NATIONAL POLICY

(WHITE PAPER)

ON

ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS)

In Pursuit of a Green Economy

March 2019

ACRONYMS

ACSSD-GE	Advancing Caribbean States' Sustainable Development Through Green Economy Project
AGC	Attorney General's Chambers
BSJ	Bureau of Standards Jamaica
CDE	Center for Development of Enterprise
CIDA	Canadian International Development Agency
CWIP	Coastal Water Quality Improvement Project
EECP	Energy Efficiency and Conservation Programme
EAST	Environmental Audits for Sustainable Tourism
EMS	Environmental Management Systems
EMAS	Eco-Audit and Management System
ENACT	Environmental Action Programme
GBJ	Green Business Jamaica Certification Programme
GOJ	Government of Jamaica
IDB	Inter-American Development Bank
IER	Initial Environmental Reviews
INEM	International Network for Environmental Management
ISO	International Organization for Standardization
JAMPRO	Jamaica Promotions Corporation
JaNEAP	Jamaica National Environmental Action Plan
JEA	Jamaica Exporters' Association
JMA	Jamaica Manufacturers' Association
MDAs	Ministries, Departments and Agencies
MCGES	Ministry of Culture, Gender, Entertainment and Sport
MEGJC	Ministry of Economic Growth and Job Creation
MICAF	Ministry of Industry, Commerce, Agriculture and Fisheries
MIND	Management Institute for National Development
MIOB	Mona Institute of Business
MOFP	Ministry of Finance and Public Service
MSMEs	Micro, Small and Medium Enterprises
MWLECC	Ministry of Water, Land, Environment and Climate Change
NCBJ	National Certification Body of Jamaica
NEEC	National Environmental Education Committee
NEPA	National Environment and Planning Agency
NRCA	Natural Resources Conservation Authority
PIOJ	Planning Institute of Jamaica
PRTR	Pollutant Release and Transfer Register
PSOJ	Private Sector Organisation of Jamaica

SDGs	Sustainable Development Goals
SEA	Strategic Environmental Assessment
SMART	Sustainable Management Research Action Training
SRC	Scientific Research Council
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
UWI	University of the West Indies

MESSAGE FROM THE MINISTER OF ECONOMIC GROWTH AND JOB CREATION

The National Policy on Environmental Management Systems (EMS) has been developed in keeping with the Government's commitment to improve environmental performance in support of sustainable development and the development of a green economy as outlined in Vision 2030 Jamaica - National Development Plan.

It should be noted that the development of the National Policy on EMS is referenced under National Outcome 13 (sustainable management and use of environmental and natural resources) of Goal 4 (Jamaica has a natural healthy environment) of *Vision 2030 Jamaica* and seeks to integrate environmental considerations into the economic and social decision-making processes while addressing risks and opportunities. An EMS enables an organization, whether Government, private sector or otherwise, to reduce its impacts on the environment and increase its operating efficiency while addressing their environmental risks and opportunities.

The United Nations Conference on Sustainable Development held in Rio de Janeiro, Brazil in June 2012 (commonly referred to as 'Rio+20') encouraged countries to "…*consider the implementation of green economy policies in the context of sustainable development and poverty eradication, in a manner that endeavours to drive sustained, inclusive and equitable economic growth and job creation…*'. An EMS is an important tool in the transition towards a green economy, and as such, the National Policy on EMS is timely.

It is noteworthy that in Jamaica there are several examples of EMS implementation in both the public and private sectors, including the certification to the International Organization for Standardization's (ISO) 14001:2004 standard by several local companies/organizations towards advancing the notion of the *"triple bottom line"*[1]. These organizations are now being encouraged to proceed to the next level and become certified to ISO 14001:2015, as the new standard was revised and released in 2015. Indeed, I encourage all entities, particularly small and medium-sized enterprises in key economic sectors such as agriculture, tourism and manufacturing, which have not yet sought certification to become certified to this and similar global environmental standards.

Over the years, a number of local hotels and attractions along with beaches and marinas have attained Green Globe and Blue Flag certification, respectively. Certification will not only benefit the Jamaican environment, but also increase the competitiveness of companies' goods and services on the local, regional and international markets. At the community level, there are also examples of approaches to EMS implementation, such as the institution of several community-based recycling programmes and projects.

With respect to the public sector, although EMS certification has not been pursued, the Government has undertaken several initiatives that will support the tenets of an EMS. These include important initiatives such as the incorporation of environmental considerations into corporate plans of Ministries, Departments and Agencies (MDAs), the Government of Jamaica Environmental Guide to Green Procurement, the development of the draft Strategic Environmental Assessment (SEA) Policy, and the Micro, Small and

[1] The "triple bottom line" is an accounting framework/approach where achievements/ performance are valued in three dimensions: social, environmental and financial (also commonly called the three Ps: people, planet and profits).

Medium Enterprise (MSME) and Entrepreneurship Policy as well as a number of "greening of Government" projects such as the Public Sector Energy Efficiency and Conservation Programme (EECP).

In addition, the National Environment and Planning Agency (NEPA) has launched the Green Business Jamaica Certification Programme (GBJ) which promotes EMS, and the Pollutant Release and Transfer Register (PRTR). The lessons learned from the GBJ, which is currently in its pilot phase, will serve to inform the efforts of the Working Group on EMS and my Ministry, in the implementation of the Policy. Also worth noting, is the NEPA's drive to propel facilities in the Bauxite and Coffee industries, towards the implementation or enhancement of EMS by initiating the completion of Initial Environmental Reviews (IERs). Through the incorporation of procedures as a result of the assessment, the environmental footprint of organizations willing to engage in this process will be much improved.

Furthermore, the Advancing Caribbean States' Sustainable Development Through Green Economy (ACSSD-GE) Project, implemented by my Ministry in collaboration with UWI Consulting with funding from the United Nations Environment Programme (UNEP), has bolstered 'green initiatives' in the public and private sectors. The Green Economy Scoping Study for Jamaica which was prepared through the project has contributed to the development of this Policy, and the achievement of green economy targets in Vision 2030.

It should be noted that the NEPA is prepared to support the private and public sectors in the implementation of EMS programmes. The National Certification Body of Jamaica (NCBJ) has also voiced its willingness to encourage EMS implementation. The Ministry with portfolio responsibility for the environment will establish a Working Group on EMS that will provide oversight for the implementation of this Policy.

It is well known that organizations that adopt EMS principles provide assurances to their internal and external stakeholders that their environmental performance is continuously being assessed and improved. It is therefore important that local organizations/companies regardless of sector or size fully embrace the tenets of an EMS in continuously improving their operating efficiencies and reducing any adverse impacts on the environment. In so doing, future generations of Jamaicans would have an equal chance of utilizing available resources to aid in their economic growth and development and social well-being.

We have a great opportunity to benefit from a systematic approach to environmental management as we all strive to make Jamaica, "*the place of choice to live, work, raise families, and do business"* in accordance with the country's sustainable development agenda.

Andrew Holness, ON, MP
Prime Minister and
Minister of Economic Growth and Job Creation

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OUTLINE OF THE POLICY FRAMEWORK

Jamaica's National Policy on Environmental Management Systems (EMS) will support the implementation of Vision 2030 Jamaica: National Development Plan, particularly National Outcome #13 – sustainable management and use of environmental and natural resources.

Table 1: Outline of the Policy on EMS

<table>
<tr><td colspan="2">"Jamaica, the place of choice to live, work, raise families and do business"
(Jamaica's National Vision)</td></tr>
<tr><td colspan="2">"Jamaica has a healthy natural environment"
(Vision 2030 Jamaica – Goal 4)</td></tr>
<tr><td colspan="2">"An enabling environment which supports the green economy underpinned by EMS principles and the appropriate regulatory and institutional frameworks."
(Vision Statement of the National Policy on Environmental Management Systems)</td></tr>
<tr><th>Overall Goal</th><th>Objectives</th></tr>
<tr><td rowspan="4">This Policy will promote certification, implementation, monitoring and evaluation of EMS to reduce or mitigate environmental impacts and increase efficiencies. In addition, EMS principles will be mainstreamed into all sectors at the national and local levels to assist with the creation of a green economy.</td><td>1. To establish a framework that facilitates the promotion and implementation of EMS by 2030;</td></tr>
<tr><td>2. To increase the number of private sector organizations that are implementing EMS, and attaining related local and international certification;</td></tr>
<tr><td>3. To introduce EMS programmes and principles to ministries, departments and agencies in an effort to improve the environmental stewardship of Government operations; and</td></tr>
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EXECUTIVE SUMMARY

Jamaica has a history of green certification such as the International Organization for Standardization's (ISO) 14001:2004 (EMS) which is one the most highly respected programmes, especially among the agro-processing and manufacturing sectors. Although green certifications including ISO programmes are not compulsory, the principles embedded in these standards should be adopted at all levels. EMS implementation and certification have been increasing globally, however this is not the general trend in the Caribbean. Based on the growing demand for natural resource management and improved environmental performance, EMS implementation should be promoted as a priority within the public and private sectors. As such, the development of the National Policy on EMS is a priority geared towards the achievement of Vision 2030 Jamaica and the Medium-Term Socio-Economic Policy Framework, while contributing to the country's commitment to realizing the Sustainable Development Goals (SDGs).

EMS as defined in the ISO 14001:2015 standard, *"is a part of the management system used to manage environmental aspects, fulfil compliance obligations, and address risks and opportunities"*. In other words, EMS is the systematic implementation of actions/strategies by an organization to improve environmental performance and operating efficiencies. The scope and complexity of EMS implementation will depend on several factors, including the size and resources available to the organization. However, the potential benefits from EMS implementation include improved environmental performance, enhanced compliance with environmental legislation and regulations, pollution prevention and resource conservation. In relation to an enterprise, EMS implementation can enhance the enterprise's image with customers, regulators, and lenders and facilitate the creation of new niche markets. In this regard, EMS implementation is being encouraged within both the public and private sectors to reduce environmental impacts while increasing operational efficiencies.

The objectives of the Policy on EMS are:

1. To establish a framework that facilitates the promotion and implementation of EMS by 2030;
2. To increase the number of private sector organizations that are implementing EMS, and attaining related local and international certification;
3. To introduce EMS programmes and principles to ministries, departments and agencies in an effort to improve the environmental stewardship of Government operations; and
4. To increase awareness of EMS principles and to effect culture change with respect to sound environmental stewardship practices within the society.

Specific actions and strategies are outlined under each of these objectives, and are reflective of the principles that the Policy upholds. The proposed roles of specific ministries, departments and agencies (MDAs) with respect to the implementation, monitoring and evaluation of the Policy are highlighted. Government will support the implementation of the activities within the Policy, including the identification of donor funding, as necessary. EMS implementation and the related principles of this Policy will be promoted in all sectors to contribute to the creation of an enabling environment for Jamaica's green economy.

1.0 INTRODUCTION

1.1 Background

In October 1999, the Natural Resources Conservation Authority (NRCA) convened a multi-sectoral Working Group to develop the draft National Policy on Environmental Management Systems (EMS). The Working Group consulted a number of organizations both locally and internationally on guidelines for EMS policy and implementation. In addition, the Working Group also reviewed the status of EMS implementation in several countries and one regional grouping (UK, Japan, USA, Canada and the European Union), in benchmark countries[2] (Cuba, Costa Rica, Columbia, Malaysia, Israel, Barbados, Trinidad & Tobago and Guyana), and in key economic sectors (bauxite, tourism, coffee, rum and agro-industry). The legislative and economic frameworks for Jamaica were also reviewed.

During the consultative process, several meetings were held with stakeholders to discuss development of the policy and a presentation was made to the then Cabinet Committee on Land and Environment. Research was undertaken which led to the preparation of five background papers including the Benchmark Countries and the Economic Incentive reports. A draft Policy was then prepared and several meetings were held with select interest groups to review the draft Policy. These steps led to the submission of Green Paper No. 2/01 to Cabinet which was approved in June 2001.

The Green Paper was then subject to islandwide consultations focusing on specific target groups between November 2001 and March 2003. Further updates to the Green Paper were required for White Paper submission. In 2007, efforts were made to update specific sections of the Green Paper. However in 2008, it was decided that extensive research and field study were required to inform the preparation of the White Paper.

Given the time that has elapsed between the initial Green Paper preparatory process to present, the Ministry of Economic Growth and Job Creation (MEGJC) (formerly the Ministry of Water, Land, Environment and Climate Change (MWLECC)) updated the draft Policy between 2013 and 2016. The updated draft Policy took into account, *inter alia*, the related actions/strategies in the Medium Term Socio-Economic Policy Frameworks 2012-2015 and 2015-2018. The newly updated draft Policy was submitted to Cabinet, where it was deferred to the Economic Growth and Job Creation Committee in May 2016. Cabinet Decision No. 26/16 dated July 2016 recommended that comments be obtained from key MDAs such as the Ministry of Finance and Public Service (MOFP), the Ministry of Industry, Commerce, Agriculture and Fisheries (MICAF). As such the Policy was circulated to these and other stakeholders including the Attorney General's Chambers (AGC), the National Environment and Planning Agency (NEPA), the National Certification Body of Jamaica (NCBJ), Jamaica Promotions Corporation (JAMPRO), the Bureau of Standards Jamaica (BSJ) and the Management Institute for National Development (MIND). The comments received from these entities were integrated into the Policy.

