



Best Practices for Achieving Environmentally Sound Management (ESM)

At Facilities that
Refurbish and Recycle
Used and End-of-Life Electronic
Products in North America



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Please cite as:

CEC. 2013. *Best Practices for Achieving Environmentally Sound Management (ESM) for Managers At Facilities that Refurbish and Recycle Used and End-of-Life Electronic Products in North America*. Montreal, Canada: Commission for Environmental Cooperation.

Disponible en français – Disponible en español

Acknowledgements

The Commission for Environmental Cooperation (CEC) is an intergovernmental organization developed to support cooperation among the North American Free Trade Agreement (NAFTA) partners to address environmental issues of continental concern. To support its project theme Sound Management of Electronic Wastes in North America, the CEC has developed the following training materials appropriate for the needs of small and medium-sized enterprises involved in refurbishing or recycling electronic waste in North America.

The CEC would like to thank Laurie Giroux, from the Giroux Environmental Consulting firm, Carolyn Webb, Dr. Anne Goodman, and GLA Environmental Inc., for their contributions as lead consultants to this work. We would like to recognize the valuable and expert contributions of Michael Vanderpol from Environment Canada; Rick Picardi and Karen Pollard from the US EPA; and, Arturo Gavilán, Frinée Cano and Víctor Alcántara from the National Institute of Ecology and Climate Change (Instituto Nacional de Ecología y Cambio Climático—INECC) to the completion of this work. We also wish to thank the following persons, who were interviewed and contributed with time and their expertise to complete this work: From Canada: Shauna L. McCaffrey from Renewed Computer Technology, Canada; and Dennis Maslo, Computation Ltd. From the United States: Kelley Keogh, Greeneye Partners LLC; Pat Furr, Computers for Classrooms. From Mexico: Álvaro Núñez, Recicla Electrónicos México (Remsa); Jan René Aguirre Palme, Proambi, SA de CV; and Albino Fernand Bessa, Technologies Displays Mexicana, SA de CV.

Marco Heredia, Program Manager at the CEC Secretariat was responsible for management and oversight of this project. Gabriela Sánchez assisted in the development of this material.

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Commission for Environmental Cooperation

**Best Practices for Achieving Environmentally
Sound Management at Facilities that Refurbish
and Recycle Used and End-of-life Electronic
Products in North America**

*Module 7a: Self-evaluation of Learning for
Managers*

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7 **Module 7a: Self-evaluation of Learning for Managers**

7.1 **Introduction**

This module provides an opportunity for participants to review the material of the training and assess how the content can be applied to various scenarios. Individuals are encouraged to use this module to gauge their understanding of the material and identify items that need to be reviewed again.

The following sections of this module include:

- an overview of the "Key Take-away Messages" for each module,
- discussion/reflection questions to help learners gauge how much they have gained from the training,
- a "Key Learning" sheet for each manager, and
- a "Commitment Page" where the manager identifies top environmentally sound management (ESM) commitments for his/her facility.

7.2 Review of Modules

7.2.1 Module 1: Introduction to Environmentally Sound Management—Key Take-away Messages

Definition of environmentally sound management (ESM):

Taking all practicable steps to ensure that used and/or end-of-life products and wastes are managed in a manner that will protect human health and the environment.



Reasons to implement ESM:

- ✓ to protect the health of your workers, their families, your local community, and the environment;
- ✓ to ensure that all potential environmental and occupational health and safety risks associated with refurbishing and recycling operations are effectively managed and that workers are adequately protected from these risks;
- ✓ to place your company in a better position to meet or exceed applicable existing, new and future environment, health and safety regulations—implementing ESM helps to ensure due diligence with these requirements and goes beyond basic compliance to ensure a higher level of health and safety and environmental protection;
- ✓ to increase business opportunities with new clients, who are more frequently demanding that processors of electronic products use ESM practices;
- ✓ to potentially increase your company's profit margins through increasing the recovery of materials that are of high economic value, and can improve operational efficiency while reducing costs;
- ✓ to provide your company with a distinct marketing advantage over competitors, particularly if verification and certification against ESM standards is achieved; and
- ✓ to build improved relations with regulators, the public, and business partners.

