

Annex A

Analysis Report on the Applicability of the Revised Set of Draft Practical Manuals for the Promotion of the Environmentally Sound Management (ESM) of Wastes (adopted at the 13th Meeting of the Conference of the Parties of the Basel Convention)

Developed under the Project:

IDENTIFYING FEASIBLE STRATEGIES FOR THE ENVIRONMENTALLY SOUND DISPOSAL OF SPENT LIGHTING PRODUCTS

**(Saint Kitts and Nevis, Saint Lucia, Suriname and Trinidad and
Tobago)**

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Preface

This report has been developed under the Project, “Identifying Feasible Strategies for the Environmentally Sound Disposal of Spent Lighting Products in the Caribbean (Saint Kitts and Nevis, Saint Lucia, Suriname and Trinidad and Tobago)”.

By Section II of Decision BC-13/2 on the follow-up to the Indonesian-Swiss country-led initiative, the Conference of the Parties adopted a set of practical manuals for the promotion of the environmentally sound management of wastes. They include:

1. General policies and legislation
2. Permits, licenses and authorisations
3. Certification schemes
4. Waste prevention (An assessment of the “Guidance to assist Parties in developing efficient strategies for achieving the prevention and minimisation of the generation of hazardous and other wastes and their disposal” document that was adopted at the 13th Conference of the Parties of the Basel Convention, may also be included in the testing of this manual under the Project).

Funding was made available under the European Commission’s Global Public Goods and Challenges (GPGC) Programme to undertake pilot projects to test and verify the above-mentioned manuals.

The Project was developed by the Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean (BCRC-Caribbean), in close collaboration with the Secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (SBC) and administered by the United Nations Environment Programme (UNEP). The national executing agencies for the Project are as follows:

- Saint Kitts and Nevis: Saint Kitts and Nevis Bureau of Standards (SKNBS)
- Saint Lucia: Sustainable Development and Environment Division, Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development
- Suriname: Coordination Environment, Cabinet of the President of the Republic of Suriname
- Trinidad and Tobago: Environmental Policy and Planning Division, Ministry of Planning & Development

This report serves to assess the applicability and effectiveness of the above-mentioned set of revised practical manuals and to provide recommendations for improvement of the manuals. This assessment was conducted in the context of the national reports developed under the Project which aim to provide a baseline assessment of the general policies, permits, licences, authorisations, certification schemes and waste prevention and minimisation strategies related to the environmentally sound disposal of spent lighting products.

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List of Abbreviations/Acronyms

BAN	Basel Action Network
Basel Convention	The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
BCRC-Caribbean	Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean
BCRCs	Basel Convention Regional and Coordinating Centres for Training and Technology Transfer
CFLs	compact fluorescent lightbulbs
COP	Conference of the Parties
ESM	environmentally sound management
LFLs	linear fluorescent lightbulbs
UNEP	United Nations Environment Programme

Section 1. Introduction

1.1 Practical manuals for the promotion of environmentally sound management (ESM) of wastes

In the Caribbean, the management of chemicals and waste has been an area of concern for many years and is a key component in many Caribbean countries for the achievement of their national sustainable development goals. For the countries, Saint Kitts and Nevis, Saint Lucia, Suriname and Trinidad and Tobago, the issue of dealing with mercury waste has been highlighted most recently due to activities pertaining to the consideration for the ratification and/or implementation of the Minamata Convention on Mercury by each of the countries.

The Minamata Convention on Mercury aims to protect human health and the environment from the adverse effects posed by anthropogenic sources of mercury (UNEP, 2016). Saint Kitts and Nevis, Saint Lucia and Suriname are all Party to the Minamata Convention while the Government of Trinidad and Tobago has indicated that it is actively considering becoming a Party. Each of the countries conducted baseline inventories of sources of mercury releases nationally and one of the main areas of concern was the environmentally sound management and disposal of compact and linear fluorescent lightbulbs (CFLs and LFLs) and street lights. These wastes are generally transported to landfills and are co-mingled with other wastes and, as such, are disposed of in a manner that is not environmentally sound. The landfills on these islands are typically subject to fires during the dry season which further compounds the problem.