[2] The Benchmark Country report provides a "snapshot" overview of the status of EMS implementation in developing countries, but more importantly, it traces the key policy developments in each country relating to the use of EMS.

Subsequent to that revision, the draft Policy was resubmitted and Cabinet by Decision No. 11/18 dated 26th March, 2018 directed that it be tabled as a Green Paper. Consequently, the draft Policy was tabled in the Houses of Parliament on 17th July, 2018. The Green Paper was published for public access and comments, on the websites of the Houses of Parliament, the NEPA and the MEGJC. In addition, two consultations were hosted with representatives from the public and private sectors in September 2018. Invitees were also asked to submit formal written comments on the draft Policy following the consultations. This document was finalized based on the formal comments submitted to the MEGJC.

1.2 Overview of EMS

EMS as defined in the International Organization for Standardization (ISO) 14001:2015 standard, "*is the part of the management system used to manage environmental aspects, fulfil compliance obligations, and address risks and opportunities*". In other words, is the systematic implementation of actions/strategies by an organization to improve environmental performance and operating inefficiencies. It is also one of the tools that many entities utilize to support their environmental policies. This Policy seeks to promote EMS adoption among businesses and the public sector to improve their environmental performance and operational inefficiencies.

EMS includes two basic elements, (i) ensuring compliance with environmental standards and continuous improvement of such standards, and (ii) providing a means for reporting on this performance in a transparent and credible manner. The use of EMS in Jamaica should improve competitiveness and allow for increased compliance by entities to environmental norms and standards. Adopting sustainable development approaches or implementing EMS strategies often leads to cost saving opportunities, avoidance of waste and improves the *"triple bottom line"*.

The Policy on EMS recognizes and promotes various types of certification schemes, including the ISO 14001:2015 and Jamaica's very own Green Business Jamaica (GBJ) (see Appendix 3) certification programme. In Jamaica, organizations may implement an EMS with or without certification, as well as Codes of Practice and other specially designed approaches. Although EMS certification is voluntary, the Government of Jamaica will provide the necessary legislative framework, policies and incentives to encourage certification within the public and private sector.

1.3 EMS Applications

EMS has been accepted, adopted and implemented by industry, services, utilities, Governments and commercial enterprises in both developed and developing countries that are concerned with the achievement and demonstration of sound environmental performance. Implementation of EMS in Jamaica by some companies has resulted in continual improvements in internal efficiencies within their operations thereby helping to reduce costs and achieve a competitive advantage. EMS also complements existing and draft national policies such as the National Solid Waste Management Policy, the Micro, Small and Medium Enterprises (MSME) and Entrepreneurship Policy, the National Energy Policy as well as programmes, projects and initiatives, for example the GBJ mentioned above and the Public Sector Energy Efficiency and Conservation Programme (EECP) (see Appendix 4).

The International Organisation for Standardization developed the ISO 14000 series of EMS standards. Among the series, ISO 14001:2015 is the certifiable standard and specifies the

requirements for an environmental management system. The standards covering EMS have been developed to provide organizations with the elements for an effective management system, which can be integrated into the decision-making process to achieve environmental and economic objectives.

ISO Model - An environmental management system is part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, process and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.

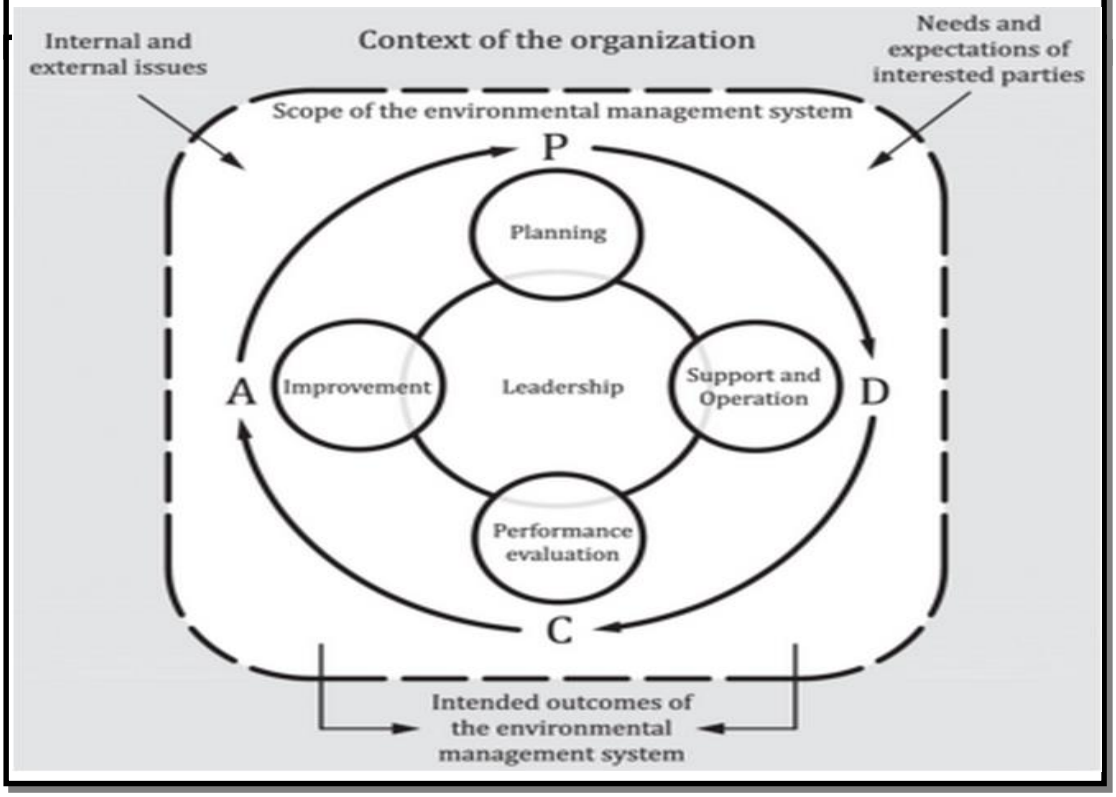


Figure 1: ISO 14001:2015 EMS Model. Source: ISO 2015[3]

The EMS model above taken from ISO 14001:2015 illustrates a cycle of continuous improvement, ensuring that the EMS remains current and relevant. The specifications of this standard provide a solid foundation for the development of an EMS. According to ISO, organizations must ensure that an EMS:

a) is appropriate to the purpose and context of the organization, including the nature, scale and environmental impacts of its activities, products and services;
b) provides a framework for setting environmental objectives;
c) includes a commitment to the protection of the environment, including prevention of pollution and other specific commitment(s) relevant to the context of the organization;

[3] https://www.iso.org/obp/ui/#iso:std:iso:14001:ed-3:v1:en

d) includes a commitment to fulfil its compliance obligations; and
e) includes a commitment to continual improvement of the environmental management system to enhance environmental performance.

1.4 Benefits, Opportunities and Challenges

In the business sector, EMS is seen as a tool to improve internal efficiencies, and increase competitiveness and profitability. In the financial sector, banks and insurance companies are increasingly requiring assessments of environmental risks before funding certain types of projects and an EMS is recognized as a way of reducing risks and verifying environmental performance. For example, the New York and London financial markets have introduced a 'Sustainability Index' and also annual environmental reporting requirements for companies listed on their respective stock exchanges. Governments and UN agencies are 'greening' their own operations as well as influencing the supply chain by implementing green procurement strategies and environmental stewardship programmes.

Benefits

An environmental management system encompasses a full range of issues including those with strategic and competitive implications. Some of the benefits are:

- Improved efficiencies
- Improved brand reputation/public image
- Enhanced competitive advantage
- Environmental protection
- Cost savings

In addition, environmental regulators are using EMS as an alternative regulatory pathway and a mechanism for achieving flexibility. Businesses that are compliant are normally given more flexibility as it relates to environmental assessment and reporting. This is one of several emerging opportunities for EMS implementation and could be adopted by Jamaica. Furthermore, EMS can promote awareness of and compliance with local legislation. Through the implementation and maintenance of the EMS, management and staff will be informed on applicable laws and legal requirements that are relevant to the organization.

Jamaica's commitment to promote sustainable consumption and production will require organizations to implement EMS for the efficient environmental management of their production processes, to meet the demands of consumers in a sustainable manner. Similarly, the onus will be on stakeholders/customers to demand environmentally friendly products. This is an important step in the creation of a green economy.

There are a number of challenges affecting the application of the EMS in the Caribbean. Usually, EMS has been regarded as only relevant to the "environmentalist" and as a result its cross-cutting nature and applicability to business and Government have not been fully appreciated. In addition, the capacity challenges faced by small and medium-sized enterprises must be taken into account as these businesses comprise a large percentage of the private sector in Jamaica. Other obstacles to EMS implementation in the Caribbean include, but are not be limited to, (i) the general lack of awareness relating to the benefits of EMS, (ii) poor institutional capacity, (iii) cost of ISO certification, and (iv) the lack of access to/availability of appropriate clean technologies. Developing the necessary skills base will be critical to the successful promotion of environmental management systems. Similarly, removing the culture of implementation inertia within the public and private sectors and building a foundation of close collaboration among stakeholders are necessary ingredients for success.

Although there are several challenges that hinder the implementation of EMS, in a review of certification across developing countries, Massoud *et al.* (2010) highlighted a number of strategies that could be utilized to increase the rate of success. Some of these key strategies are mirrored in the recommendations outlined in the Green Economy Scoping Study for Jamaica. These strategies are summarized below:

1. Implement training and public awareness programmes during the initial phase to strengthen capacity and maximize the effectiveness of regulations;
2. Establish incentives that support conservation measures or fines and fees that promote the use of green technologies;
3. Set appropriate fees and fines, and review periodically to adjust for inflation;
4. Couple local micro-finance options with international project funding initiatives to subsidize costs;
5. Introduce a national support system or multidisciplinary committee to guide implementation and source financing options across industries;
6. Identify, update and consolidate fragmented environmental regulations and policies and integrate with the existing development planning framework; and
7. Promote implementation of EMS as well as other green certifications or systems as sequential adoption can maximize resource-use efficiency and reduce duplication of resources.

In its recommendations for Jamaica, the Scoping Study posited the need to create enabling conditions such as incentives, regulations and unified policies to ease the transition to a green economy. In its sectoral review, emphasis is placed on expanding training programmes, sourcing options for financing, developing green branding strategies and promoting conservation particularly in industries that rely heavily on local resources such as the tourism industry. The strategies above and the recommendations prepared in the Scoping Study have been taken into consideration in the preparation of this Policy on EMS. The objectives and accompanying actions outlined in the approach for implementation were crafted to ensure these best practices were integrated to present an informed plan of action to operationalize EMS programmes in Jamaica.

2.0 SITUATIONAL ANALYSIS

This chapter provides a brief overview of the trends in EMS implementation globally and regionally. It also outlines the status of EMS implementation within the Jamaican context.

2.1 A Global Perspective

Globalization and a growing awareness of environmental issues are pressuring firms to adhere to international environmental standards and respond to customer and market demand, particularly with respect to increased consumer interest in environmental implications of goods and services.

In Europe and Asia, most national procurement policies require suppliers to be certified to ISO 14001 with many certified firms refusing to do business with non-certified counterparts. In the Netherlands, the Dutch Green Plan paved the way for the rapid uptake of EMS. Germany is also far advanced in the use of EMS-based approaches for policy, regulatory and management purposes.

China is the lead country as it relates to the number of ISO 14001 certifications issued, 165,665 at the end of 2017 compared to 67,874 at the end of 2012[4]. EMS implementation in China is influenced by environmental regulations to assess the potential for using this voluntary standard to promote improved environmental performance (Cushing, McGray and Lu, 2005). Factors including international trade, transnational corporate policy, government-sponsored environmental projects, the potential for regulatory, economic, and environmental benefits, and the interest of top company management also contribute to the level of compliance.

For Egypt, the importance of EMS implementation is based on the need to improve environmental protection, reduce operational costs and facilitate foreign trade. The Egyptian Ministry of Trade and Industry encouraged firms to implement ISO 14001 by paying 85% of the consultancy and certification costs; more than 200 firms have benefited from this ISO 14001 certification project (Massoud *et al.*, 2010). The number of ISO 14001 certificates steadily increased from 35 in 1999 to 721 at the end of 2017[5].

The Canadian public sector has made the commitment to lead the way forward towards sustainability through EMS implementation. Each Federal Ministry was required to prepare a Sustainability Plan as the vehicle for EMS implementation in a number of government and private sector initiatives.

Up to the end of December 2017, at least 358,953 ISO 14001 certificates, a growth of approximately 4% (+12,806) from the previous year, had been issued in 181 countries[6]. The top three countries for the total number of certificates issued in 2017 were China (165,665), Japan (23,901) and the United Kingdom (17,559). The table below illustrates the ISO's survey results for 2017**.**

[4] ISO Survey of Management System Standard Certifications, 2017.
[5] ISO Survey of Management System Standard Certifications, 2017.
[6] ISO Survey of Management System Standard Certifications, 2017.

