

Final Report

on

“Energy efficient recycling of e-scrap in Vietnam”

A Sida supported Partner Driven Cooperation (PDC) project in Vietnam

Executive Summary

This project “Energy efficient recycling of e-scrap in VietNam” evolved to have a much broader scope than originally envisaged. The number of stakeholders contacted has been quite large both in Sweden and VietNam (and in the region). The reason is that a condition for achieving a long term sustainable e-waste recycling value chain is that all the links in the chain need to hold together and in the case of VietNam (and in South East Asia) all of the links have to be improved. The proverb “no chain is stronger than its weakest link” is certainly valid when it comes to create a sustainable e-waste management system. Georange has worked with companies and organizations with the focus on

- a. Improved legislation
- b. Increased awareness
- c. Strengthening and organizing collection systems
- d. Strengthening and building local recycling up to standard capacity

Georange has made two missions to VietNam, the second also including Thailand, and introduced two companies to a number of potential partners and customers in VietNam. These companies are:

1. Tes-Amm, <http://www.tes-amm.com/> which is a globally active up to standard recycling company with headquarter in Singapore and with the ambition to enter VietNam and build up partnerships there with local recycling companies.
2. MRT System, <http://www.tes-amm.com/>, a Swedish company with its headquarter in Karlskrona which provides technology for mercury recovery.

The main outcome of this PDC is that Georange has initiated the creation of a Strategic Alliance among some dedicated companies, Tes-Amm and MRT System being two of them. Talks are being held with Ericsson, Nokia and Boliden to be partners of the alliance. The objective of this alliance is to actively work with local partners on solutions on the ground around the four subject areas mentioned above. The Swedish EPA (Environment Protection Agency) and IF Metall have also been approached to become partners of the alliance. The intention is then to seek complementary funding, separately or jointly, from Sida’s environmental program for South East Asia, from Germany’s GIZ and from the EUs SWITCH program.

Purpose and Objectives of the Project

The overall objective of this project is to contribute to improved and sustainable recycling of e-waste (WEEE: Waste Electrical and Electronic Equipment) in Vietnam. Improved recycling of e-waste would reduce environmentally harmful practices and significantly reduce climate footprint. Furthermore, up to standard collection and recycling of e-waste has a potential to mitigate poverty among the poor informal collectors and small backyard dismantling operations.

The specific objectives to reach the overall objectives, have been to identify reliable and committed partner organizations and companies in Vietnam and Sweden (could be also non Swedish) to establish partnerships for long term cooperation along the e-waste value chain. It has been the intention of the project to help seek additional funding for activities that might be the result of matching various actors together.

Project Wide Results (by objective)

Georange made a first introductory, fact finding and relation creating mission to VietNam in late October/beginning of November 2012 and met with the two previously identified VietNameese recycling companies as well as with the Ministry of Environment and/VietNam Environment Administration. It became obvious that stakeholders in VietNam were quite keen to benefit from Swedish experiences both on the regulatory side, technical and practical e-waste recycling but also collection system and awareness raising. Georange prepared a report which was circulated among a large number of Swedish potential stakeholders. Georange also had separate meetings with a number of Swedish recycling companies and has made presentations for the Swedish Environmental Protection Agency and Sida together with Swedish EEE producers (Ericsson and Electrolux), IF Metal, and Chamber Trade. Following such meetings and consultations Georange began to prepare for a second mission to VietNam with the objective to bring together a group of dedicated stakeholders which could join this second mission. Two companies joined this second mission, c.f. above. A number of meetings were arranged and also a small workshop with some ten participants, most of which were VietNameese recycling companies and lamp producers.

The next stage will be to advocate and engage one or two committed producers to join the group (alliance) and to prepare a first concept note for the creation of the proposed Strategic Alliance. This work will be done outside the scope of the Sida supported PDC.

Baseline1: VietNam has an environment law which however is not specific to WEEE. This environment law is currently under revision by VietNam's Ministry of Natural Resources and Environment, MONRE through the VietNam Environment Administration, VEA. The time schedule is tight with a fourth draft to be presented to the National Assembly by mid 2013. The new law will include specifically also WEEE.

Activity1: The EU's WEEE Directive is today's best practice that provides a platform for industry driven take back of WEEE and builds upon the principles of so called Extended Producer Responsibility, EPR. Some Producers apply its Producer Responsibility on all markets also outside the EU while others don't. This creates an uneven level playing field and allows for a number of "free

riders". It would thus help committed Producers to reduce costs and simplify operations globally if the legal platform to manage WEEE was as similar as possible from country to country. The project has thus offered assistance to share practical experiences through Ericsson and the Swedish Environmental Protection Agency.

Has led to1: Ericsson is considering to include a project to work practically with VEA under its next CR budget while having offered more short term participation at meetings and public consultations whenever called for. The Swedish EPA is considering a short term consultancy in May 2013 as part of its global agreement with Sida. If this leads to a longer term cooperation between EPA and VEA will then be decided upon by these parties after their meetings in by mid 2013.