In addition to the Minamata Convention, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) establishes a global framework for the control of transboundary movements of hazardous wastes and other wastes (household waste and incinerator ash) as well as for the environmentally sound management (ESM) of such wastes, including hazardous waste and other waste generated at the national level (UNEP, 2014). Wastes consisting of elemental mercury and wastes containing or contaminated with mercury are established as hazardous wastes that are covered by the Basel Convention. Spent lighting products, the subject of this project's national assessments, contain mercury and therefore fall within the scope of definition of the Basel Convention. All participating countries are Parties to the Basel Convention.

Technical guidelines for the ESM of various waste streams were articulated in the 1994 guidance document on the preparation of technical guidelines for the environmentally sound management of wastes subject to the Basel Convention. These documents were later adopted by the Conference of the Parties to the Basel Convention. Paragraphs 2 (a)–(e) and 2 (g) of Article 4 set out key provisions pertaining to how these wastes are to be managed with the aim of ESM, waste minimization, reduction of transboundary movement, and waste disposal practices that mitigate adverse effects on human health and the environment. At the thirteenth (13th) meeting of the Conference of the Parties of the Basel Convention (COP) in 2017, the Revised Set of Draft Practical Manuals for the Promotion of the Environmentally Sound Management (ESM) of Wastes and Fact Sheets on specific waste streams were welcomed. These manuals which were initially submitted at the twelfth (12th) COP, were prepared by the expert working group on ESM for the Basel Convention with the aim to provide guidance to stakeholders responsible for ensuring the ESM of hazardous wastes at a national level.

The work programme of the expert working group for the biennium 2017/18 requested that the draft manuals and fact sheets be tested and verified, and at its fifth meeting, it agreed that pilot projects to test and verify the draft manuals and fact sheets should be coordinated by Basel Convention Regional and Coordinating Centres for Training and Technology Transfer (BCRCs).

1.2 Project Background

The project, “Identifying Feasible Strategies for the Environmentally Sound Disposal of Spent Lighting Products” (referred to as “the Project”) aims to identify and evaluate current disposal and management practices for spent lighting products containing mercury in Saint Kitts and Nevis, Saint Lucia, Suriname, and Trinidad and Tobago. The revised draft practical manuals for the promotion of the ESM of hazardous wastes developed by the expert working group on ESM for the Basel Convention are used to guide the assessment and to provide recommendations to improve the capacities of the project countries for the ESM of mercury containing spent lighting products.

The following revised draft practical manuals (Basel Convention Expert Working Group on ESM, 2017) are the subject of review¹:

- General policies and legislation;
- Permits, licenses or authorizations;
- Certification schemes; and
- Waste prevention² (*An assessment of the “Guidance to assist Parties in developing efficient strategies for achieving the prevention and minimisation of the generation of hazardous and other wastes and their disposal”³ document that was adopted at the 13th Conference of the Parties of the Basel Convention, will also be included in the testing of this manual*).

1.3 Specific Analysis Objective

Under the Project, national assessments were conducted in which the guidelines provided by the Manuals were utilised to assess and evaluate current disposal and management practices for spent lighting products containing mercury in Saint Kitts and Nevis, Saint Lucia, Suriname, and Trinidad and Tobago.

Further to this, an assessment of the applicability of the above-mentioned Manuals against each of the country situations regarding spent lighting products will be conducted. The specific objective of this report is to analyse the applicability and effectiveness of the manuals inclusive of recommendations for improvement of the Manuals.

Section 2. Applicability and Effectiveness of the Manuals

2.1 Summary of Manuals

The Manuals pinpointed strategies that waste management frameworks must embrace to establish ESM of hazardous wastes. These actions or measures must be established in within

¹ For the purpose of this report, all manuals listed for review under the Project will be collectively referred to as “the Manuals”.

²<http://basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/ESMToolkit/Practicalmanuals/tabid/5847/Default.aspx>

³<http://basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/ESMToolkit/Guidanceonwasteprevention/tabid/5844/Default.aspx>

the contexts of general policies and legislation; permits, licenses or authorizations; certification schemes; and waste prevention.

