



a toxics-free future

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International SAICM Implementation Project (ISIP)

In 2010, in an effort to demonstrate SAICM implementation via IPEN Participating Organizations, IPEN launched an International SAICM Implementation Project, also known as ISIP. ISIP aims to mobilize resources for initial enabling activities pertaining to national priorities, in keeping with the work areas set out in the strategic objectives of section IV of the SAICM Overarching Policy Strategy.

In particular, the ISIP supports the Governance objective of SAICM's Overarching Policy Strategy paragraph 26, which calls for enhanced "cooperation on the sound management of chemicals between Governments, the private sector and civil society at the national, regional and global levels."

In addition, ISIP builds on the 2008-2009 Global SAICM Outreach Campaign to raise awareness about SAICM and strengthen collaboration among the public interest, health and labor sectors.

ISIP Objectives

ISIP's four objectives include:

- Promoting the need for sound chemicals management
- Advancing National SAICM Implementation
- Promoting global SAICM implementation by global civil society
- Building capacity among NGOs developing countries and countries with economies in transition

Title of activity: Survey and Policy Advocacy on the Management of Used Cellphone Batteries

NGO: Ecological Alert and Recovery – Thailand (EARTH)

Country: Thailand

Date: December 2010

Elements of SAICM Covered:

Activities relating to identification and assessment of where issues relating to the sound management of chemicals arise during the lifespan of electrical and electronic products, including the design of such products, green chemistry, recycling and disposal, in particular in the context of the requirements of the Basel and Stockholm conventions, participation in the workshop on electronic waste to be held in the margins of the meeting of the Open-ended Working Group meeting of the Basel Convention and follow up recommendations and options for the SAICM OEWG and ICCM3 (ICCM2 decision II/4)

Definition of e-waste and near end of life items and the hazardous chemicals contained in them:

This project focuses on the consumption and disposal of cell phone batteries, which has remarkably increased in the recent years. Most cell phone batteries used nowadays are lithium-ion and lithium-polymer types. Each lithium-ion battery contains some hazardous chemicals, including 2-15% copper, <25% cobalt and cobalt compounds, 2-10% aluminum and <25% lithium compounds. For lithium-polymer batteries, their polymer electrolyte composition includes acrylate, epoxy or isocyanate at both of its terminals, and includes a compound containing an aromatic group such as thiophene, biphenyl or furan in an amount of 0.1% to 20% by weight based on the amount of the overall organic electrolytic solution. The polymer electrolyte composition further includes at least one of polyethylene glycol diacrylate (PEGDA), polyethylene glycol dimethacrylate (PEGDMA), and a mixture thereof.

Description of the situation with regard to e-waste that is generated in the country vs. waste that enters the country:

In Thailand, the number of mobile phone sales was 9.3 million¹ in early 2010. It is quite likely that most of these phones will be discarded in the next two years. According to Choochom, Oraphin et al (2009), it was found that mobile phone users (specifically, pupils or university students), did not change their batteries. Instead, they change their mobile phones when their cell phone batteries expire. Other groups of people changed their cell phone batteries on average two times per device². Therefore, the amount of mobile phone batteries that would be discarded in Thailand is at least 9.3 million units within the next two years. If the percentage of users who are not pupils or university students is 70%, then 15.8 million expired batteries would be discarded.

Choochom, Oraphin et al (2009) also identified five other outcomes for the group who changed their batteries. These included: a) keeping used batteries at home (47%), b) throwing used batteries into rubbish bins (29.3%), c) leaving used batteries at shops when the users installed new batteries (28.7%), d) discarding separately (23.1%), and e) dropping off at recycling boxes (14.8%)³. Thus, the most insecure management occurred when cell phone batteries had been disposed in rubbish bins (nearly 30%). The analysis is that these figures might also increase if those batteries left at shops were also disposed into rubbish bins. Thus, the outcomes may be worse than these figures indicate.