Baseline2: One of the huge challenges in building a sustainable e-waste recycling value chain is the collection. Only very small volumes of e-waste are actually collected and even less is treated to any extent in VietNam. The relatively small volumes that are collected are actually bought by individuals or small groups of informal workers. These workers may sell the scrap further to other dealers or do a little dismantling at a backyard site somewhere to increase the value of the material. One difference between VietNam (and many poor countries) and most countries in the west, is thus that collectors pay a price for most of the WEEE and thus that owners/consumers expect to get something in return for handing their end of life equipment.

Activity2: Tes-Amm, as a reputable and up to standard globally active recycling company, is arranging campaigns together with existing customers and other companies in order to collect various types of WEEE.

Has led to2: Together with Nokia Tes-Amm will arrange several campaigns with WWF as implementing agency to collect mobile phones (of any brand). Nokia pays for the campaign and surplus funds go to WWF which is planting trees in central VietNam

One Example

Mr Dung Van Phi, General Director and owner of SaoViet/VietStar Environmental Joint Stock Co is investing in a new waste recycling factory, in the free economic zone Nghison, ThanhHoa District, some 200km south of Hanoi. Mr Dung is inviting reputable foreign companies to invest in this facility together and to bring technology and experience of e-waste recycling. Tes-Amm is seriously considering this option and will perform a due diligence during 2013.

Poverty Reduction

One of the projects objectives is to improve collection of e-waste. Except for marginal flows of e-waste as residual material from manufacturing and some big businesses and public institutions the large volumes of e-waste remain uncollected while stored or dumped or smuggled into China. The marginal collection that is going on happens in the informal sector among the cities poor. Any improved collection system will have to involve the poor with the objective that small groups of collectors could establish small businesses which can be registered. The approach taken by this

project is to engaged foreign reputable up to standard recycling companies to invest in Vietnam and to help build up the recycling industry and to organize collection systems by linking up with such small groups of collectors, offering them basic training including health and safety training and tools/equipment. When a foreign company or a foreign/local Joint Venture expands it may employ and train workers from the informal sector and thus offer “real” jobs including some minimum social security packages.

An important aspect in building a sustainable e-waste recycling industry in VietNam is that it can be done with minimum capital investment in expensive machinery and equipment. The reason is the relative low labor cost and the fact that most of dismantling of WEEE can best be done by human hands. So there are economic incentives for labor intensive methods which have the potential to create many jobs. This means that value is added within VietNam and only those final components that cannot be efficiently processed in the country may be exported to large smelters abroad.

Challenges

The biggest challenge has been the difficulties to engage the foreign industry, in particular the large global producers. There is a general interest among many Producers but when it comes to action and investment most companies back off or become silent. Some recycling companies however see the potential in VietNam and that VietNam offers a new and exciting market with large population and fast growing manufacturing of EEE.

This hesitation or slowness may however change over time. This project has only very limited resources and has lasted for only approximately 6 months. Advocating and convincing large Swedish and multinational companies to engage into take back, applying Producer Responsibility, is something that takes much longer than the project period of this PDC project. However this project has triggered some thinking and provided food for thought to quite a large number of companies and other stakeholders.

Lessons Learned

The lesson learned is, again, that not everything turns out as expected. A relatively well and narrowly defined scope turned out to become quite extensive and beyond the original scope. Furthermore the time it takes to implement a project like this is very short indeed.

A concrete example of the time it takes and possibly a sign of culture differences is that one recycling company that Georange now has met twice is very keen to establish a business cooperation, but continue to clearly state that so far these meetings are to get to know each other and that business comes later. This is of course a good attitude from one perspective but time also costs money and there is certain urgency to get things done on the ground.

PDC

For Georange as an organization this project has led to a number of useful and deepened contacts both in Sweden and in VietNam. At the stage of project application and inception Georange had identified only a few potential partners: two recycling companies, one in the south and one in the north. Furthermore contact was established with the government in VietNam through the Ministry of Environment and its VEA.

During the course of the project Georange has broadened the contacts to include a large number of stakeholders both in Sweden and in VietNam, c.f. Annex 1: List of potential stakeholders.

In addition to the two original recycling companies (Vietstar Environment Joint Stock Co and Green Environment Co) contact has been established with three other recycling companies which are all matched with Tes-Amm with the objective to establish partnerships and/or Joint Ventures in VietNam.

Furthermore Georange has facilitated contact between MONRE and VEA with Swedish EPA for the purpose to help improved VietNam's environment law, specifically regarding e-waste.

The work with this PDC together with previous experience from working with e-waste solutions in Africa has led to the idea to create a Strategic Alliance. The Alliance should consist of a few dedicated private and globally active Producers and recycling companies which share the goal of improving e-waste situation in the region of South East Asia. This corporate alliance should seek complementary funding in line with a Private Public Partnership Concept to implement a number of priority activities on the ground in several countries in the region. The potential funding partners/sources are as currently foreseen:

1. Sida and its regional environment development program for South East Asia <http://www.regeringen.se/content/1/c6/04/80/68/41925d50.pdf>
2. Germany's GIZ under its Strategic Alliance Concept, cf www.developpp.de
3. The EU Commission's SWITCH programme <http://www.switch-asia.eu/switch-info/basic-information-on-switch.html>.