One purpose of the Manuals is to give example approaches to the implementation of the Basel Convention to Parties, recognizing that each Party will tailor it to suit their social, political, cultural and socio-economic realities. Another purpose of the Manuals is to assist individual waste management facilities to continuously improve their environmental performance voluntarily. A brief description of some of the key considerations within each of the Manuals is as follows:

- **General Policies and Legislation** – seeks to practically outline the necessary considerations that should be taken by Parties to the Basel Convention in order to ensure ESM nationally. It outlines policy principles and approaches related to ESM such as, inter alia, the Precautionary principle, Prevention, Polluter pays principle and the Waste Management Hierarchy. Guidance for the establishment of an ESM framework and practical arrangements for implementing ESM at the national level are also included with particular reference to the various stakeholders that would need to be considered;
- **Permits, Licenses or Authorizations** – provides a general overview of the establishment of procedures and requirements for facilities to obtain permits, licences or authorisations to conduct waste management activities
- **Certification Schemes** – provides guidance to policymakers, regulators, facility managers, consumers and the general public on how standards and certifications can help implement ESM globally; and
- **Waste Prevention** – provides stakeholders with general guidance on waste prevention principles, strategies and possible measures and tools. The “*Guidance to assist Parties in developing efficient strategies for achieving the prevention and minimisation of the generation of hazardous and other wastes and their disposal*” document that was adopted at the 13th COP of the Basel Convention, also referenced in the assessment, provides particulars on national-level waste prevention and minimisation strategies.

The review of the arrangements in the participating countries has resolved that while a broad coverage for ESM principles exists, there are significant gaps in the systems and a deficiency for a considerable volume of the strategies for ESM that are proposed in the Manuals. As a result, it can be deduced that there is a need for the participating countries to put the recommended strategies for achieving ESM in the Manuals into operation.

2.2 Overall recommendations for promoting the ESM of spent lighting products in Saint Kitts and Nevis, Saint Lucia, Suriname and Trinidad and Tobago considering the practical manuals for the promotion of the ESM of wastes

According to the national assessments conducted, the participating countries - Saint Kitts and Nevis, Saint Lucia, Suriname and Trinidad and Tobago - are at similar stages of implementing ESM including in their existing legislative frameworks. The recommendations specific to the ESM of spent lighting products are set out below in order of priority and take into account the measures that are proposed in the Manuals.

1. Develop and implement a Waste Management Strategy and Action Plan to include elements of ESM of mercury wastes

The Basel Convention requires Parties to prepare a National Waste Management Strategy. Although this obligation coincides with the Solid Waste Management Corporation Act within each country, currently there is no formal Waste Strategy in place. The Strategy is critical to the establishment of an ESM for mercury wastes including spent lighting products. The participating countries should leverage resources for the implementation of activities under the Action Plan. A classification of waste stream, types of wastes and waste inventory should be undertaken prior to preparing the Strategy and Action Plan.

Preparing a Waste Management Strategy and Action Plan requires technical expertise. Whether this expertise is available locally is undetermined although if it is, it is more likely to be available from outside the public sector at an un-catered cost to the national budget. Pilot or demonstration projects reflecting the national mercury waste management plan such as, collection of used fluorescent light bulbs, instalment of mercury waste collection depots, and development of awareness raising programmes should be established and undertaken as part of the Action Plan. This approach to managing mercury is comprehensive and guarantees a successful mercury phase-out.

Cost implications associated with the preparation of the Waste Management Strategy and Action Plan and the pilot or demonstration projects must also be considered.

Proposed Timeframe: 5 years

2. Enact a legislative framework for hazardous waste including spent lighting products

The legislative framework for the management of hazardous waste including mercury, encompass several laws. The key ones relate to solid waste management, standard setting and pesticides and toxic chemicals. Neither collectively nor individually do they establish adequate coverage for hazardous wastes including spent lighting products containing mercury. These legislations are also in need of updating to incorporate the policy principles and approaches, waste prevention and other strategies set out in the Manuals.

