carried out in unventilated and confined areas without using proper personal protective equipment. Workers were also observed smoking and eating food and Khat (raw leaves that people chew as a mild stimulant) within very dusty working environments. None of the centres was equipped with proper washing facilities for workers.

Generally, the level of awareness for the risks of lead poisoning among owners and workers was found to be very low.

3. First findings from Tanzania

In the course of its field work in Tanzania, our team has identified two officially registered recycling facilities in Dar es Salaam, the major business city of Tanzania to date. These facilities receive

their batteries from a wholesale supplier which purchases the used batteries from various local sources. The two facilities disassemble the batteries and smelt the lead. Lead ingots are exported to Spain, Dubai, Saudi Arabia, India and Italy. Apart from these secondary lead smelters, there is another company carrying out battery dismantling to export lead scrap – mostly to Italy. All companies also make use of the plastic casings. They are used to produce mats or – alternatively – sold to other local companies producing plastic ware.

Locally, used batteries are not always taken to a recycling facility. Instead, they are often reconditioned and used to power appliances such as radios and TVs and to bridge the frequent power cuts. Nevertheless, after this reuse stage, they are also recovered and recycled using the described recycling structures.

Generally, the level of awareness of the environmental and health effects of used lead acid battery recycling was found to be low.

4. Training on sound lead-acid battery recycling in Ghana

On July 23rd, Brian Wilson from the [International Lead Association \(ILA\)](#) gave a 1-day training session on sound lead recycling in Tema (Ghana). The training was attended by various managers of lead-acid battery recycling facilities operating in Ghana, as well as by inspectors from the Ghanaian [Environmental Protection Agency](#). Specifically, Mr. Wilson introduced and explained the structure and application of the ILA's *Benchmarking Assessment Tool*. The tool is designed in a way that allows factory managers and EPA inspectors to systematically assess the level of environmental and health performance of a lead-acid battery recycling facility in a qualitative manner. While the tool is not intended to replace monitoring programs such as systematic and regular monitoring of lead levels in the atmosphere, soil, water and the blood of those employed in the industry, it provides a toolkit to quickly identify the main areas of operation that require improvements in the area of either environmental control, occupational health provisions or safety management.

After the theoretical part of the training, the participants were asked to set up small working groups, and to apply the *Benchmark Assessment Tool* to a virtual facility that was presented in a short film showing a transect walk through a secondary lead smelter – from the delivery of used batteries up to the casting of the lead ingots. The exercise demonstrated that – even without the highest level of technical expertise – plant managers and inspectors were able to identify the major strengths and weaknesses of lead-acid battery recycling operations and derive appropriate mitigation measures. In the subsequent discussion, it even turned out that many of the identified problems do not even require large-scale investments. Sometimes, even small and inexpensive measures can lead to considerable improvements. Nevertheless, it is also obvious that some types of urgently needed improvements also require a more fundamental approach, including investments in plant technology and other infrastructure such as clean canteens and showers for workers.

The training was organised by the [Best-of-two-worlds project](#), which is funded by the [Federal Ministry of Education and Research of Germany](#) and has been implemented by a consortium led by [Oeko-Institut](#).

5. Side-event on lead-acid battery recycling on the upcoming ICCM4

On Friday 2nd of October 2015, the issues of lead-acid battery recycling including its hazards and opportunities for improvement will be taken up on a side-event to the [4th session of the International Conference on Chemicals Management \(ICCM4\)](#) in Geneva. The ICCM is part of UNEP's [Stra-](#)

[tegic Approach to International Chemicals Management \(saicm\)](#) and therefore integral part of the UN system.

The side event will focus on the pressing health issues from unsound lead-acid battery recycling and highlights the urgent need for improvements. The event is hosted by the NGO [OK International](#) and includes speakers from UNEP and the WHO. Members of the [Lead Recycling Africa Project](#) will also participate and contribute to the event. More information can be found on the program and speakers can be found on page 6 of the [ICCM side event program](#).

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