An outline of this concept is attached as Annex 2

Benefit to Partner Organizations

The two initial potential partners have been invited to participate in the mentioned Strategic Alliance. So has the other recycling companies which were engaged later during the course of the project's implementation. The purpose is that Tes-Amm and possibly also other foreign up to standard recycling companies shall either create formal joint ventures with some of these local companies or sign cooperation agreements with them. The objective is in both cases that the local companies should be trained and thus reach the required standards faster than if they need to do this on their own. In order to create a sustainable value chain each link needs to meet such minimum standards.

Side Effects/Spin Off Effects

The main side effect which was not foreseen at the project's inception is the idea to create the mentioned Strategic Alliance.

The project brought Georange some new contacts which have led to partnership with Elkretsen <http://elektronikatervinning.com/en/> and Elektronikåtervinningsföreningen <http://elektronikatervinning.com/en/>. Together with the organizer Nordic Publishing www.nordicpublishing.se Georange arranged an international conference held 10-12 June in Skellefteå, Sweden. The conference <http://www.circularmaterialexpo.se/> is an international meeting place with a focus on the possibilities of materials recycling and its importance in a circular economy. The purpose is to create an arena where stakeholders involved in the circular economy meet, exchange thoughts and ideas, discuss conditions and solutions and work together to identify new business opportunities.

The Thematic Priorities

Gender:

This project has so far focused on gender aspect only indirectly. It is thus assumed that women (either as collectors and scrap workers or as dependents to male collectors and workers) will benefit from increased incomes and thereby improved livelihood as described elsewhere in this report. When the Strategic Alliance is created the project management of the alliance may put a specific focus on women and encourage women entrepreneurs to form the small collectors/dismantler companies that can supply material to the recycling companies.

Environment:

The mitigation of negative impact on environment and reduced climate footprint are key objectives. The unsustainable practices that are currently the case in VietNam do not for example take care of some WEEE which could be classified as "difficult" or of no or little value. Examples of such equipment are for example old TV tubes so called CRTs and fluorescent lamps. In an informal setting this type of WEEE attracts no one since there is just a cost to treat them. A sustainable system has to be built on financial incentives that make the incomes from valuable components such as mobile phones and many other products pay for the recycling of also the non valuable ones. This is one reason why Georange has advocated for the introduction in Vietnam of the principles of the EUs WEEE directive into the new environment law.

Furthermore recycling of WEEE contributes substantially to the reduction of CO₂ emission. One ton of copper produced from secondary source (e-waste) reduces the climate footprint by some 60% compared to the extraction of one ton copper from primary source (mining). This is the reason why WEEE may not be called waste but a resource that needs to be reused. With the current small volumes of WEEE that are brought into the recycling stream in Vietnam there is thus a huge potential to help mitigate climate change as will be done with the proposed Strategic Alliance.

Democracy and Human Rights:

This project's linkage to democracy and human rights is related to the objective of transforming informal activities to formal. Only in a formal setting can poor workers become organized and get a chance to a degree of democratic and human rights. Georange has therefore approached IF Metall as an important partner in the proposed alliance which can help in the work of transforming informal to formal activities.

The Perspectives of the Poor and the Rights Perspective

There are two aspects in this project that relates directly to poverty mitigation and the rights of the poor:

1. One important link of a sustainable e-waste recycling value chain is collection. In Vietnam and also in most other countries in South East Asia collection is done by the poorest of the poor. By organizing these people in groups which may be linked to local/foreign recycling companies and to which the poor can sell their collected items they are helped to increase their incomes and thus better able to sustain their lives and support dependents.
2. A sustainable e-waste solution can never include the informal sector. It is clear that the transformation from informal to formal may take time since a too fast transformation may take many jobs away and thus cause more poverty and social misery than necessary. The method is that while local recycling companies grow their businesses they may recruit people from the informal sector. In this way informal becomes formal, some additional tax is paid to government and at least a minimal social security is provided. Recycling companies may assist to create small companies among collectors which are registered and thus also become examples of informal to formal transition. It is probably correct to say that formalization is a condition for strengthening of peoples' rights

Other Information

Georange considers improved WEEE management in all developing countries as an area which contains many priority aspects of poverty mitigation, human rights, environment improvement and substantial climate footprint reduction. This PDC has been a valuable step towards initiating some activities in VietNam and South East Asia. Considering the fact that Sweden has a relatively well functioning WEEE management system with the highest recovery rates in the world Sweden can become a leading nation in helping developing countries all over the world to improve their e-waste management system. Sweden has a tradition of cooperation among stakeholders, private and public which is a condition to make a functioning system. Since the Western world has been aware of the growing problem of e-waste for some time only very few initiatives have begun to really address the problems but also the opportunities with e-waste in many developing countries. Georange would like to propose to Sida to consider future support to and interventions which relates to e-waste

Financial Report