Table 2: ISO 2017 Survey Results

	Number of certificates in 2016	Number of certificates in 2017	Change	Change in %
ISO 9001	1 105 937	1 058 504	-47 433	-4
ISO 14001	346 147	362 610	16 463	5
ISO 50001	20 216	21 501	1285	6
ISO 27001	33 290	39 501	6 211	19
ISO 22000	32 139	32 722	583	2
ISO 13485	29 585	31 520	1 935	7
ISO 22301	3 853	4 281	428	11
ISO 20000-1	4 537	5 005	468	10
ISO 28000	356	494	138	39
ISO 39001	478	620	142	30
TOTAL	1 576 538	1 556 758	-19 780	-1

Source: ISO 2017

2.2 A Regional Perspective

At the regional level, the main drivers for EMS implementation include global competition, international non-tariff barriers, cost control, marketing advantages, government support for policy development, public recognition, as well as increased awareness of environmental issues in general.

Implementation of the Sustainable Management Research Action Training (SMART) initiative by the Center for Development of Enterprise (CDE) and the International Network for Environmental Management (INEM), between 2006 and 2007, targeted environmental consultants, managers and companies in the Caribbean region. One of the objectives of this initiative was to raise awareness about new environmental management approaches, tools and techniques.

In Barbados, the National Standard Specification for Environmental Management Systems was developed to guide the implementation of EMS. Since then, Barbados has incorporated EMS into a number of policies including their Trade Policy. Several awareness raising programmes have been geared towards capacity building and EMS uptake among MSMEs. Six organizations were ISO 14001 certified at the end of 2017.

EMS certifications have been fluctuating in Cuba, particularly in agriculture, food production and medicine. There was a sharp decline in the number of ISO 14001 certificates issued between 2009 and 2017, that is, 8 certificates issued at the end of 2017 compared to 24 certificates at the end of 2009.

The Guyana Environmental Protection Agency (EPA) in its Strategic Plan calls for the use of EMS as an integral component of its Natural Resources Management Strategy. EMS implementation is being supported in the agriculture sector, especially the harvesting of sugar cane and within the

mining sector with small- and medium- sized gold mining operations. However, Guyana recorded only 2 ISO 14001 certifications at the end of 2017.

Having recognized the aggregate impact of MSMEs on the environment, Trinidad and Tobago developed a special package for ISO 14001 certification for this sector. In addition, the Trinidad & Tobago Bureau of Standards (TTBS) developed a special programme for Quality and Environmental Management System Certification (Q&EMS-SME) for MSMEs and provides training in EMS. Trinidad and Tobago had 22 ISO 14001 certificates at the end of 2017 having dipped from 29 the previous year, following a gradual increase from only 12 certifications just 3 years earlier in 2013.

2.3 The Status of EMS implementation in Jamaica

Several initiatives have been undertaken over the years which have been geared towards encouraging EMS implementation in the public and private sectors. Special focus was also given to MSMEs as they constitute a large majority of the business sector. Although EMS programmes are being implemented by the private sector, there is no set standard for EMS development or environmental reporting.

In Jamaica, the National Certification Body of Jamaica (NCBJ), established in 2007, facilitates ISO 14001 certification[7]. The number of ISO 14001 certificates have been fluctuating over the years with Jamaica having 20 certifications at the end of 2016. Figure 2 illustrates the ISO 14001 survey results for Jamaica between 2001 and 2016**.**

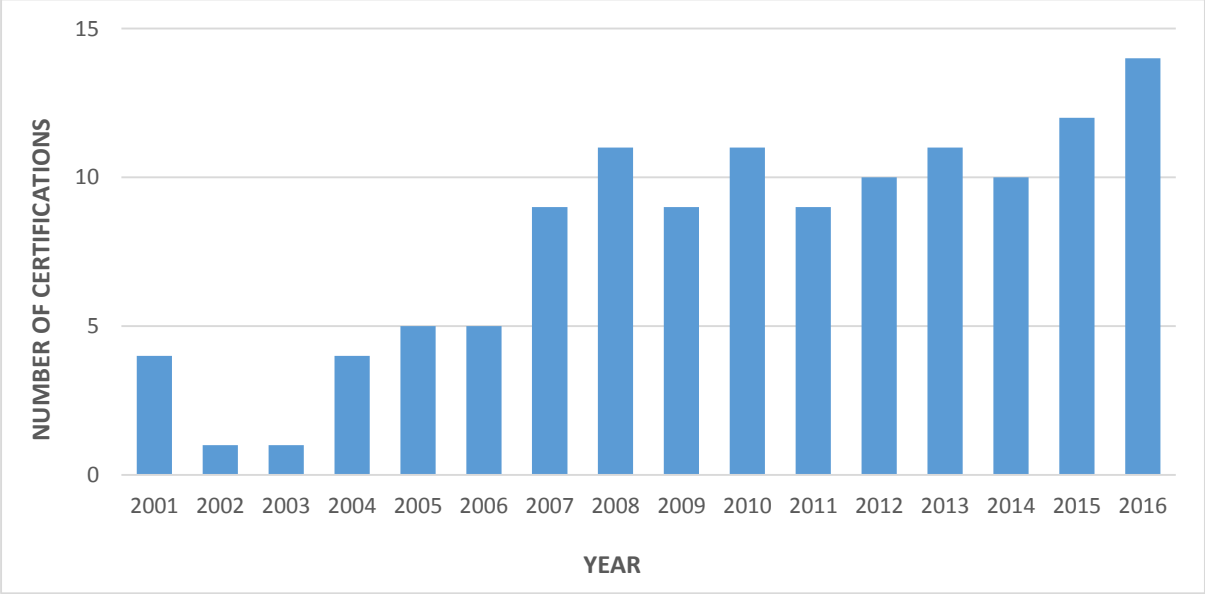


Figure 2: ISO Survey Results for Jamaica, 2001-2016. Source: ISO 2017.

Several bilateral projects have been implemented to promote the use of EMS in Jamaica. One such project is the Environmental Action (ENACT) Programme (1994-2007) which supported the

[7] Due to the low market uptake of ISO 14001 Certification in Jamaica, the NCBJ voluntarily withdrew its accreditation in August 2014. This is a temporary move which is reversible and will be reinstated as soon as the market picks up.

Government's efforts in raising awareness and capacity building for EMS implementation. Under the ENACT Programme, EMS activities were conducted with public and private sector entities especially MSMEs. Institutional strengthening of NRCA/NEPA in enforcement and sustainable development was also a priority. See Appendix 2 for more information on the achievements of the ENACT Programme relating to EMS.

Similarly, in 2006-2007, the Jamaica Institute of Environmental Professionals (JIEP) collaborated with the Centre for Development of Enterprise (CDE) to implement EMS in MSMEs. The objective of this initiative was to assist small businesses that do not have the capacity or resources to implement EMS, but play a significant role in trade and business.

The GBJ programme, officially launched in 2017, is perhaps one of the most significant attempts to develop a local model for sustainable consumption and production in Jamaica. Aimed at the private sector, the voluntary programme promotes pollution prevention and resource conservation activities, in addition to the general principles of corporate social responsibility through training and engagement with company personnel, suppliers, customers and communities. The programme, currently in the pilot stage, assigns GBJ auditors to work with companies that apply for the green certification. Auditors facilitate consultations, subsequent implementation of green initiatives and evaluate companies' progress towards more sustainable operations. Entities that adhere to the programme requirements are awarded the certification, which is valid for one (1) year.

While the Green Economy Scoping Study for Jamaica does not speak directly to EMS, it establishes a roadmap for greening the local economy and advancing sustainable development. Published in 2016, it analysed the status of six (6) key sectors and the level of sustainable initiatives driving each, namely: agriculture, fishing and forestry, construction, energy, tourism, water and sewerage. The strengths, challenges and investment gaps within each of these sectors are identified, and options for greening explored in that context. The Study provides a range of enabling conditions to ease the transition to a green economy including education and training, taxation, incentives, financing and procurement. These recommendations are in line with the objectives of this Policy and have served to inform the strategies and actions presented herein.

The alignment between Vision 2030 – Jamaica National Development Plan and the SDGs is well documented. The 17 Global Goals take into consideration issues that were not captured in the previous Millennium Development Goals (MDGs) such as climate change, sustainable consumption and innovation. The National Policy on EMS supports the tenets of sustainable development which underpin the SDGs and Vision 2030 Jamaica. At least eight (8) of the SDGs can be directly linked to EMS principles (clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, responsible consumption and production, climate action, life below water and life on land. Moreover, adaptation to environmental changes and mitigation of the impacts of negative business operations, as promoted by the Policy, would inadvertently contribute to progress on targets within other Goals. For example these activities would contribute towards achieving Target 3.9 (by 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination) of Goal 3 (good health and well-being).

3.0 FRAMEWORK FOR THE NATIONAL POLICY ON ENVIRONMENTAL MANAGEMENT SYSTEMS

3.1 Vision Statement

An enabling environment which supports the green economy underpinned by EMS principles and the appropriate regulatory and institutional frameworks.

3.2 Overall Goal

This Policy will guide implementation, certification, monitoring and evaluation of EMS in all sectors of the economy at the national and local levels including in civic organizations and businesses.

3.3 Objectives

1. To establish a framework that facilitates the promotion and implementation of EMS by 2030;

2. To increase the number of private sector organizations that are implementing EMS, and attaining related local and international certification;

3. To introduce EMS programmes and principles to ministries, departments and agencies in an effort to improve the environmental stewardship of Government operations; and

4. To increase awareness of EMS principles and to effect culture change with respect to sound environmental stewardship practices within the society.

3.4 Guiding Principles

The Policy on EMS is underpinned by several principles that support sustainable development and the creation of a green economy. The following principles are embedded within the Policy on EMS:

i. **Sustainability:** Natural resources are a part of the nation's capital and need to be managed in a sustainable manner

ii. **Leadership:** the Government of Jamaica will provide leadership by "greening" its own operations as a step towards responsible environmental stewardship and contributing to climate change mitigation.

iii. **Participation:** all citizens of Jamaica are individually and collectively responsible for the quality of the environment. Environmental issues therefore require the full participation of all

iv. **Polluter & User Pays:** require the imposition of charges, and sanctions for the unsustainable use of the natural resources and other environmental facilities, as well as the degradation of the environment.

v. **Extended Producer Responsibility:** will require the recognition of responsibility for the environmental effects of products and services by the producer.

vi. **Quality Assurance:** will ensure that processes and programmes along with their success in achieving the desired outcomes cannot be taken for granted and should be carefully planned, monitored and evaluated.

vii. **Continual Improvement:** will require the establishment of a planning framework(s) that would allow continual improvement in environmental performance at regular intervals, circumstances and/or knowledge change.

viii. **Economic Efficiency:** will require that the services of environmental resources be given economic value, and such value to count equally with the economic values of other goods and services, in analysis of alternative courses of action.

ix. **Right to Development:** emphasizes that development in harmony with the environment is fundamental to the achievement of sustainable development, so that individuals and societies are empowered to achieve positive social and environmental outcomes.

x. **Transparency:** implies that all activities implemented under this Policy are open to the public's right of access to government information.

xi. **Accountability:** every organization will be held responsible for the implementation of environmental management system processes within their operations and ensure that they are carried out in an ethical and transparent manner

4.0 THE APPROACH FOR IMPLEMENTING THE NATIONAL POLICY ON EMS

The strategies highlighted below will build on existing programmes to tackle the weaknesses and challenges that have been identified in the policy development process, as well as introduce new initiatives. A summary of the strategies, associated actions and a timeline for implementation are presented in Table 3: Outline of the Approach for Implementation.

OBJECTIVE 1: To establish a framework that facilitates the promotion and implementation of EMS by 2030.

Achievement of this objective will result in the country having the necessary governance, institutional, economic and regulatory frameworks to create an enabling environment for EMS implementation. The provision of incentives will increase stakeholder buy-in necessary to boost EMS uptake within the private sector.

Strategy 1.1: Strengthen the legislative framework for environmental regulation.

Actions:

1.1.1 Establish the Working Group on EMS consisting of varying industry stakeholders from the public and private sectors to guide the implementation of the Policy; and

1.1.2 Amend the NRCA Act, and review, consolidate, and enact other environmental legislation and policies, where necessary, to provide a comprehensive legislative framework to support EMS implementation.

Desired Policy/Strategy Outcomes:

- NEPA's capacity increased to facilitate effective monitoring and enforcement of environmental legislation and facilitate improved environmental performance;

Outcome Indicator:

- Working Group comprising public and private stakeholders established with an associated workplan to guide implementation of this Policy; and
- Environmental policies and regulations updated.

Roles / Responsibilities:

- The Ministry with the portfolio responsibility for the environment and NEPA will collaborate with the Attorney General's Department, Auditor General's Department, the Chief Parliamentary Counsel, the MOFP and other relevant stakeholders in implementing Actions 1.1.1 and 1.1.2.

Strategy 1.2: Develop and apply appropriate market-based instruments (incentives and sanctions).