OECD criteria for ESM (core performance elements):

1. An environment, health and safety management system
2. Environment, health and safety policy and procedures
3. Monitoring, recording and reporting program
4. Training program for all personnel
5. An emergency plan
6. Plan for closure and after-care

United Nations Basel Convention ESM Criteria:

1. Management commitment to a systematic approach (a management system)
2. Risk assessment process
3. Risk prevention and minimization process
4. Compliance with legal requirements
5. Appropriate level of awareness and competency amongst employees
6. Maintain records, monitor, track and evaluate facility performance
7. Take corrective action to address environmental, health and safety risks
8. Measures to support transparency and verification in all the above criteria

7.2.2 Module 2: Top Management Commitment—Key Take-away Messages

Top Management Commitment enables a facility to achieve ESM and includes the following elements:



- ✓ a systematic approach to ESM, including an environmental, health and safety management system;
- ✓ an environmental, health and safety policy as a top-down commitment that drives all plans and procedures in the management system components;
- ✓ a commitment to transparency and verification through:
 - facilitating a culture of continual improvement,
 - documentation of procedures, and
 - communication and reporting; and
- ✓ a commitment to employee training to safeguard the environment, worker health and community safety.

All combined, best practices presented in Module 2 will allow your company to be in a better position to offer assurance that it is committed to protecting worker health and safety, the environment and the local community.

7.2.3 Module 3: Risk Assessment—Key Take-away Messages

The Risk Assessment Process:



- ✓ It is important to identify and assess risks relating to direct facility activities, operations and services, as well as risks that might exist from gaps in policies and procedures, to ensure health and safety. These risks can exist both at your facility, and at downstream processors, vendors and service providers that you do business with.
- ✓ Used and end-of-life electronic products contain hazardous substances such as lead, mercury, cadmium, and beryllium. Other hazardous substances, such as dioxins and furans, are formed during recycling operations. All hazardous substances can pose hazards to worker health and safety, the local community, and the broader environment, and are important to identify and consider during the risk assessment process.
- ✓ The risk assessment process includes five steps:
 - Step 1. Identify the stages of operations*
 - Step 2. Identify the hazards*
 - Step 3. Assess the hazard and exposure to the hazard (level of risk)*
 - Step 4. Identify the consequence or effect of the hazard—characterize the risk*
 - Step 5. Evaluate and prioritize the risk*
- ✓ To ensure ESM, risks are prioritized during the risk assessment process, and then eliminated if possible, or minimized when they cannot be eliminated.

Using the best practices, all combined, presented in Module 3 will allow your company to be in a better position to offer assurance that it has a serious commitment to worker health and safety, the environment and the local community.

7.2.4 Module 4: Risk Prevention and Minimization—Key Take-away Messages

Why Implement Risk Prevention and Minimization?

Efforts to minimize risks to the environment, worker health and safety are important to:

- ✓ reduce worker and community illnesses,
- ✓ reduce worker accidents,
- ✓ raise awareness in the facility about hazards and how to prevent risks—this will contribute to safer work practices, and
- ✓ improve worker's skills through regular training.



How to Implement Risk Prevention and Minimization?

Companies could adopt many of the ESM practices outlined in this module, such as a commitment to the:

- ✓ control a hazard at the source (including controls during manual processing, emission controls during mechanical processing, and emission monitoring in processing areas);
- ✓ use of procedures and training to increase awareness and understanding of and competency in how to minimize hazards from company operations to the environment, and worker health and safety; and
- ✓ use of personal protective equipment to ensure worker health and safety in all designated areas of electronic product refurbishment and recycling facilities. Personal protective equipment might include eye and ear protection, hand and body protection, respiratory protection, and head protection. If this equipment is not worn properly and consistently, workers and their families could become very ill.



Using the best practices, all combined, presented in Module 4, will allow your company to be in a better position to offer assurance that you have taken all reasonable care to prevent, minimize or otherwise address risks to worker health and safety, the environment and the local community.

7.2.5 Module 5: Legal Compliance—Key Take-away Messages

Legal requirements have been established to safeguard human health and the environment. By making sure that your facility meets these requirements, you will fulfill a key component of ESM. Legal compliance will also provide your facility with many other benefits:



- ✓ Following health and safety regulations will result in a productive workplace. With healthy workers not getting ill or injured you can avoid downtime.
- ✓ You will avoid penalties for non-compliance with either occupational health and safety, or environmental protection legal requirements, which can be significant. These penalties can range from *monetary fines* to *criminal prosecution* to *facility closure*.
- ✓ Your facility will establish and maintain a reputation beyond reproach, as other companies and clients have little reason to be concerned about unlawful activity.
- ✓ Your facility is more likely to be considered an authorized service provider under extended producer responsibility and product stewardship programs for electronic products and be eligible to receive processing subsidies under these programs (i.e., if they exist and where other requirements for eligibility are met).
- ✓ Your facility will have the tools, resources and knowledge to assure investors, insurance companies, governments and the public that it operates in compliance with the law.