Description of the current practices for dealing with e-waste and near end of life electrical equipment:

At present, Thailand has no specific law on the management of e-waste or used batteries. The management of domestic waste, both common waste and e-waste classified into hazardous waste, is currently under the Public Health Act, BE 2535 and BE 2550. According to this Act, local governments are authorized to manage waste in their areas. However, because there are no regulations, the management of hazardous waste from communities (contained in the Public Health Act BE 2550) is not fully enforced.

Nevertheless, the Pollution Control Department, in charge of the environment under the Enhancement and Conversation of the National Environment Quality Act B.E. 2535, has developed an "Integrated Strategy of the Management of Waste from Electrical and Electronic Equipments (WEEE)", which the cabinet approved on the 24th July, BE 2550. The WEEE Strategy serves as a framework and guideline to solve problems related to the e-waste management. One of its aims is to set up financial administrative fund in order to support the

¹ ThaiPost Online. *Searching for "Nokia ambassador" from the Jamjuree fence, campaign for the recycling of "mobile phone"*. Retrieved 6 March, 2010, from <http://www.thaipost.net/x-cite-kidz/060310/18898> [Thai].

² Choochom, (Initials) Oraphin (Initials) et al. (2009). Survey of Thai's mobile phone-battery usage and disposal. *The Journal of Behavioral Science*. 4 (September): 28-43.

³ Percentages add to 142.9% which is above 100, however, Choochom Oraphin did not provide any reasons; nevertheless, it is likely that one respondent might select more than one choice.

management of WEEE. It encourages recycling and the management of hazardous residues in a proper manner. Moreover, a draft of the Royal Decree about the enhancement of waste management from used products BE ... is being developed. This Royal Decree is anticipated to be under the (draft) Economic Tool for Environmental Management Act BE..., being enacted by Ministry of Finance⁴.

At present, only a small fraction of all the used cell phone batteries are collected for recycling or disposed of correctly at landfills. This has been discovered from the results of pilot or campaign projects organized by government, local government, and private sector organizations.

Description of any contaminated sites that have resulted from e-waste:

This project has not focused on nor conducted surveying of any contaminated site.

Project Outcomes:

Description of the activity conducted:

This survey focused on private sector organizations or companies, particularly in the telecommunications field. The data was gathered through both primary and secondary sources which included: (a) company websites, (b) questionnaires sent to companies, and (c) a field survey of some mobile phone shops. A summary of the sources of data related to the collection and take-back of used mobile phone batteries is presented in Table 1.

Table 1: Summary of the data about the collection and take-back of used mobile phone batteries.

| Company Name | Business type | Sources of data | | |
|--|--------------------------|-----------------|----------------|--------------|
| | | Websites | Questionnaires | Field survey |
| Motorola Thailand | Mobile phone distributor | ✓ | ✓ | |
| Nokia Thailand | Mobile phone distributor | ✓ | | |
| Sony Ericsson | Mobile phone distributor | ✓ | | ✓ |
| Thai Samsung Electrics | Mobile phone distributor | | | ✓ |
| I-Mobile | Mobile phone distributor | | | ✓ |
| Telewiz | Mobile phone distributor | | | ✓ |
| Commy Cooperation | Battery distributor | ✓(News pages) | | |
| Total Access Communication Public Company Limited or | Network services | ✓ | | ✓ |

⁴ Pollution Control Department. Conference paper using in the 7th meeting of the sub-committee who in charge of the project, Integrated Strategy of the E-Waste Management from Electrical and Electronic Products. 9 July 2010.