Actions:

1.2.1 Promote the establishment of an EMS Fund (soft loans using a sustainable financing model) with the banking and financial sector with a low re-payment rate for projects. In addition, the Ministry with portfolio responsibility for the environment will seek

Parliament's approval for Appropriation-in-Aid as an additional source of funding for the EMS Fund;

1.2.2 Establish a schedule of reduced fees based on environmental legislation, as incentives for operations which are in compliance with EMS standards and the GBJ;

1.2.3 Increase fines, where appropriate, under the NRCA Act and associated Regulations; and

1.2.4 Establish a Rewards and Recognition Scheme to give public recognition for outstanding environmental performance under the EMS and GBJ programme.

Desired Policy/Strategy Outcomes:

- The EMS fund provides a viable option for financing EMS implementation, particularly for MSMEs;
- Reduced fees act as an incentive for companies considering adopting an EMS and/or the GBJ programme; and
- Legal foundation enhanced to further discourage lack of compliance with environmental legislation
- Rewards and Recognition Scheme is perceived as a prestigious sustainability awards scheme that companies aspire to.

Outcome Indicators:

- Establishment of an EMS Fund;
- The number of companies accessing the EMS Fund;
- Number of companies benefiting from reduced fees as a result of environmental compliance; and
- The level of participation in environmental performance rewards and recognition schemes.

Roles / Responsibilities:

- MEGJC will be responsible for Action 1.2.1, with the support of key stakeholders including, the MOFP, NEPA, and the Development Bank of Jamaica (DBJ);
- NEPA will collaborate with the Attorney General's Department, Auditor General's Department, the Chief Parliamentary Counsel, the MOFP and other relevant stakeholders in implementing Action 1.2.2 and 1.2.3; and
- NCBJ, NEPA and MEGJC will collaborate with JMA, JEA, JAMPRO, MIOB, PSOJ, MICAF and other stakeholders for Action 1.2.4.
- STATIN, in collaboration with key public sector agencies including NEPA, will collate, analyse and publish data on Actions 1.2.1 to 1.2.4, as possible and appropriate.

Strategy 1.3: Build the capacity of NEPA to support all sectors in the implementation of EMS.

Actions:

1.3.1 Build the capacity of NEPA to facilitate EMS implementation through the establishment of an EMS Resource and Implementation Centre (within NEPA);

1.3.2 Develop and implement a framework for reporting environmental performance for EMS; and

1.3.3 Implement an EMS programme at NEPA.

Desired Policy/Strategy Outcomes:

- NEPA's capacity increased to facilitate monitoring and evaluation of EMS implementation strengthened while making the necessary allowance for environmental performance reporting;
- NEPA's undertaking of an EMS programme is instrumental in communicating the viability of the programme and the Agency's commitment to its implementation; and
- NEPA's EMS programme establishes a basis for documenting best practices in implementation.

Outcome Indicators:

- The development of an EMS Resource and Implementation Centre at NEPA staffed with personnel with expertise in various competencies including business management, finance and economics;
- Framework for reporting environmental performance developed and implemented;
- NEPA's EMS Resource and Implementation Centre staff benefit from the opportunity to manage an EMS programme within their own Agency; and
- Best practices recorded.

Roles / Responsibilities:

- The Working Group on EMS with collaboration from the Ministry with portfolio responsibility for the environment and NEPA, will be responsible for implementing Actions 1.3.1 and 1.3.2.
- The Working Group on EMS and the MIND, BSJ and PSOJ will assist NEPA with Action 1.3.3, as necessary. The NCBJ will assess the Programme, once established, and certify, if requested.

OBJECTIVE 2: To increase the number of private sector organizations that are implementing EMS, and attaining related local and international green certification.

Achievement of this objective will facilitate the country's transition towards a green economy, including the increased competitiveness of the private sector through their implementation of 'green' initiatives. While some organizations may currently be implementing EMS, they will now be able to access a more structured programme, guided by the EMS network established through this Policy. Entities that have implemented successful EMS programmes will be models of efficient use of resources and environmental stewardship, resulting in a reduction in the consumption of resources.

Strategy 2.1: Build capacity to plan, implement, monitor and evaluate EMS in the private sector.

Actions:

2.1.1 Develop courses on EMS for employees, including managers/executive, and training programs for auditors;

2.1.2 Document and disseminate local EMS case studies with special focus on MSMEs, highlighting the added benefit of EMS use coupled with GBJ and ISO certification,;

Desired Policy/Strategy Outcomes:

- Existing ISO auditors and other personnel seek out and attain EMS auditor training
- Private companies pursue EMS course training for staff
- EMS course certification is viewed as an asset by hiring companies

Outcome Indicators:

- An increase in the level of environmental performance within the private sector;
- Number of auditors trained to carry out EMS audits per annum;
- Number of employees/executives trained in EMS; and
- Number of companies implementing EMS, GBJ and/or ISO certification.

Roles / Responsibilities:

- MIND and HEART Trust NTA will collaborate with NEPA and BSJ for Action 2.1.1;
- NEPA and the Working Group on EMS will collaborate with various MDAs, private sector organisations and MICAF, Ministry of Culture, Gender, Entertainment and Sport (MCGES), TPDCO, JTB, SRC, PSOJ, PIOJ, JAMPRO, JHTA, JEA, JMA and other stakeholders, to assist with the implementation of Action 2.1.2
- STATIN, in collaboration with NEPA and the Working Group on EMS, will collect disaggregated data related to Action 2.1.2

OBJECTIVE 3: To introduce EMS programmes and principles to ministries, departments and agencies in an effort to improve the environmental stewardship of Government operations.

Through this objective, a select number of MDAs will have successfully implemented EMS programmes, creating a model for all MDAs to follow. In addition, this goal will support the integration of environmental considerations into public sector operations and the utilization of the existing Green Procurement Guidelines.

Strategy 3.1: Build capacity within the public sector to plan, implement, monitor and evaluate EMS

Actions:

3.1.1 Identify a select number of MDAs to participate in the EMS programme and courses;
3.1.2 Document methods for incorporating environmental considerations (particularly straight-forward energy conservation initiatives) into MDAs' operations, and encourage all to implement and reflect in corporate plans, where possible; and
3.1.3 Encourage all MDAs to procure goods and services in keeping with the Green Procurement Guidelines.

Desired Policy/Strategy Outcomes:

- Selected MDAs implementing EMS with high levels of efficiency and environmental performance;
- All MDAs are aware of environmentally friendly initiatives that are easy to implement and incorporate them into daily operations; and
- The Green Procurement Guidelines are effectively utilized by all MDAs.

Outcome Indicators:

- The number of public sector institutions (MDAs) incorporating environmental considerations into their corporate and operational plans and implementing EMS programmes;
- An increase in the level of environmental performance within public sector institutions (MDAs);
- Number of MDAs using the Green Procurement Guidelines.

Roles / Responsibilities:

- MIND will collaborate with NEPA and NCBJ for Action 3.1.1, as appropriate;
- The Working Group on EMS and NEPA will collaborate with the Cabinet Office/OPM, BSJ, Office of the Contractor General (OCG), and PIOJimplementing Actions 3.1.2 and 3.1.3, as appropriate;
- STATIN, in collaboration with MDAs, will provide disaggregated data related to Actions 3.1.1 to 3.1.3

OBJECTIVE 4: To increase awareness of EMS principles and to effect culture change with respect to sound environmental stewardship practices within the society.

Under this objective, the principles of the Policy will be promoted and the associated legal/regulatory framework publicized at the national and local levels to facilitate increased awareness and behaviour change.

Strategy 4.1: Implement a comprehensive and sustained public education and awareness programme.

Actions:

4.1.1 Design and implement public education and awareness campaigns on EMS and the green economy, collaborating with the GBJ and local ISO certification body where possible; and

4.1.2 Consistently publish reports on entities' with most outstanding environmental performance and cost savings as a result of EMS implementation, and GBJ/ISO certification where possible.

Desired Policy/Strategy Outcomes:

- Higher level of understanding among the general public, of the connection between business decisions and the resulting impact on conservation and overall savings/expense to the business and the wider community
- High level of access to information on EMS and GBJ/ISO certification to guide businesses and MDAs towards continual improvement in environmental performance.

Outcome Indicators:

- Number of EMS educational and awareness campaigns designed and implemented;
- Level of awareness about EMS principles, and green certification options, among the general public;
- Number of published reports on environmental performance and number of persons accessing reports; and
- Number of persons accessing the EMS Resource Centre for information.

Roles / Responsibilities:

- NEPA and MEGJC will collaborate with various stakeholder groups to implement Actions 4.1.1 and 4.1.2.

Strategy 4.2: Promote behaviour change with respect to values and attitudes towards environmental issues.

Actions:

4.2.1 Conduct analyses to determine attitudinal, ethical, cultural and gender issues which may impact on implementation of EMS;

4.2.2 Foster changes in values and attitudes towards environmental issues among the youth through the delivery of the school curriculum

4.2.3 Continuously promote EMS training and sensitization at the corporate level to foster change in work ethics and attitudes that will be required for successful EMS implementation;

4.2.4 Encourage consumers to demand environmentally friendly goods and services through advertising and media campaigns;

Desired Policy/Strategy Outcomes:

- The current and future Jamaican public has a very positive attitude toward EMS implementation; and
- Increased consumer demand for, and recognition of, environmentally friendly goods and services.

Outcome Indicators:

- Analyses conducted to determine attitudinal, ethical, cultural and gender issues related to EMS implementation;
- Consumer demand for environmentally friendly goods and services is sufficient to drive companies to highlight their green initiatives and/or actively seek to increase sustainability of operations and green aspects of their product/service.

Roles / Responsibilities:

- NEPA and the Working Group on EMS in collaboration with various stakeholders including the Ministry with portfolio responsibility for labour, the SRC, PIOJ, the Consumer Affairs Commission, HEART Trust NTA, MIND and the MOEYI will implement Actions 4.2.1 to 4.2.4.

Table 3: Outline of the Approach for Implementation

Strategy	Actions	TIMELINE (yr)					Desired Outcomes	Outcome Indicators
		1	2	3	4	5		
OBJECTIVE 1: To establish a framework that facilitates the promotion and implementation of EMS by 2030								
1.1 Strengthen the legislative framework for environmental regulation	**1.1.1** Establish the Working Group on EMS consisting of varying industry stakeholders to guide the implementation of the Policy	x					NEPA's capacity increased to facilitate effective monitoring and enforcement of environmental legislation	Working Group consisting of public and private stakeholders established and a workplan created to guide Policy implementation Environmental policies and regulations updated
	1.1.2 Amend the NRCA Act and review/consolidate/enact other legislation, as appropriate, to provide a comprehensive legislative framework to support EMS implementation	x						
1.2 Develop and apply appropriate market-based instruments (incentives and sanctions)	**1.2.1** Establish an EMS Fund and seek approval for Appropriation-in-Aid.	x					The EMS fund provides a viable option for financing EMS implementation, particularly for MSMEs Reduced fees act as an incentive for companies considering adopting an EMS and/or the GBJ programme Legal foundation enhanced to discourage lack of compliance with environmental legislation Rewards and Recognition Scheme is perceived as a prestigious sustainability awards scheme that organizations aspire to	Establishment of an EMS Fund The number of companies accessing the EMS Fund Number of companies benefiting from reduced fees as a result of environmental compliance The level of participation in environmental performance rewards and recognition schemes
	1.2.2 Establish a schedule of reduced fees as incentives for operations which are in compliance with EMS standards and the GBJ	x						
	1.2.3 Increase fines, where appropriate, under the NRCA Act and associated Regulations	x						
	1.2.4 Establish a Rewards and Recognition Scheme to give public recognition for EMS and GBJ performance		x					

Strategy	Actions	Timeline (yr)					Desired Outcomes	Outcome Indicators
		1	2	3	4	5		
1.3 Build the capacity of NEPA to support all sectors in the implementation of EMS	**1.3.1** Build the capacity of NEPA to facilitate EMS implementation through the establishment of an EMS Resource and Implementation Centre (within NEPA)	x					NEPA's capacity increased to facilitate monitoring and evaluation of EMS implementation NEPA's undertaking of an EMS programme is instrumental in communicating the viability of the programme and the Agency's commitment to its implementation NEPA's EMS programme establishes a basis for documenting best practices in implementation	The development of an EMS Resource and Implementation Centre at NEPA Framework for reporting environmental performance developed and implemented NEPA's EMS Resource and Implementation Centre staff benefit from the opportunity to manage an EMS programme within their own Agency Best practices recorded
	1.3.2 Develop and implement a framework for reporting environmental performance for EMS	x						
	1.3.3 Implement an EMS programme at NEPA	x						
OBJECTIVE 2: To increase the number of private sector organizations that are implementing EMS, and attaining related local and international certification								
2.1 Build capacity to plan, implement, monitor and evaluate EMS in the private sector	**2.1.1** Develop courses on EMS for employees/managers, and training programs for auditors	x	x				Existing ISO auditors and other personnel seek out and attain EMS auditor training Private companies pursue EMS course training for staff EMS course certification is viewed as an asset by hiring companies	An increase in the level of environmental performance within the private sector Number of auditors trained to carry out EMS audits per annum Number of companies implementing EMS, GBJ and/or ISO certification Number of employees/ executives trained in EMS
	2.1.2 Document and disseminate local EMS case studies with special focus on MSMEs, and highlight the added benefit of EMS use coupled with GBJ and ISO certification		x	x	x	x		