In most cases the trend is that regulations to support enforcement have not been enacted, further weakening the framework. All the participating countries are parties to the Basel Convention however none have enacted national implementing legislation that give effect to the obligations of the Convention they are required to adopt. This is a key obligation of Parties to the Basel Convention.

The need to establish a comprehensive legal framework for hazardous waste including spent lighting products containing mercury will therefore comprise implementing legislation for the Basel Convention and take into account relevant existing laws. The policy, principles and approaches related to ESM set out in the Manuals should be considered for inclusion.

Coverage for permits and licences must also be updated to strengthen planning, monitoring and compliance aspects for waste generators, haulers, carriers and disposers of hazardous wastes. Without legislation it will not be feasible for the existing gaps in waste management strategies and practices proposed in the Manuals. As an implication, establishing a regulatory framework will involve the participation of multiple waste management institutions and a determination as to whether (a) each instrument will be revised, (b) only ESM regulations will be established or (c) a new overarching instrument will be prepared. Whichever approach is pursued, a strengthened regulatory framework will promote the ESM of hazardous wastes.

However, funding, the assignment of responsibilities, knowledge and a planned co-ordination of activities is needed. The current lack of enforcement will prevent the use of any legal and institutional framework to ensure the ESM of hazardous wastes including spent lighting products.

Timeframe: Dependent on selected approach

3. Build/strengthen institutional capacity and infrastructure for mercury waste management

The ESM of mercury wastes engages the participation of several stakeholders in the public and private sectors including households and civil society who generally work independently. Giving effect to this mandate will require participation, partnership and a high level of commitment by those vested with the responsibility for waste management. To build/strengthen institutional capacity in the waste management sector, collaboration amongst these entities is important. Maintaining lines of communication and building relationships between all stakeholders including customs and port officials; exchanging technical knowledge between field officers; joint enforcement; the promotion of understanding of the laws, regulations, codes and classifications, carry potential benefits of increasing awareness and the profile of ESM of hazardous wastes. Without achieving this, the overall mandate could be difficult to achieve.

Capacity-building initiatives include training for parties involved in on-the-ground waste management, policy-makers and technocrats, and fundraisers. Waste management entities in the participating states do not routinely conduct waste management training courses for waste management operators or management staff. There are no training programmes for the handling of bulb crushers or in the use of other related devices for the ESM of hazardous wastes. There is also no requirement for hazardous waste management training. By encouraging research efforts locally, the states can improve their capacity building efforts and the need for outsourcing consultants can be reduced as career opportunities become available.

Regarding infrastructure, the Manuals require parties to set up an administrative body to manage stakeholder communication, data collection and or dissemination, and maintain communication with the Secretariat and other parties. The participating countries are also required to introduce workable options for proper collection and disposal of spent lighting products containing mercury. They however, lack adequate infrastructure for this undertaking and will require adequate financial resources in relation to them. This problem is particularly significant because the Basel Convention does not have a stable financial mechanism for capacity-building and technology transfer. The Minamata Convention does offer some technical support to parties for implementing such activities under initiatives such as the *Specific International Programme* to support capacity building and technical assistance established under Article 13 of the Minamata Convention.

To address this, waste management should be set as a priority development issue and included in planning and budget allocations at the national and sectoral level. This approach is likely to result in setbacks for other important sectors such as health or agriculture. To minimize misconceptions about the approach, public awareness programmes about the

implications of the mismanagement of hazardous wastes and the importance of establishing ESM for such wastes should be conducted.

Timeframe: open-ended

4. Develop an Action Plan for public awareness

The general public is unaware that lighting products contain mercury and with the absence of proper infrastructure for a collection of spent lighting products, these types of waste usually end up in the dump sites or landfills where they are comingled with other types of waste. As of now, retailers are allowed to import mercury added lighting products. In Saint Kitts and Nevis, subsidies for safer product alternatives and an extended producer/importer responsibility policy have been instituted, while in the remaining participating countries, some public outreach awareness-raising initiatives have been instituted. However, there is still very low-level awareness on the dangers of mercury and mercury added products to human health, and the environment among the average households.