A systematic approach to ESM involves:

- ✓ regularly identifying and documenting applicable legal requirements that apply to your facility—procedures to identify and access these legal requirements and regulatory changes should be documented, implemented, communicated and maintained;
- ✓ periodically re-evaluating legal requirements that are applicable to facility operations and activities—this is particularly important if the scope and types of your facility operations and activities begin to change, and as new or upcoming legal requirements are introduced;
- ✓ regularly monitoring compliance with applicable legal requirements—procedures for monitoring should be documented, implemented, communicated and maintained;
- ✓ maintaining evidence of compliance with applicable legal requirements;
- ✓ communicating from time to time with relevant regulatory bodies in your jurisdiction and maintaining a good working relationship with them—regulators can also offer compliance promotion materials and training workshops to assist you understanding your legal obligations; and
- ✓ ensuring that downstream processors are compliant with applicable legal requirements and have measures in place to ensure ESM in their operations and activities.

7.2.6 Module 6: Record Keeping and Performance Measurement—Key Take-away Messages

Effective record keeping and performance evaluation enable an organization to:



manage its ongoing operations more effectively with data (“you can not manage what you do not measure;” i.e., you can not manage for improvement if you do not measure to see what is getting better and what is not);

- ✓ demonstrate accountability to regulators, certification or insurance bodies by having appropriate documentation in place and being able to make it available in a timely manner when requested to do so;
- ✓ be organized, by having records and documentation to demonstrate procedures, systems, etc., to workers and authorities as needed;
- ✓ facilitate both internal and external compliance audits undertaken by certification or regulatory bodies;
- ✓ demonstrate a commitment to transparency and verification;
- ✓ identify or confirm if a problem exists and allow for early corrective action; and
- ✓ measure and monitor effectiveness of corrective measures introduced to address problems by comparing with baseline data accumulated over time.

Important Definitions:

What is Record keeping?	The practice of creating written documents to support effective decision making, facilitate ongoing operations, and allow for checking effectiveness, and that may be required to meet compliance in some situations.
What is Performance measurement?	A process of identifying goals or objectives, measuring progress relative to these goals, and identifying necessary interventions to improve future performance against these goals (corrective action).
What is Corrective Action?	Improving an organization's business processes that do not conform to desired practices or objectives.
What is Transparency?	Providing publicly available information on an organization's commitments, activities and performance in support of achieving ESM.
What is Verification?	The practice of evaluating results against set standards or objectives. Often, verification requires evidence—this can be attained through reviewing records, auditing or inspections.

7.3 Self-Evaluation of Learning



Scenario 1

What are the real benefits of ESM to a facility like yours and do they justify the costs? Reflect on these questions and develop a short pitch that you could make to an investor, manager, or co-worker, about why implementing ESM is good for business. Include a description of why it could be risky for business not to consider ESM as an integral part of its operations and activities.

[illegible]



Scenario 2

Eduardo is looking for a downstream processor to manage the cathode ray tubes (CRTs) that have been removed from used electronics at his facility. He wants to ensure that materials that leave his door are managed responsibly, according to ESM principles, and in line with his legal requirements.

What are some good questions that he should ask potential downstream processors? What kind of information should he request the downstream processor to provide? How frequently should this information be updated?

This image shows a full page of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for writing or drawing. There are no margins, text, or other markings on the page.



Scenario 3

John has been brought in to lead a company where employees have been concerned about transparency issues. Among other concerns, a number of recent safety incidents have been reported where there was a lack of environment, health and safety (EHS) documentation, and restricted worker access to what did exist. Identify 3 measures that John can quickly introduce to address transparency and demonstrate commitment of top management to resolve this matter. Describe how he could implement each measure.

[illegible]



Scenario 4

Karen's facility is being investigated for the accidental release of hazardous substances to a local water body. She has been asked to gather evidence that the company acted with due diligence leading up to the incident. What are some examples of specific measures that her facility could have put in place to build a defence that it has taken all reasonable care to avoid harm to persons, their property and the environment? How could a facility demonstrate that these measures are in place to a court of law?

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins or other markings on the paper.



Scenario 5

Jeremy wants to review how his facility monitors and measures performance. He has decided to start by looking at whether his facility uses strong and appropriate performance indicators. What questions can he ask himself about the performance indicators to assess whether they are adequate and “measure what matter”? (E.g., one question could be: “Do they measure aspects of the organization’s strategic goals and objectives?”)

[illegible]



Scenario 6

Fatima has been hired as a new manager and has been placed in charge of the company's risk assessment process. What types of factors should she look for to assess whether the existing risk assessment process is appropriate, timely and effective? Who should she involve as part of this assessment?

[illegible]

7.4 Summary of Key Learning Messages

Please identify your top 3 take-away messages from this training (considering all of the modules):

1. _____

2. _____

3. _____



7.5 Summary of Commitments

Please identify the three priority areas that you will work to improve at your facility, based on what you have learned over the course of this training.

1. _____

2. _____

3. _____

Signed

Dated