Strategy	Actions	Timeline (yr)					Desired Outcomes	Outcome Indicators
		1	2	3	4	5		
OBJECTIVE 3: To introduce EMS programmes and principles to ministries, departments and agencies in an effort to improve the environmental stewardship of Government operations								
3.1 Build capacity to plan, implement, monitor and evaluate EMS in the public sector	**3.1.1** Identify a select number of MDAs to participate in the EMS programme and EMS courses	x	x	x	x	x	Selected MDAs implementing EMS with high levels of efficiency and environmental performance All MDAs are aware of environmentally friendly initiatives that are easy to implement and incorporate them into daily operations The Green Procurement Guidelines are effectively utilized by all MDAs	The number of public sector institutions (MDAs) incorporating environmental considerations into their corporate and operational plans and implementing EMS programmes An increase in the level of environmental performance within public sector institutions (MDAs) Number of MDAs using the Green Procurement Guidelines.
	3.1.2 Document methods for incorporating environmental considerations into MDAs' operations, and encourage all to implement and reflect in corporate plans, where possible	x	x	x	x	x		
	3.1.3 Encourage all MDAs to procure goods and services in keeping with the Green Procurement Guidelines	x	x	x	x	x		
OBJECTIVE 4: To increase awareness of EMS principles and to effect culture change with respect to sound environmental stewardship practices within the society								
4.1 Implement a comprehensive and sustained public education and awareness programme.	**4.1.1** Design and implement public education and awareness campaigns on EMS and the green economy, collaborating with the GBJ/ISO programme, where possible	x	x	x	x	x	Higher level of understanding among the general public of the connection between business decisions and resulting impact on conservation and overall savings/expense to the business and the wider community High level of access to information on EMS/green certification to guide businesses and MDAs towards continual improvement in environmental performance	Number of EMS educational and awareness campaigns designed and implemented Level of awareness about EMS and green certification options, among consumers Number of published/accessed reports on environmental performance
	4.1.2 Consistently publish reports on entities' environmental performance and cost savings as a result of EMS implementation and GBJ/ISO programme, where possible		x	x	x	x		

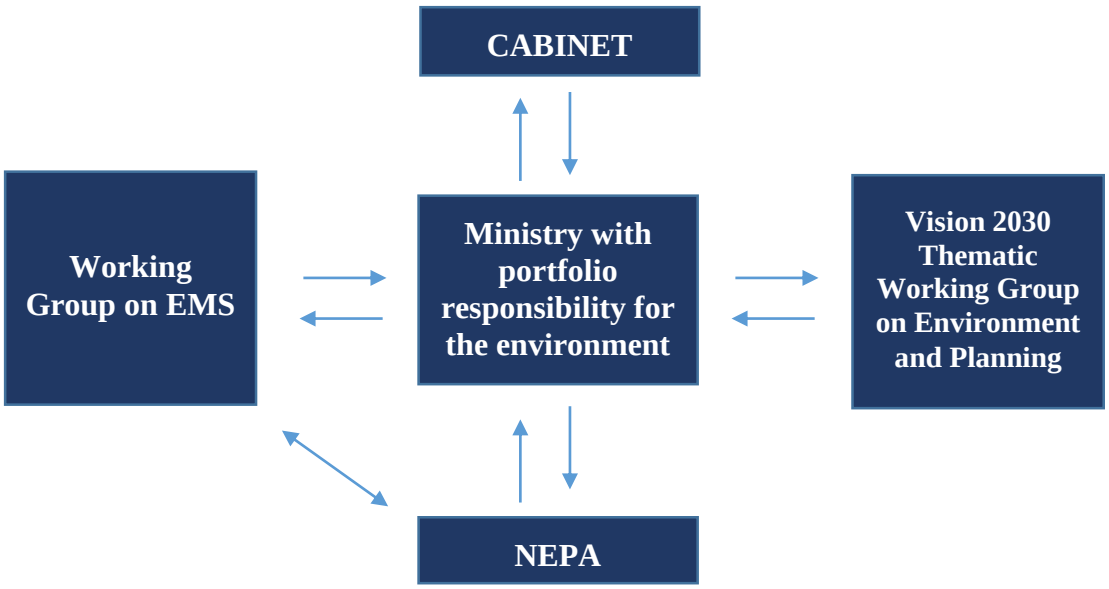
Strategy	Actions	Timeline (yr)					Desired Outcomes	Outcome Indicators
		1	2	3	4	5		
4.2 Promote behaviour change with respect to values and attitudes towards environmental issues.	**4.2.1** Conduct analyses to determine attitudinal, ethical, cultural and gender issues which may impact on implementation of EMS	x					The current and future Jamaican public is more aware of environmental issues and supportive of EMS principles and implementation. Increased consumer demand for, and recognition of, environmentally friendly goods and services	Analyses conducted to determine attitudinal, ethical, cultural and gender issues related to EMS implementation Greater attention given to environmental issues in school curriculums Consumer demand for environmentally friendly goods and services is sufficient to drive companies to highlight their green initiatives and/or actively seek to increase sustainability of operations and green aspects of their product/service
	4.2.2 Continuously promote EMS training and sensitization at the corporate level to foster change in work ethics and attitudes that will be required for successful EMS implementation	x	x	x	x	x		
	4.2.3 Foster changes in values and attitudes towards environmental issues among the youth through the delivery of the school curriculum		x	x	x	x		
	4.2.4 Encourage consumers to demand environmentally friendly goods and services through advertising and media campaigns	x	x	x	x	x		

5.0 INSTITUTIONAL ARRANGEMENTS

The Working Group on EMS, comprising key industry stakeholders from the public and private sectors, will be established by the Ministry with portfolio responsibility for the environment, to guide the implementation of this Policy. The Working Group will play a critical role in leading the legislative review process necessary to create the legal framework that incentivizes participation in the green economy through EMS implementation and the supporting initiatives outlined above. Further to the legislative review process, the Group will oversee the establishment of the EMS Resource and Implementation Centre at NEPA to manage the operation of the EMS programme, the establishment of a standardized framework for environmental performance reporting, and the development of local courses on EMS for public and private sector employees and management.

The strategies and associated actions identified in this Policy will be incorporated into the corporate and operational plans of the implementing MDAs indicated, and other additional stakeholders that may be identified as relevant towards their achievement. This will require the development of more detailed plans of actions, realistic timelines, consultations and associated costs. The key MDAs listed herein have contributed to the development of this Policy on EMS and indicated their willingness to support its implementation.

As Jamaica's long term development plan, Vision 2030 speaks to the country's focus on greening the economy, while working towards first-world levels of development. In order to support, monitor and evaluate the efforts of the public sector towards the achievement of the goals outlined in Vision 2030, twelve (12) Thematic Working Groups (TWG) have been established. All MDAs currently report on their accomplishments to the TWG which govern their role/function. Accordingly, quarterly reports on the progress of the implementation of the Policy will be made to the Thematic Working Group on Environment and Planning by the Ministry with portfolio responsibility for the environment, with collaboration from NEPA and other implementing MDAs, as required.



6.0 POLICY APPLICATION

This policy will provide guidance to the private and public sectors including MSMEs, NGOs and other organizations interested in developing and implementing EMS.

7.0 IMPLEMENTATION AND FUNDING

The Government will implement the Policy on EMS as highlighted in the roles and responsibilities of several MDAs. The relevant MDAs will seek annual allocation/subvention to assist with the implementation of the strategies and actions identified. In addition, project proposals will be developed and submitted to the PIOJ to facilitate access to financing and development assistance from bi-lateral and multi-lateral sources. Table 4 below highlights the key cost implications related to the implementation of the Policy over a 5-year period.

Table 4: Estimated Cost Implications over a 5-year period

Key Actions	Timeline/Cost (yrs)/(jmd)				
	1	2	3	4	5
Review of legislative framework prior to implementation of the Policy	2,500,000				
Establishment of the EMS Implementation Centre	6,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Establishment of the EMS Resource Centre	Costs included in budget for EMS Implementation Centre				
Development and delivery of EMS training courses (for 25 participants)	1,825,000	827,000	827,000	827,000	827,000
Training of 10 auditors up to certification, followed by annual training to maintain competency	2,000,000	500,000	500,000	500,000	500,000
Documentation and dissemination of local EMS case studies		250,000	250,000	250,000	250,000
Design and implementation of public education and awareness campaigns on EMS and the green economy	3,750,000	3,750,000	3,750,000	3,750,000	3,750,000
Conduct analyses to determine attitudinal, ethical, cultural and gender issues which may impact on implementation of EMS	800,000				
Policy review and update (MEGJC)					2,000,000
Annual cost of implementation (approx.)	**16,875,000**	**10,327,000**	**10,327,000**	**10,327,000**	**12,327,000**

8.0 MONITORING AND EVALUATION

The Ministry with portfolio responsibility for the environment will be responsible for the overall monitoring and evaluation of the implementation of the National Policy on EMS. The Working Group on EMS and all MDAs (including certification bodies) with responsibility for specific activities or programmes relating to the EMS implementation shall share with the Ministry with portfolio responsibility for the environment, all relevant information and reports necessary for effective collaboration, coordination, integration, monitoring and evaluation of EMS initiatives, as required.

The framework for reporting on EMS programme achievements to be developed within the first year of implementation of this Policy, will inform the Ministry's quarterly reporting to the Vision 2030 Thematic Working Group on Environment and Planning. As the TWG's evaluation of strategic indicators and progress to date relies heavily on timely data provided by the PIOJ and other MDAs, the EMS Resource and Implementation Centre will have to ensure that it employs consistent and standardized methods of recording and processing data.

Reviewing and/or updating of this Policy shall be conducted at least once every five (5) years to determine the effectiveness of implementation, consistent with the GoJ Policy Review Framework.

9.0 LEGAL FRAMEWORK

9.1 International

As a Party to several multilateral environmental agreements, Jamaica is obligated to implement the Articles and Protocols to ensure that the tenets of these agreements are adhered to. In order to facilitate EMS interventions, the Government must ensure that the amendment or enactment of relevant legislation, where necessary. Appendix 6 outlines the list of international environment-related Treaties to which Jamaica has ratified or is a signatory.

The World Trade Organization's (WTO) Committee on Trade and Environment (CTE) has a broad mandate to study, *inter alia*, the relationship between multilateral environmental agreements (such as CITES and The Montreal Ozone Layer Protocol to which Jamaica is a party) and the WTO, developing guidelines for eco-labelling and packaging requirements, the impact of differential environmental standards on trade competitiveness and the definition of appropriate limits for unilateral trade actions in support of environmental policies.

ISO 14001:2004 (now ISO 14001:2015) is the certifiable international standard for EMS. However, it is important to note that EMS implementation and certification is voluntary.

9.2 National

The legislative instruments related to EMS in Jamaica are cross-sectoral and are numerous especially those relating to the environment. Although EMS guidelines are not explicitly stated in these instruments, they include provisions that support EMS implementation. In other instances, recommendations can be made to facilitate EMS implementation and/or certification. See Appendix 4 and 5 for a listing of the legislative instruments which will have an impact on the implementation of the Policy on EMS.

9.2.1 Main Environmental Legislative Instrument related to EMS

Natural Resources Conservation Authority (NRCA) Act, 1991

The NRCA Act is the primary legislative instrument relating to the licensing of activities affecting the environment. The purpose of the Act is to *"provide for the management, conservation and protection of the natural resources of Jamaica to establish a Natural Resources Conservation Authority…and to provide for matters incidental thereto or connected therewith."*

A major function of the Authority is: *"to take such steps as necessary for the effective management of the physical environment of Jamaica so as to ensure the conservation, protection and proper use of its natural resource"* (per Section 4(1) (a))**.** This function is very wide and far reaching.

In performing its functions the NRCA is empowered (per Section 4(2)) to:

- *Develop, implement and monitor plans and programmes relating to the management of the environment and the conservation and protection of natural resources;*
- *Formulate standards and codes of practice to be observed for the improvement and maintenance of the quality of the environment generally, including the release of substances into the environment in connection with any works, activity or undertaking;*

- *Investigate the effect on the environment of any activity that causes or might cause pollution or that involves or might involve waste management or disposal, and take such action as it thinks appropriate;*
- *Undertake studies in relation to the environment and encourage and promote research into the use of techniques for the management of pollution and the conservation of natural resources;*
- *Conduct seminars and training programmes and gather and disseminate information relating to environmental matters;*
- *Do anything or enter into any arrangement which in the opinion of the Authority, is necessary to ensure the proper performance of its functions."*

These provisions of the Act, along with its related Orders and Regulations clearly facilitate the promotion of EMS implementation. As such, the NRCA would be able to enter into arrangements with entities towards the utilization of EMS.