The need for an Action Plan to achieve the ESM of hazardous wastes including spent lighting products is apparent at all levels in the participating countries.

The Action Plan for awareness raising on mercury issues should be conducted through formal and non-formal education systems and mass media. A communication mechanism for key national authorities with a focus on improving enforcement should also be embarked upon. Provisions for public access to information on disposal facilities, disposal records, waste transports, inspections and notices of violations should also be included. A public awareness programme that focuses on waste reduction, with the potential for public/private partnerships with relevant national companies and other interested and affected stakeholders, may be beneficial. The participating states will require financial resources to cover the cost of these activities.

Timeframe: 18 months

5. Develop Technical Guidelines on Environmental Sound Management (ESM) of Mercury Wastes (e.g. by taking advantage of the Basel Convention technical guidelines for mercury waste)

ESM encompasses minimization and prevention of the generation of wastes and requires a constant emphasis on procedures for the proper handling of wastes in respect of their recycling, recovery, treatment, storage and final disposal. Technical Guidelines will therefore be the sourcebook for any regulations on hazardous waste management that are developed. By establishing the ESM of spent lighting products, the fragmentation of the institutional framework for waste management will be overcome.

The Guidelines could also inform any regulations on mercury waste that may be prepared under the national implementing legislation for the Basel Convention. There should be stakeholder participation in preparing the draft Technical Guidelines. This will promote buy-in as it will consider group discussions and input from all stakeholders including households, public and private sector entities, civil society organizations and academia.

Timeframe: To develop: 9 months; To implement: open-ended

6. Develop a database management system on waste management

The biggest challenge faced by the participating countries in the ESM of hazardous waste is the availability of adequate data. The availability of data to produce sound scientific argument is important for the funding of spent lighting product management systems. If new strategies for waste management are to be considered, existing databases must be updated. Data gathering techniques should be developed with a focus on improvements in data generation at the institutional level. These institutions may also be mandated to submit regular reports. Data gathering will also provide a convincing argument for the amendment of legislation for the phase out of spent mercury added bulbs and should include the identity of the producers/sources of all waste by name and by location, the types and quantities of wastes produced at each location, the methods and quantities of recovery/disposal and, the management plans for wastes stored on-site. The database should also include details of waste brokers, waste dealers, collectors and authorized waste transport companies.

The database management system will establish a systematic way for creating, retrieving, updating and managing data on hazardous waste and should be accessible by all waste management actors. The database will assist with international reporting obligations to the Basel and Minamata Secretariats and the development of national/regional chemical and waste management plans. Funding to develop this database should be treated as a priority project.

A public/private partnership programme with CFL and LFL retailers in the participating countries promotes cooperation and an opportunity to access information by other stakeholders. The voluntary schemes could also foster recycling efforts, training, and awareness raising of the negative impacts of mercury on human health.

Timeframe: Open Ended

7. Develop a policy regarding the environmentally sound management and disposal of spent lighting products

The proposed policy should seek to:

- Retrofit all state-owned outdoor lighting fixtures (including street lights) with appropriate shields and energy efficient bulbs;
- Encourage private-sector entities to retrofit outdoor lighting fixtures (including street lights) with appropriate shields and energy-efficient bulbs.
- Establish and implement lighting regulations for new and public buildings and should prohibit the installation of mercury added bulbs in new buildings where suitable alternatives can be found.
- Identify national focal points, scientific, technical and legal agencies to support the implementation of ESM for mercury wastes.

Summary

In relation to the strategies for ESM that are proposed in the Manuals three main shortcomings are evident in the participating countries. They relate to infrastructure, policy enforcement and cooperation among entities that discharge responsibilities for waste management. The foregoing recommendations constitute solutions for future strategic actions and opportunities

for new and innovative management approaches on hazardous wastes, specific to spent lighting products, in the framework of the Basel Convention and by extension, the Minamata Convention on Mercury.

2.3. Effectiveness of the practical manuals and recommendations for their improvement for the promotion of the environmentally sound management of spent lighting products in the participating countries

The Practical Manuals for the Promotion of the Environmentally Sound Management of Waste assessed under this Project have been developed to complement the framework for the ESM of hazardous wastes and other wastes under the Basel Convention. They are intended to provide non-exhaustive practical guidance to those stakeholders responsible for ensuring the ESM of wastes at the national level with a focus on the Basel Convention.

