



SCG

# Environmental Management Framework

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SCG Sustainable Development Committee

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## Preface

SCG is committed to becoming a regional industry leader through innovation and sustainable development. One factor that plays an important role in driving business towards sustainable growth is environmental management, which not only involves control of production processes to eliminate environmental impact but also formulation of business strategies and plans, development of products, services, and solutions that take into account environmental issues, as well as management and transfer of knowledge through participation from all sectors and all businesses related to SCG from upstream to downstream.

The objective of this effort to establish SCG Environmental Management Framework is to improve and expand SCG's environmental operations guidelines to be up-to-date, on par with international standards, and suitable for the operations of a diversified company in such a way that the framework can be applied to all of the company's businesses, both domestic and international.

SCG hopes that the commitment and involvement of all employees at all levels in putting into practice SCG Environmental Management Framework in a manner that is suited to business operations and in instilling it into the corporate culture will lead to excellence in environmental operations and sustainable development in line with SCG's vision.

(Mr. Tanawong Areeratchakul)

Co-Chairman of SCG Sustainable Development Committee

July 16, 2021

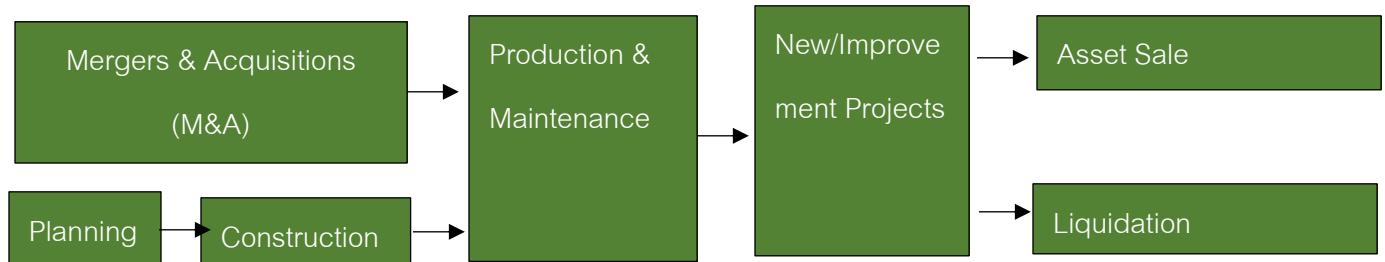
## Objectives

1. To provide guidance for companies with SCG for the management, monitoring, review, improvement, and disclosure of environmental governance performance, as well as for the establishment and development of an effective environmental management system towards sustainable development
2. To establish guidelines for sustainability operations involving suppliers/contractors by stipulating a risk management process that encompasses environmental and social factors, as well as fostering cooperation with suppliers/contractors to enhance work efficiency for operational success and long-term mutual value creation
3. To establish guidelines for assessing and reducing the environmental and safety impacts of products, services, and solutions on users throughout the product life cycle, as well as guidelines for developing products, services, and solutions for the benefit of the environment and society that can meet the needs of customers, fulfill new requirements, and increase competitiveness in the market
4. To establish assessment guidelines and create engagement with stakeholders
5. For use as requirements in the Environmental Performance Assessment Program (EPAP).

## Scope and Boundary

### Scope and Boundary

SCG Environmental Management Framework is intended for all companies or manufacturing plants, both domestic and international, managed by SCG, encompassing all activities, production, or services, including all manufacturing operations, business facilitation, operations of SCG's business partners within the value chain and joint venture partners, from the process of design, procurement, and manufacturing of goods, services, and solutions to distribution and logistics all the way to post-consumer waste management. It also covers suppliers and service providers, including other important business partners, such as those involved in non-executive operations, outsourcing, the implementation of new and improvement projects, and the making of various agreements, including mergers and acquisitions.