Recommendation(s):

1. Ensure that the user pays principle is applied in determining the cost of permits issued by NEPA. The associated costs should take into account such considerations as the extent and nature of environmental impact(s) of the development or enterprise concerned; and
2. That the NRCA may enter into agreements with enterprises/organizations as to an EMS for use with the appropriate terms and conditions incorporated in the licences.

The following regulations also support EMS development and implementation:

1. ***Wastewater and Sludge Regulations (2013)***
   EMS supports greater accountability from owners and operators of wastewater treatment plants in ensuring that the prescribed standards are met. Under the regulations, existing and new operators of facilities that generate sludge and discharge treated (sewage) effluent and trade effluent to the environment will require new licences. The fees applicable under the regulations are dependent on the source of the discharge and the nature of the activity.

2. ***Air Quality Regulations (2006)***
   Similar to the Waste Water and Sludge Regulations (2013), supports EMS the implementation of the Air Quality Regulations (2006) through accountability, assessments and monitoring to ensure that the prescribed standards are met. Under the regulations, assessments of impacts for criteria pollutants will be based on ambient air quality standards and targets. In addition, impacts of priority air pollutants from new sources or major modifications to existing sources will be based on the ambient air concentration limits for these pollutants. The regulations also support the Ambient Air Quality Standards (1996).

9.2.2 Main Financial, Corporate and Trade Legislative Instruments related to EMS

Financial Administration and Audit Act, 1959

The Auditor-General is empowered (per Section 122 of the Jamaican Constitution) to audit and report on the accounts of all MDAs at least once each year. However, the Auditor-General responsibilities are more specifically outlined by the Financial Administration and Audit Act,

1959. This department has right of access to all relevant accounting records of these bodies and submit such reports to Parliament.

Section 25 (1) of this Act sets out the duties of the Auditor General and provides as follows: *"The Auditor General shall, in performing his functions under Section 122(1) of the Constitution ascertain whether in his opinion:-*

- *The accounts referred to in that section are being faithfully and properly kept;*
- *The rules and procedures framed and applied are sufficient to secure an effective check on the assessment, collection and proper allocation of the revenue and other receipts of the Government;*
- *All money expended and charged to an appropriation account has been applied to the purpose for which the provision made by Parliament was intended and that any payment of public money has been incurred with due regard to the avoidance of waste and extravagance;*
- *Essential records are maintained and the rules and procedures framed and applied are sufficient to safeguard the control of Government property;*
- *The provisions of this or any other enactment relating to the administration of public moneys and Government property have been complied with;*
- *Satisfactory procedures have been established to measure and report on the effectiveness of programmes and services."*

At present, Section 25(1) of the Act, does not allow for the expansion of the scope of the Auditor-General's duties to encompass auditing of environmental performance.

Public Bodies Management and Accountability Act, 2001

The Public Bodies Management and Accountability Act (2001) makes additional provisions for the management and accountability of public bodies and for connected purposes.

Section 2 of the Act highlights provisions for corporate governance and accountability. According to Section 2A (1), before the end of each financial year, the Minister shall cause to be prepared in such form as may be approved by him, estimates of revenue and expenditure for public bodies, with respect to the ensuing financial year, containing-

a) summary of the corporate plan submitted by each public body, pursuant to Section 7;
b) information necessary for the compilation of the Fiscal Policy Paper, as it relates to that body; and
c) other data and information pertaining to those public bodies, as the Minister considers appropriate.

Section 2A (2**)** empowers the Minister to cause the estimates referred to in subsection (1) to be laid before the House of Representatives and the Senate for approval.

It is important to note that the Corporate Governance Framework for Public Bodies was recently developed taking into account lessons learnt from successful regional and international models in order to transform the economy.

Recommendation(s):

1. EMS principles and requirements should be included in the corporate plans for public bodies to foster environmental stewardship as necessary; and
2. Expenditure and procurement should be guided by the GOJ Environmental Guide to Green Procurement.

Companies Act, 2004

The Act stipulates several disclosure requirements for companies. There are requirements for filing annual returns (per Sections 121-125 and the Fifth Schedule) in which appropriate accounts is covered more specially under Section 124. Reporting obligations of auditors are specified (per Section 152-157 and Eighth Schedule). Requirements as to particulars in a prospectus are specified (per Section 40 and the Third Schedule).

Recommendation(s):

1. The Eighth Schedule could be amended to encourage companies undertaking specific activities (with particular environmental consequences) to provide a report on their environmental performance on an annual basis, highlighting if an EMS is being implemented[8];
2. Where companies referenced in item one (1) above are audited, under Section 157, companies could be encouraged in their audit reports to provide environment performance notations in support of EMS implementation; and
3. Section 40 and the Third Schedule could be amended to require a prospectus to be in good environmental performance.

Income Tax Act, 1955

Provision is made for wear and tear allowance for particular assets under the Act (First Schedule). These allowances, termed capital allowances, are deductible in arriving at the chargeable income of corporation. Capital allowances can be viewed as incentive allowances to encourage investment in productive assets. The basis of the relief given is that the net cost of the asset (i.e. cost less scrap value) should be allowed over the useful life of the asset. Amounts are written off periodically. It should be noted that the Fiscal Incentives (Miscellaneous Provisions) Act (2013) promoted an expanded capital allowance regime, which will have impact across several sectors, including the environmental sector.

Recommendation(s):

1. Capital allowance concessions to be applied to select environment-friendly technologies be granted, for example solar panels and wind turbines; and
2. Special concessions[9] be granted under the Act to enterprises that are engaged in particular environmentally friendly activities.

[8] The Green Business Jamaica Certification Programme is voluntary for organizations to establish environmental targets to reduce consumption and/or usage of one or more resource such as water, energy, and paper, among others.
[9] Enterprises that apply for Special Concession would be considered by the relevant Authority based on established criteria.

Trade Act, 1955

The Act supports EMS and overall environmental management through several provisions. Section 8 empowers the Minister (with responsibility for trade) to by order:

- *prohibit the importation or exportation of goods from or to any country;*
- *require importers or exporters to obtain a licence to import or export particular goods; and*
- *regulate the distribution, purchase or sale of goods.*

This Section has been utilized to prohibit the use of products having CFCs by way of the Trade (Prohibition of Importation) (Equipment Containing Chlorofluorocarbons) Orders (1998) which came into effect in April, 1999.

Recommendation(s):

1. Prohibit the importation of goods that may have detrimental effect on the environment and human health; and
2. Regulate the distribution and trade of chemical and hazardous substances.

9.2.3 Incentives Legislation

The Government of Jamaica has embarked on a comprehensive tax reform process that has resulted in a simplified and more streamlined system of granting fiscal incentives starting in 2014. The establishment of an attractive suite of legislation, known collectively as the Omnibus Incentives is designed to create a transparent and automatic fiscal incentive framework, where eligibility is not based on sector alignment but on rather on productive activity. The Omnibus Incentives Legislation refers to the slate of four new pieces of legislation that provide non-sectoral fiscal incentives aimed at increasing business competitiveness within the Jamaican economy. This new framework will replace the long-standing or "legacy" incentives, as well as, remove the necessity for discretionary waivers, thus increasing transparency and fairness in the process of granting incentives.

The new fiscal incentives framework provides for varying levels of relief in respect of customs duties, additional stamp duties and corporate income tax. These benefits are granted through four (4) specific Acts, namely, the Fiscal Incentives (Miscellaneous Provisions) Act (2013) and the Income Tax Relief (Large-Scale Projects and Pioneer Industries) Act (2013) which are new along with the Customs Tariff (Revision) Resolution (1972) and Stamp Duty Act (1937) which were amended in 2013. The Omnibus Incentives Legislation repealed a number of pieces of legislation, including the Industrial Incentives Act (1956), Shipping Incentives Act (1978), Resort Cottage (Incentives) Act (1971), Motion Picture Industry (Encouragement) Act (1948), Petroleum Refining Industry (Encouragement) Act (1962), and the Hotel (Incentives) Act (1968). The Omnibus Incentives Legislation will provide fiscal incentives through reduced customs duty and additional stamp duty rates and reduced corporate income tax rates. The Omnibus Incentives Legislation forms a major component of the country's overall tax reform process.

The Fiscal Incentives (Miscellaneous Provisions) Act (2013) amended the Income Tax Act to include new fiscal incentives that are of general application and enhance existing fiscal incentives. As such, concessions are provided in respect of income tax, customs duty and/or other taxes especially to enterprises that are involved in the "production primary products". The "production

of primary products" refers to the production (whether by means of cultivation, growth, breeding or rearing or otherwise) of –

(a) agricultural crops, livestock, poultry or dairy products in the course of conducting farming operations;
(b) products directly derived from apiculture operations;
(c) timber and other tree products in the course of conducting forestry operations;
(d) seeds, flowers, shrubs, herbs and other plants in the course of conducting horticultural operations;
(e) fish and other freshwater and marine organisms in the course of conducting aquaculture operations."

Therefore, if an EMS enterprise falls within the meaning of "production of primary product" in the Fiscal Incentives (Miscellaneous Provisions) Act (2013), then the requisite incentive(s) will be applicable.

Incentives outside the Omnibus Incentives Legislation are provided under the Jamaica Export Free Zones Act (1982), the Urban Renewal Act (1995), the Income Tax (Jamaica Stock Exchange Junior Market) Remission Notice (2009), and the Bauxite and Alumina Industries (Encouragement) Act (1950)**.** These pieces of legislation were not affected by the new incentive framework based on their significance to continued economic growth and development.

Recommendation(s):

1. The Fiscal Incentives Act (2013) be amended to include other categories of operations outside "production of primary products" that would be eligible for incentives e.g. the renewable energy sector, the recycling sector and the packaging sector (biodegradable).
2. The legislation be amended to provide for the levying of additional taxes on particular environmentally-unfriendly machinery/equipment and products.

9.3 Policies and Plans

The Government has been promoting environmental stewardship within the public and private sector as a means of improving the efficiency and effectiveness of its operations while eliminating or minimizing adverse impacts on the environment. There are several policies and plans that support EMS implementation. These policies include but are not limited to the following:

1. The National Energy Policy

The National Energy Policy calls for improving efficiency in the key energy-consuming areas of the power generation, bauxite/alumina production, transportation and building design and construction; and for Jamaicans generally to become more aware of energy conservation practices towards reducing energy consumption.

2. The National Renewable Energy Policy

This Policy supports renewable energy sources to diversify Jamaica's energy supplies and reduce its dependence on non-renewable fossil fuels which will eventually be depleted. Renewable energy sources are also cleaner than fossil fuels, emitting fewer greenhouse gases and other air pollutants that are responsible for harming human health.

3. ***The National Energy Conservation and Efficiency Policy***
   This Policy supports the implementation of various energy conservation initiatives and programmes including, EMS in the productive sectors, training programmes in environmental stewardship implemented across the public sector and increased availability of energy efficient consumer products such as energy-saving bulbs.

4. ***National Solid Waste Management Policy***
   This Policy supports EMS through initiatives such as waste minimization, waste processing, public education and enforcement of related legislation. These strategies are geared towards overall waste management.

5. ***Master Plan for Sustainable Tourism Development***
   The Plan calls on the Tourism Sector to support the industry's efforts to adopt environmental management systems by providing information, training and managing a matching grant facility to enable small and medium-size businesses to carry out environmental audits.

6. ***Public Sector Procurement Policy***
   One of the objectives of the Public Sector Procurement Policy seeks to facilitate environmentally responsible procurement practices. In this regard, all goods and services to be supplied to Government must comply with environmental regulations and standards. These relate to pollution control and prevention, waste management, recycling and water and energy conservation. This Policy also supports the life-cycle cost and performance over time as contained in the GOJ Environmental Guide to Green Procurement.

7. ***Micro, Small and Medium Enterprises (MSME) and Entrepreneurship Policy***
   The Policy supports micro, small and medium enterprises (MSMEs) while highlighting that they are important drivers of economic growth and development in Jamaica. One of the main Policy issues were that the business practices of some MSMEs pose serious threats to the environment. As such, the Policy objective is to ensure that proper systems, including an environmentally aware/friendly culture, are in place to ensure environmental protection. There are several strategies promoting environmental protection as well as the implementation of management and quality standards.

10.0 CONCLUSION

EMS implementation must be encouraged in all sectors to improve environmental performance and reduce operational costs while addressing risks and opportunities. While EMS implementation is beneficial as a stand-alone programme, it can be integrated sequentially with other management programmes or actions such as the local GBJ programme and ISO certification, to maximize efficiency and reduce duplication of resources. These green programmes can enhance the brand reputation and public image of organizations with respect to environmental protection and as such, should be a priority for all employees especially those at the executive level. EMS plans, when designed, should be implemented in accordance with established standards or should seek to improve environmental performance on baseline indicators.

Vision 2030 Jamaica - National Development Plan outlines the importance of EMS implementation as the country aims to reach the status of a developed country by the year 2030. Furthermore, the strategies and actions presented in this Policy, are aligned with the recommendations for transitioning to a green economy presented in the Green Economy Scoping Study for Jamaica. It should be the goal of the leadership of each organization to adopt EMS in an effort to utilize the natural's resources in a sustainable manner and so safeguard Jamaica's environment.

11.0 REFERENCES

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Planning Institute of Jamaica. 2009. *Vision 2030 Jamaica National Development Plan*. Kingston: Pear Tree Press.