For this Project, the Manuals were used to guide the national assessments for the identification of feasible strategies for the environmentally sound disposal of spent lighting products in Saint Kitts and Nevis, Saint Lucia, Suriname and Trinidad and Tobago. However, following the assessment, clearly defined practical strategies specific to each of the national situations could not be fully identified. A number of challenges in the effectiveness of the Manuals are expressed below.

Saint Kitts and Nevis, Saint Lucia, Suriname and Trinidad and Tobago are all Small Island Developing States (SIDS), which share new and emerging challenges and opportunities such as a lack of resources, vulnerability to external shocks, excessive dependence on international trade, and expensive public administration and infrastructure. While the need to consider the capabilities and challenges faced by least developed countries/developing countries/countries with economies in transition was identified as a footnote (10) in the *General Policies and Legislation* manual, no further considerations to the applicability of the practical arrangements for implementing ESM in SIDS were made. It could be deduced that SIDS could use the manuals to gain insight from the waste management experience of developed countries, however, they may not readily possess the infrastructure or technology required or the resources to ensure ESM. The differences in social, technological and economic status between these two groups are too wide and therefore, the Manuals should be revised to establish a separate set of strategies and criteria for these developing countries.

Apart from legislative and governmental personnel, the Manuals also provide general guidance for implementing ESM for other key stakeholders such as waste generators, waste carriers and waste disposers. Recommendations provided for these stakeholders assume that they are all operating at the same level of capacity. Transportation, collection and disposal of wastes within the project countries are typically performed by small and medium-sized enterprises (SMEs) or private contractors. These stakeholders usually face particular resource constraints, both human and financial, which may make it difficult to implement certain strategies set out in the Manuals. It would be helpful for the Manuals to cater to SMEs by developing and focusing on strategies that are appropriate to them. There are also no practical considerations for managing the informal waste sector which poses numerous socio-economic challenges in SIDS.

When considering the *Waste Prevention* manual, motivation strategies for implementing ESM such as financial stimuli, including tax incentives and cash rebates, are listed, however there is no guidance for assessing nor estimating the costs. It is also assumed that equipment and

technologies for greener or cleaner design and production are readily available. Without guidance on these matters, it may be difficult to determine the best approaches to incentivizing the cooperation from the waste sector, particularly in the private sector.

Additionally, the Manuals assume that an adequate data management framework to adopt the technological and other measures needed to ensure the ESM of hazardous wastes are in place. Based on the challenges to obtain the relevant data to conduct the national assessments under this Project, there is the need for improvement of information networks in all the participating countries to establish effective ESM of these wastes.

In terms of the structure of each of the Manuals, it was found that policy makers, legislators and regulators may be better suited to understanding the purpose of the Manuals, but its use may not be as straightforward to other target audiences in the private sector and general public. In some cases, legal and non-legal matters are mixed and explanations may be deemed to be over-generalised with little appreciation of governance arrangements in the project countries. The Manuals lay out a hierarchical framework that combines indicators of performance with legal provisions or infrastructure. This limits the effectiveness of the Manuals for SIDS as it becomes difficult to deduce which aspect should be adopted.

To enhance the effectiveness of the Manuals for the project countries, one or more of the following recommendations may be considered.