Retrieved July 14, 2010, from http://infofile.pcd.go.th/haz/WEEE_000000.pdf?CFID=000000&CFTOKEN=000000 [Thai].

| | | | |
|--|------------------|---------------|---|
| "DTAC" | | | |
| CAT Telecom | Network services | | ✓ |
| Advanced Info Service (AIS) | Network services | ✓(News pages) | ✓ |
| IT Mall Fortune | Mall | ✓(News pages) | |
| Central Plaza Ratthanathibet | Mall | | ✓ |
| Department of Environment, Bangkok Metropolitan Administration | | | ✓ |
| Department of Public Health and Environment, Nonthaburi Municipality | | | ✓ |

After researching the company websites, it was found that four companies provided information about the project of collecting and taking back of used mobile phone batteries on specific webpages. The four companies were: (a) Motorola Thailand Co., (b) Nokia Thailand Co., (c) Sony Ericsson Co., and (d) DTAC. Moreover, three companies presented the data in the news pages. These three companies were: (a) Commy Cooperation Co., (b) AIS, and (c) IT Mall Fortune Co.

Fifty questionnaires were sent to the companies above and other relevant organizations which included: (a) seven companies producing mobile phone batteries, (b) one company producing and selling mobile phone batteries, (c) twenty nine companies providing network service and selling mobile phones, (d) five companies or relevant organizations that presented their activity of taking-back used mobile phone batteries, and (e) eight recycling companies.

However, only five of these organizations sent the survey questionnaires back. These organizations included: (a) CAT Telecom PCL, (b) AIS, (c) Motorola Thailand Co., (d) Hazardous Waste Division, Department of Environment, Bangkok Metropolitan Administration, and (e) Department of Public Health and Environment, Nonthaburi Municipality.

In addition, a field survey was conducted in four shopping malls where mobile phones and accessories are sold. These shopping malls included: (a) Central Plaza Rattanathibet, (b) Future Park Rungsit, (c) Zeer Rungsit, and (d) Fashion Island.

Impact on target groups:

In the long-term, the project aims that used cell phone batteries that have been increasing every year and have almost never been regulated will be managed in a safer and better way. These hazardous wastes should be separated, collected and disposed of in a safe manner. The survey results will be used to raise awareness about the problem among national and local authorities as well as the general consumers. The project will consist of three main activities: 1) literature and field survey on the amount of used cell phone batteries in Thailand and how they have been managed by surveying and interviewing cell phone sellers in selected selling centers, 2) writing and completing the report, and 3) disseminating the report through media.

Impact on target policies:

Thailand is currently drafting two important laws on hazardous waste. One of these is the Act on electronic and electrical equipment waste under the Pollution Control Department and the second one is the ministerial regulation on hazardous household waste management under The Public Health Act B.E. 2535. The results of the survey will hopefully provide important data on

the prevailing management of spent cell phone batteries, which can be fed into the processes of drafting these laws.

Outreach to stakeholders:

The Battery Report was shared with other Thai NGOs and NGOs in other countries, as other countries may have similar e-waste problems that they could learn more about from this report.

Deliverables, outputs and/or products:

Completed report on the preliminary survey on the management situation of used cell phone batteries in Thailand (both in Thai and English).

Communication efforts:

This study is an initial stage that mainly aims for internal evaluation of the current situation, not intending to give a big hit to the public or to the related regulatory agencies. However, part of the study outcome has been shared with radio programs and consumer groups, and will be published in EARTH's face-book and on the website (after its completion of construction) to raise awareness about e-waste problems.

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NGO Recommendations for next steps:

1. The Pollution Control Department should set up a database system to gather information from relevant organizations relating to the management of used mobile phone batteries. The database should record data including: the different types and amounts of used batteries (both recyclable and non-recyclable, and both legally and illegally imported) which both can be and are collected (estimated and actual), the different methods of disposal, recycling or reuse, and the totals of those disposed, recycled or reused. The database should also record costs.
2. There should be a study on how to prevent or regulate transactions involving illegal mobile phone batteries from China.
3. The law should be amended to regulate the use of known toxic substances, such as mercury, in batteries, and prohibit their use as ingredients where necessary. Regulations should also be enacted to safeguard the public from all potentially toxic components of batteries, both of the reusable and non-reusable (e.g., alkaline) types.