United Nations Environment Programme. 2016. *Green Economy Scoping Study for Jamaica*. Kingston, Jamaica.

Supporting Documents

The documents listed below are the supporting documents which inform this Policy on EMS:

1. **The Major Countries Report:** Dr. Ira Feldman
2. **The Benchmark Countries Report:** Dr. Ira Feldman, Mr. Robert Wynter and Ms. Margaret Orane
3. **Key Economic Sectors Report:** Mr. Robert Wynter and Ms. Margaret Orane
4. **Economic Incentives Report:** Dr. Michael Witter
5. **Legislative Instruments Report:** Mr. Hugh Hyman
6. **The Report on Consultation:** Ms. Denise Forrest.

These reports are available at the documentation centers/libraries of the National Environment and Planning Agency (NEPA) and the Ministry with responsibility for the environment. The reports can also be accessed on the website of the NEPA at http://www.nepa.gov.jm.

12.0 APPENDICES

Appendix 1: An Example of EMS Implementation in a Key Economic Sector

Generally, there should be greater acceptance in the private sector that EMS is a key strategy in improving environmental management while improving internal efficiencies. There is also the recognition that the approach to take is one of promotion, training, capacity building and encouragement for the use of EMS rather than using a command and control approach with excessive legislation.

1. Tourism – Environmental Audits for Sustainable Tourism (EAST) Project

The construction and operation of many hotels including their beach/shoreline works have disturbed the natural currents in the sea and contributed to erosion of the beaches. The waste from hotels and other tourist facilities, including cruise ships, has been causing the deterioration of the quality of the beaches, the reefs and the water. The demand for a healthy environment by tourists is driving the industry to higher and higher standards.

The Tourism Sector received assistance through the USAID funded, Environmental Audits for Sustainable Tourism (EAST) project that was aimed at increasing water use efficiency, improving environmental management and building awareness. Coastal areas are susceptible to high-density tourism which can result in potable water scarcity, water quality degradation, and mangrove, wetland and reef destruction. The project assisted over 30 hotels in Jamaica to reduce resource consumption and minimize the environmental impacts of hotels.

A number of water use efficiency activities were successfully designed and implemented as part of this Environmental Management System (EMS) project, which has institutionalized "best practices" in the tourism industry in Jamaica. These best practices include equipping all areas of the hotel with water conservation devices, installing drip irrigation and low pressure sprinkler systems in landscaped areas, installing sub-meters to monitor water use in key areas, and implementing voluntary towel reuse programs in guestrooms. These measures contributed to water savings of over 41.4 million Imperial Gallons among the participating hotels as well as reduced energy and chemical use.

Lessons Learned

- Create incentives for voluntary action: Introducing the Green Globe Certification created an incentive for continuous improvement.
- Demonstrate the benefits locally: Using specific examples of audit findings and EMS results from nearby hotels was much more powerful and compelling than references to experiences in other countries.
- Publicize the results: Coverage of the EAST Project, including documentary videos and press coverage, has greatly raised awareness within the industry of the benefits of environmental management.
- Institutionalize the programmes: Perhaps the most important lesson is to introduce EMS as part of an industry-wide initiative.

Appendix 2: Key Accomplishments of the GOJ/CIDA Environmental Action (Enact) Programme (2001 – 2006) relating to EMS

Over the period, 2001 to 2006, the ENACT Programme contributed approximately J$368 million to environmental management activities in the private sector, public sector, education sector, local authorities and NEPA. Major achievements relating the EMS for the period are presented below.

Environmental Management in the Private Sector – Creating Sustainable Businesses
The main achievements of the private sector component are highlighted below:

- Developed a 9-million dollar environmental management programme for the private sector entitled – "Environmental Management in the Private Sector…Creating Sustainable Business".
- Developed an Energy Management Position Paper for the Manufacturing Sector – "Exploring Issues and Opportunities for Improving the Competitiveness of Jamaica's Manufacturing Sector through Energy Management" for discussion with the public sector towards implementing cleaner technologies in the manufacturing sector.
- Developed and implemented a 60-hour online course in environmental management for business leaders via the MIND Online Platform.
- Supported 9 companies in the development and implementation of environmental management systems (EMS) – these companies are: J. Wray and Nephew; LASCO Foods; Federated Pharmaceuticals; Trade Winds Tru Juice Limited; Jamaica Citrus Growers; Turbolife Manufacturing, EdgeChem Limited; VCG Holdings; and Jamaica Manufacturers' Association Ltd. A Study Tour on EMS and sustainability practices for business for the aforementioned 9 companies was attended in Vancouver Canada during March 2006.
- Developed Guidelines for use by the manufacturing sector in developing and implementing an Environmental Management System (EMS).
- Training workshops held with various sectors of the private sector in natural capital and eco-efficiency issues.
- Environmental Codes of Practice developed and adopted by sectoral clusters such as the Sugar Industry, the Coffee Industry and the Motor Repairers Association.
- Supported the development of two infrastructure support mechanisms: the Jamaica Institute of Environmental Professionals (JIEP) and the Business Council for the Environment (BCE).

Strengthening NEPA

- Facilitated the inclusion in the regulatory process of more hands-on technical development and review of various environmental guidelines and regulations (e.g. air quality and waste management.
- Capacity of the legal division built through training and procurement of legal resources.
- Ability enhanced to perform Regulatory Impact Analysis (RIA) to ensure better capacity in the development of future regulations.
- Raised the competency of enforcement officers through training and through the development of NEPA's Compliance and Enforcement manuals, including *A Pocket Guide to Environmental and Planning Laws of Jamaica*.
- Two public consultations held for the public sector and private sector on the draft Wastewater and Sludge Regulations.

- Guideline documents on the Wastewater and Sludge Regulations for the regulated community and NEPA drafted.
- A training strategy in enforcement and compliance of environmental and planning regulations developed and implemented. A training mechanism was set-up at MIND for enforcement officers to ensure the continuous updating of their skills.
- Six hundred and forty persons trained in enforcement and compliance in environmental and planning legislation across three major regions of Jamaica.
- Funding support was also provided to the then Ministry of Land and Environment (MLE) for the review of the existing environment and planning framework for Jamaica

Greening of Government

The main achievements of the greening of Government programme are highlighted below.

- 10 environmental training courses designed for various levels of public sector officials including policy analysts, senior and middle management; technical and operational staff.
- Training was delivered to over 3,200 persons between 2001 and 2004, representing over 1,500 hours of teaching and learning over 250 days
- Over 19 Environmental Stewardship Action Plans/Environmental Programmes were developed and implemented across GOJ Ministries, Agencies and Departments including the Office of the Prime Minister, Jamaica Constabulary Force, Ministry of Finance & Planning; and Management Institute for National Development.
- Over 2000 persons in the public sector trained on how to use the *Government of Jamaica Environmental Guide to Green Procurement*.
- The GOJ Strategic Environmental Assessment (SEA) Policy developed using participatory and consultative processes and approved by Cabinet in June 2005. This Policy will ensure that all sectoral policies of Government incorporate environmental considerations. Training was received by over 200 policy analysts of the GOJ in SEA.
- The "Strategic Environmental Assessment Handbook" developed; this is a 311-page manual developed to provide policy analysts and senior officials in the public sector with the information necessary to formulate environmentally-sound policies, plans and programmes.
- Supported MIND to incorporate environmental issues in many of their existing curricula, such as its General Management Post Graduate Diploma; Public Sector Senior Management Development Programme; Supplies Management; Supervisory Management; and Project Management.
- Developed a master's level course in environmental management at the UWI – SA64F Environment and Sustainable Development. This course is offered through the Sir Arthur Lewis Institute for Social and Economic Studies.
- The Green Economy Scoping Study for Jamaica which analysed six (6) local sectors and identified opportunities and strategies for further greening of the economy.

Appendix 3: Synopsis of the Green Business Jamaica (GBJ) Certification Programme and synergy for EMS implementation

In 2001, the Government of Jamaica initiated an aggressive campaign to encourage government ministries, agencies and departments to green their operations. This mandate was advanced through the establishment of the ENACT Project at NEPA. After the closure of the project in 2006, the Ministry with responsibility for the environment was asked to further the work of greening government whereas the task of promoting the greening of the private sector was given to the Jamaica Manufacturer's Association (JMA).

Over the years, several companies have approached NEPA for assistance with the greening of their operations. These companies include Megamart, the National Housing Trust, Belair High School, St. Richards Primary School and Progressive Grocers. Several companies under the Kingston Harbour Environmental Management Programme (KHEMP) also expressed an interest in greening their operations, one such company is Salada Foods. In 2011, the Agency partnered with Mega Mart in one such project to promote the use of reusable bags. It was also recognized that many facilities assessed under the KHEMP had resorted to the implementation of good environmental stewardship practices which took into consideration the principles of waste management hierarchy – reduce, reuse, and recycle. Based on monitoring information submitted to the Agency, the implementation of these practices was found to improve the quality and reduce the quantity of waste generated by the affected facilities.

Based on the forgoing, the NEPA's Pollution Prevention Branch (PPB) conceptualized an incentivized National Green Business Certification Programme (NGBCP) also referred to as Green Business Jamaica (GBJ). This programme, like other similar programmes is classified internationally as a Pollution Prevention (P2) programme and is deemed non-regulatory in purpose. The Pollution Prevention Branch sought advice from the NEPA's Legal Services Branch and the Project Management Branch on the possibility of the GBJ programme being administered by NEPA. Based on the recommendations from both branches the GBJ programme could be administered as a project with funding from international or local entities. The project has autonomy from the regulatory role/mandate of the Agency.

The goal of this project is to pilot a green business certification programme with sufficient incentives to increase commercial recycling. To achieve this goal, the following project objectives were defined:

1. Develop a program framework and comprehensive certification standards that focus on source reduction, reuse, recycling, and proper disposal of solid waste, as well as pollution prevention (P2) and water and energy conservation.
2. Develop an outreach and marketing campaign that promotes the program and provides sufficient incentives to encourage businesses to participate.
3. Actively work with businesses to achieve certification and to obtain their feedback on the programme.

The pilot programme will see the implementation of GBJ in targeted entities including some of the country's largest companies, companies belonging to a national corporation, and companies

that claim to be green. The intent is to get "big businesses" on board with the GBJ to *lead by example* and, in turn, foster interest among other businesses.

The GBJ Pilot Programme is proposed to be for a period of two (2) years commencing in September 2017. In the execution of the Programme, GBJ staff will meet with the selected pilot entities to discuss the program and explain the application and certification process. The selected entities will then be required to submit applications for GBJ Certification. Once an application is submitted, a GBJ Technical Assistant will be assigned to the company to facilitate consultations, implementation of green initiatives and monitor the company's progress. A site visit will be scheduled with the companies to review the application checklist, confirm the accuracy of the information provided, discuss any deficiencies, and recommend additional green measures. Progress towards GBJ certification will be measured through the use of GBJ evaluation spreadsheets. The assigned coach will conduct a pre-assessment of the facility. Based on the results of this pre-assessment and the green goals of the facility, the GBJ coach will guide the development of an action plan.

Consultations will be held with the assigned GBJ coach and the business over a maximum period of 6 months. The objective of the consultations is to achieve agreed attainable goals and collect data on existing efforts in order to inform the GBJ marketing strategy. Each pilot entity is expected to adhere to the programme requirements.

At the end of this process, the GBJ Advisory Committee will examine the data collected by the GBJ Coach and make a determination on the granting or refusal of GBJ Certification. Certifications will be valid for a period of 1 year from the date of certification. Businesses that receive the GBJ Certification will display a decal with an approved Ecolabel logo. The decal will show customers that the certified business are doing their part to protect the environment and most of all reduce their carbon footprint.

EMS Implementation

The results of the GBJ Pilot Programme can serve to inform future implementation of this Policy. It will provide the ideal case study for the EMS Implementing Centre to get the most realistic idea of key issues for consideration such as special accommodation that can be made for MSMEs and the differences in implementation costs across industries. The Pilot Programme will also serve to validate the benefits of greening organisations' operations.

Appendix 4: Other possible Synergies for EMS implementation[10]

Jointly funded by the Government of Jamaica and the Inter-American Development Bank (IDB) at a cost of US$20,000,000, the four-year Energy Efficiency and Conservation Programme, launched in 2012, is designed to make the public sector a model for how energy is to be used in Jamaica. It involves retrofitting public sector buildings and facilities for energy conservation and efficiency. Specific activities under the programme include: replacing incandescent and inefficient fluorescent lighting systems with much higher efficiency LED fittings; improving the insulation; and sealing of building envelopes, to reduce heat loading and air conditioning requirements. In addition, replacing old and inefficient air conditioning systems immediately; implementing a system for monitoring and evaluating to ensure the sustainability of the initiative; and training within MDAs, teams of 'energy wardens' and operating maintenance personnel will be done.

The ECCP also highlights the need and the effectiveness of co-financing. The Government where necessary should seek to partner with funding/donor organizations to implement projects. These projects will support the achievement of Vision 2030 as environmental projects can contribute to goal 4, Jamaica having a healthy environment.