1. Practical considerations for ESM outlined in the Manuals should be further revised to take into account the vast differences in capabilities and available resources in developing countries or countries with economies in transition. This can be conducted by the categorisation of guidelines presented according to the types of resources that may be required to meet the ESM requirements where possible. An analysis of the types of barriers that may be faced by developing countries in the implementation of ESM and opportunities to overcome them should also be provided.
2. Links to case studies or examples of existing practices/policies/instruments in place for ESM specific to SIDS could be provided to enhance understanding of the broad guidelines stated in the Manuals. This was done to an extent in the *Certification Schemes* manual and can be further applied to the *General Policies and Legislation* and *Permits, Licenses or Authorisations* manuals.
3. While guidelines presented in the Manuals were separated where necessary according to the relevant stakeholders, (for example, the *General Policies and Legislation* manual outlined considerations for actors such as “waste generators” and “waste carriers” separately) a further categorisation according to the scale of operations for the different actors would assist in the development of appropriate strategies.
4. The *Waste prevention* manual provided only a general overview of the relevant principles, strategies and possible measures and tools. When assessing national waste prevention strategies for the Project, the manual was used in conjunction with the draft document, “*Guidance to assist Parties in developing efficient strategies for achieving the prevention and minimisation of the generation of hazardous and other wastes and their disposal*” which provided more targeted examples that enhanced the

assessment. It is recommended that both documents be considered together when being finalised.

5. The structural format and content of the *Certification Schemes* manual was found to be more likely understood by all types of stakeholders. A similar approach could be applied to the other Manuals.

Section 3. Conclusion

In considering the prerequisites for establishing ESM set out in the Manuals, it appears that the participating countries are at the ground level in establishing a comprehensive waste management framework with particular regard to their policy, legal and institutional aspects. The Manuals focus on existing governance to assess and review whether existing policy, legal and institutional arrangements in Basel Convention member states constitute compliance with the obligations of the Convention. They provide guidance on developing strategies and measures, both mandatory and voluntary, to achieve the upper elements of the waste management hierarchy of prevention, minimization and reuse of hazardous wastes and other wastes. In doing so, the Manuals provide useful insights on the management of hazardous wastes. One of the main aspects incorporated in these plans is the need to assess and review existing legislation on hazardous waste management. This step will identify and uncover whether the ESM of mercury and mercury wastes are adequately covered in national environmental legislation.

By revealing the complexity of the issues for ESM of hazardous wastes, the Manuals are a good starting point for policy-makers and government technocrats. The recommendations provided in the assessments conducted under this Project could be considered to establish a national goal for the project countries on the ESM of hazardous wastes and other wastes, including spent lighting products. However, the availability of financial and technical capabilities will determine the achievement of this goal.

The economic and social realities of SIDS portray a general lack of financial resources, human resources and technological capacity. Each of the Manuals identified for this project is replete with examples of ESM related to developed countries that do not share these hardships. Therefore, the recommendations for strategies for the environmentally sound disposal of spent lighting products in the project countries are based on many assumptions and were unable to fully capture the practical considerations for ESM relative to the national contexts. In reality, waste management in the project countries is still operating at a lower level of implementation in areas such as data collection, capacity building of human resources and institutional capabilities. Further elaboration on how these areas could be improved should be included in the Manuals.

Section 4. Internet Links, References & Further Reading

United Nations Environment Programme (UNEP). 2014. "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal". [online] Available at: <http://basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf>

United Nations Environment Programme (UNEP). 2016. "Minamata Convention on Mercury". [online]
Available at: <http://www.mercuryconvention.org/Convention/tabid/3426/Default.aspx>

Internet Sources:

"Assessment of the status of Central America, Mexico and the Dominican Republic ESM of hazardous wastes and other wastes, including waste electrical and electronic equipment":
<http://www.basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/ESMToolkit/Pilotprojects/tabid/5846/Default.aspx>

"Draft Practical Manual on Extended Producer Responsibility and Financing":
https://UNEP-CHW-CLI_EWG.5-INF-6.English.pdf

"Guidance to assist parties in developing efficient strategies for achieving the prevention and minimization of the generation of hazardous and other wastes and their disposal (Draft document)":
<http://basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/ESMToolkit/Guidanceonwasteprevention/tabid/5844/Default.aspx>

"Practical manuals on promoting the environmentally sound management wastes":
<http://basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/ESMToolkit/Practicalmanuals/tabid/5847/Default.aspx>

"United Republic of Tanzania. Assessing if notifications, consents, inspections and enforcement of transboundary movements of waste and take-back procedures for illegal traffic represent environmentally sound management":
<http://www.basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/ESMToolkit/Pilotprojects/tabid/5846/Default.aspx>