EMS implementation will complement the National Energy Policy and its related sub-policies. Project such as the Government's Energy Efficiency and Conservation Programme (EECP) involving a number of public sector entities can be synchronized with EMS implementation. MDAs receiving assistance from the EECP have reported significant reduction in energy costs. The Jamaica Civil Aviation Authority was selected as a pilot entity; a total of $654,000 was invested in solar control film application which resulted in energy consumption being reduced by 25,605 kilowatt hours (kWh) after 10 months, representing a cost savings of $3.3 million.

The National Housing Trust (NHT) also benefitted from the ECCP. A total of $1.1 million was invested in a solar energy system, one year after installation the consumption was reduced by 87,138 Kwh equivalent to cost savings of $3.5 million. The ECCP is an excellent vehicle for supporting energy efficiency and conservation efforts while reducing the Government's annual electricity bill of $14 billion.

The ECCP can be used to guide wide scale implementation of integrated environmental programmes through EMS in the public sector. The MDAs receiving assistance under this programme should seek to implement waste management (liquid and solid), water conservation and other environmental initiatives. This will contribute to the effective use of resource while contributing to environmental conservation and protection. In addition, a one-year education campaign under ECCP will be undertaken in partnership with the Jamaica Information Service (JIS), to promote positive energy conservation and efficiency initiatives, as well as highlight success stories.

[10] Excerpts in this Appendix were sourced from: Patterson, Chris. 2014. *Public Sector Energy Efficiency and Conservation Programme*. The Jamaica Information Service. Accessed from: http://jis.gov.jm/energy-efficiency-programme-brings-big-savings-public-sector-entities/

Appendix 5: List of environmental legislation that can impact EMS

1. Animals (Diseases and Importation) Act, 1948
2. Aquaculture, Inland and Marine Products and By-Products (Inspection, Licensing and Export) Act, 1999
3. Bark of Trees (Sale Prevention) Act, 1929
4. Bauxite & Alumina Industries (Special Provisions) Act, 1977
5. Beach Control Act, 1956
6. Black River Upper Morass Reclamation Act, 1941
7. Caribbean Agricultural Research & Development Institute Act 1982
8. Carriage of Goods Act 1889
9. Clean Air Act, 1964
10. Country Fires Act, 1942
11. Endangered Species (Protection Conservation and Regulation of Trade) Act, 2000
12. Exclusive Economic Zone Act, 1991
13. Factories Act, 1943
14. Fishing Industry Act, 1975
15. Flood-water Control Act, 1958
16. Forest Act, 1937
17. Harbours Act, 1874
18. Institute of Jamaica Act, 1978
19. Irrigation Act, 1949
20. Jamaica National Heritage Trust Act, 1985
21. Kingston Improvement Act, 1890
22. Kingston & Saint Andrew Water Supply Act, 1911
23. Litter Act, 1985
24. Local Improvements Act, 1914
25. Marine Board Act, 1903
26. Milk River Bath Act, 1927
27. Minerals (Vesting) Act, 1947
28. Mining Act, 1947
29. Morant & Pedro Cays Act, 1907
30. National Solid Waste Management Act, 2001
31. Natural Resources Conservation Authority Act, 1991
32. National Water Commission Act, 1963
33. Parish Councils Act, 1901

34. Parish Councils Building Act, 1908
35. Parishes Water Supply Act, 1889
36. Pesticides Act, 1987
37. Petroleum Act, 1979
38. Petroleum and Oil Fuel (Landing & Storage) Act, 1925
39. Port Authority Act, 1972
40. Public Health Act, 1985
41. Quarries Control Act, 1984
42. River Rafting Act, 1970
43. Tourist Board Act, 1955
44. Underground Water Control Act, 1962
45. Urban Development Corporation Act, 1968
46. Urban Renewal (Tax Relief) Act, 1995
47. Water Act, 1922
48. Watersheds Protection Act, 1963
49. Wildlife Protection Act, 1945

Appendix 6: List of other legislation that can support or hinder EMS

1. Financial Administration and Audit Act, 1959
2. Trade Act, 1955
3. The Bauxite and Alumina Industries (Encouragement) Act, 1950
4. Tourist Accommodation (Licence Duties) Act, 1984
5. The Tourist (Duty-Free) Shopping System Act, 1974
6. The Fair Competition Act, 1993
7. The Standards Act, 1969
8. Income Tax Act, 1955
9. Fiscal Incentives (Miscellaneous Provisions) Act (2013)
10. Income Tax Relief (Large-Scale Projects and Pioneer Industries) Act (2013)
11. Public Bodies Management and Accountability Act, 2001
12. Companies Act, 2004
13. The Food and Drugs Act, 1975
14. Customs Tariff (Revision) Resolution (1972)
15. Stamp Duty Act (1937)
16. Jamaica Export Free Zones Act (1982)
17. Income Tax (Jamaica Stock Exchange Junior Market) Remission Notice (2009)

Appendix 7: List of International Environment-Related Treaties to which Jamaica is a Party

The International and Regional Treaties and Conventions to which Jamaica is presently a party, include:-

1. International Plant Protection Convention, Rome, 1951. **Accession**: 24 November 1969
2. Convention on the Territorial Sea and the Contiguous Zone, Geneva, 1958. **Accession**: 8 October, 1965
3. Convention on the Continental Shelf, Geneva, 1958. Accession: 8 October 1965. **Entry into Force**: 7 November, 1965
4. Convention on the High Seas, Geneva, 1958. Succession: October, 1965. **Entry into Force**: 30 September, 1962
5. Convention on Fishing and Conservation of the Living Resources of the High Seas, Geneva, 1958 Succession: 16 April, 1964. **Entry into Force**: 20 March, 1966.
6. Treaty banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Underwater, Moscow, 1963. **Ratification**: 22 November, 1991
7. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space including the Moon and other Celestial bodies, London, Moscow, Washington, 1967. **Ratification**: 10 August, 1970
8. Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other weapons of Mass Destruction on the Sea Bed and the Ocean Floor and the Subsoil thereof, Washington, 1971. **Ratification**: 30 July, 1986
9. Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, London, Moscow, Washington, 1972. **Accession**: 13 August, 1975.
10. Convention concerning the Protection of the World Cultural and Natural Heritage, Paris, 1972. **Acceptance**: 14 June, 1983
11. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (as amended), London, Mexico City, Moscow, [Washington], 1972. **Ratification**: 22 March, 1991
12. International Convention on the Prevention of Pollution from Ships, London, 1973. **Ratification**: 13 June, 1991
13. Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, London, 1973. **Ratification**: 13 June, 1991
14. United Nation Convention on the Law of the Sea, Montego Bay, 1982. **Ratification**: 21 March, 1983
15. Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Cartagena de Indias, 1983. **Ratification**: 1 April, 1987
16. Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region. **Entry into Force**: 1 May, 1987

17. Vienna Convention for the Protection of the Ozone Layer, Vienna, 1985. **Accession**: 31 March, 1993. **Entry into force**: 29 June, 1993

18. Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987. **Accession**: 31 March, 1993. Entry into Force: 29 June, 1993

19. London amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, London, 1990. **Ratification**: 31 March, 1993

20. United Nations Framework Convention on Climate Change, New York, 1992 Instrument of **Accession** deposited: 6 January, 1995; **Effective**: 5 April, 1995

21. Convention on Biological Diversity, Rio de Janeiro, 1992. Instrument of **Accession** deposited 6 January, 1995; **Effective** 5 April, 1995

22. Convention on International Trade in Endangered Species of Wild Flora & Fauna (CITES) Instrument of Accession deposited, signed on 24 March, 1997. Effective: 22 June, 1997

23. Convention of Wetlands of International Importance especially as Waterfowl Habitats (Ramsar Convention) Instrument of **Accession** deposited 13 June, 1997. **Effective**: 7 February 1998.

24. The Copenhagen Amendment to the Montreal Protocol on Ozone Depleting Substances. Instrument of **Accession** deposited 6 November, 1997. **Effective**: 4 February 1998

25. UN Convention to Combat Desertification. Instrument of **Accession** deposited 12 November 1997. **Effective**: 10 March 1998.

26. Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC), Kyoto, 1997. **Ratification**: 28 June, 1999

27. Paris Agreement to the UNFCCC: Jamaica signed the Agreement on 22 April, 2016 and deposited its instrument of **Ratification** on 11 April, 2017.

28. Cartagena Protocol on Biosafety to the Convention on Biological Diversity, Montreal, 2000. **Ratification**: September 25, 2012

29. Basel Convention on Transboundary Movement of Hazardous Waste and their Disposal [Basel Convention, 1989. Instrument of **Accession** deposited 23 January, 2003

30. Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 1998. Instrument of **Accession** deposited 20 August, 2002.

31. Stockholm Convention on Persistent Organic Pollutants (POPs), 2001. Instrument of **Accession** deposited 1 June, 2007.

32. Minamata Convention on Mercury. This Convention has not yet entered into force; Jamaica signed the treaty on 10 October, 2013. Instrument of ratification deposited 19th July 2017.

33. Protocol on Land-Based Sources and Activities that Pollute the Marine Environment. (LBS) Protocol. Instrument of **Accession** deposited 23 September 2015.

13. GLOSSARY AND DEFINITIONS

Adaptation (to climate change)
Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (*IPCC 2007).*

Climate change
A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and is in addition to natural climate variability observed over comparable time periods (*UNFCCC).*

Continual improvement
The recurring process of enhancing the environmental management system in order to achieve improvements in overall environmental performance consistent with the organization's environmental policy (ISO 14001:2015 - Section 3.4.5).

Corrective action
Actions to eliminate the cause of a nonconformity and to prevent recurrence. In general, the preventive action process can be thought of as a risk analysis process (ISO 14001:2015 - Section 3.4.4).

Energy efficiency
Changing technology so that less energy is used to accomplish the same task (National Energy Policy 2009).

Environment
Surrounding in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation (ISO 14001:2015 - Section 3.2.1).

Environmental aspect
The element of an organization's activities or products or services that can interact with the environment (ISO 14001:2015 - Section 3.2.2).

Environmental impact
Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects (ISO 14001:2015 - Section 3.2.4).

Environmental management system
Part of an organization's management system used to management environmental aspects, fulfil compliance obligations and address risks and opportunities (ISO 14001:2015 - Section 3.1.2).

Environmental objective
The overall environmental goal, consistent with environmental policy, that an organization sets itself to achieve (ISO 14001:2015 - Section 3.2.6).

Environmental performance
Measurable results of an organization's management of its environmental aspects (ISO 14001:2015 - Section 3.4.10).

Environmental policy
The overall intention and direction of an organization related to its environmental performance as formally expressed by top management (ISO 14001:2015 - Section 3.1.3).

Note: The environmental policy provides a framework for action and for setting of environmental objectives and environmental targets.

Environmental reporting
Public disclosure by a firm of its environmental performance information, similar to the publication of its financial performance information.

Environmental target/goal
A detailed performance requirement, applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives (ISO 14001:2015 - Section 3.2.5).

Green Economy
A green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (UNEP)**.**

Noted: In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive.

Interested party
A person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity. Interested parties may be directly affected by the organization or actively concerned with its environmental performance (ISO 14001:2015 - Section 3.1.6).

Internal audit
A systematic evidence gathering process that is carried out in order to evaluate how well an environmental management system meets a set of audit criteria established by the organization itself, or by an external on its behalf. Internal audits must be independent, objective, and impartial (ISO 14001:2015 - Section 3.4.1).

ISO 14001
The widely accepted, official international standard for environmental management systems developed by the International Organization for Standardization (ISO 14001:2015).

Management system
A set of interrelated or interacting elements of an organization to establish policies and objectives and process to achieve those objectives. The system elements include the organization's structure, roles and responsibilities, planning and operation, performance evaluation and improvement (ISO 14001:2015 - Section 3.1.1).

A management system uses these elements to establish policies and objectives and to develop ways of applying these policies and achieving these objectives.

Mitigation (to climate change)
In the context of climate change, a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests and other 'sinks' to remove greater amounts of carbon dioxide from the atmosphere (*IPCC 2007).*

Precautionary approach
When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. Morally unacceptable harm refers to harm to humans or the environment that is: threatening to human life or health; serious and effectively irreversible; inequitable to present or future generations; or imposed without adequate consideration of the human rights of those affected (UNESCO COMEST Report 2005)

Prevention of pollution
Use of processes, practices, techniques, materials, products, services or energy to avoid, reduce or control (separately or in combination) the creation, emission or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts (ISO 14001:2015 - Section 3.2.7).

Note: The reduction or elimination of pollution at the source; the efficient use of resources, materials, and energy; the reuse, recovery, reclamation, and recycling of resources; the redesign of processes, products, and services; and the substitution of one type of energy source or substance for another cleaner energy source or substance contribute to the prevention of pollution.

Risk assessment
The overall process of using available information to predict how often hazards or specified events may occur (likelihood), and the magnitude of their consequences (adapted from AS/NZS 4360:2004).

Renewable energy
Energy obtained from sources that are naturally replenishing but flow-limited. These sources are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. These include: biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action (National Energy Policy 2009).

Sustainable development
Development which meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED 1987).

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