## Definitions

Term	Definition/Meaning
Business Unit	SCG's Business Units comprise the Cement-Building Materials Business, Chemicals Business, and SCG Packaging. In addition, it also includes central management and any related finances and investments.
Organization	A company or manufacturing plant under the management of SCG, both domestic and international
Governance	Processes and guidelines for sustainable development governance that take into account environmental, economic, and social perspectives and which have been developed and implemented at the business and company levels as well as in related departments. The scope of the requirements will focus on environmental issues in relation to economics and society, with emphasis on environmental management governance and the integration of environmental management into business strategies and plans.
Supply chain management	Management of the risks and liability potentially posed by suppliers, including contractors and contract workers, whose products, services, and solutions have the potential to cause significant environmental and social impacts without proper planning and control.
Operations management	Management of potential environmental and social issues and impacts that may be caused by the activities and operations of the organization (such as production processes, equipment, machinery, and production support activities). Environmental issues encompass water and energy efficiency; the emission of greenhouse gases, waste, water and air pollutants, and odors; noise and vibration; spills; biodiversity; environmental incident management; chemical management; and

Term	Definition/Meaning
	mechanical integrity. The scope of this risk management does not cover occupational health issues and personal safety.
Products or products and services	The terms “products” or “products and services” within the scope of this framework refers to “products, services, and solutions.”
Products, services, and solutions management	Analysis and mitigation of environmental and safety impacts on users throughout the life cycle of a product (from the raw material, raw material preparation and delivery, and production stages to storage, distribution, and use all the way to end of use) through design, research, and development as well as taking on accountability for products in order to encourage new innovations that can meet the needs of customers, fulfill new requirements, and increase competitiveness in the market.
Stakeholder management and communications	Analyzing and engaging with stakeholders, who may include customers, communities, government officials, employees, media and shareholders, among others, to better understand and foster engagement with these key stakeholders towards the goal of sustainable development, as well as communicating and reporting on the outcomes of sustainable development operations to ensure transparency and enhance the image and reputation of the organization.
Supplier, or product provider, and contractor, or service provider	A supplier, or product provider, and a contractor, or service provider, the use of whose products and services may pose significant risks and liability, which can be considered based on 1) the value of the products or services, 2) the duration of the contract, and 3) the nature of the products and services. This covers companies which procure any raw materials, parts, and finished goods sold under the name of SCG; companies which provide upstream services (e.g. raw materials transportation services); companies which provide on-site services

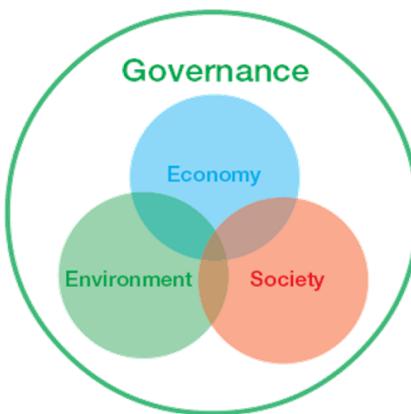
Term	Definition/Meaning
	(e.g. maintenance, security, chemical handling, energy services, and waste transportation); and companies which provide downstream services (e.g. packing, transportation and distribution, and waste disposal and treatment).
Environmental incident	Incidents which result in environmental impacts, encompassing emergency situations, such as hydrocarbon/chemical spills and discharge of untreated wastewater into natural water sources due to wastewater treatment system failure

## Preface

### Environmental Management Principles

#### SCG Sustainable Development Framework

SCG Sustainable Development Framework is consistent with international standards and organizations and covers economic, social, and environmental aspects under the principles of good corporate governance.



#### SCG's Sustainable Value Chain

SCG is committed to continuously creating value for society through fully environmentally friendly business operations and is ready to contribute knowledge, experience, and success through engagement with all sectors, from businesses related to SCG, from upstream to downstream, to various business organizations and institutions, all the way to social institutions and communities in all areas where SCG operates in order to drive society towards progress with strength and sustainability.



### Environmental Management Framework

The Environmental Management Framework consists of five main components:

- Governance
- Supply chain management
- Operations management
- Products and services management
- Stakeholder management and communications

<p style="text-align: center;"><b>A - Governance</b></p> <ul style="list-style-type: none"> <li>• Leadership &amp; Culture</li> <li>• Structure, Responsibility and Accountability</li> <li>• Risk &amp; Materiality Assessment</li> <li>• Strategy</li> <li>• Goals, Plan/Program, &amp; Internal Reporting</li> <li>• Management System</li> <li>• Legal Compliance</li> <li>• Audit</li> <li>• IT System</li> <li>• M&amp;A, Project and Change Management</li> </ul>	
<p><b>B - Supply Chain Management</b></p> <ul style="list-style-type: none"> <li>• Supplies and Services Impact Analysis</li> <li>• Supplier Selection</li> <li>• Contracts Management</li> <li>• Sustainability/ESG Risk</li> <li>• Supplier Audit</li> <li>• On-site Contractors</li> <li>• Supply Chain Partnership</li> </ul>	<p><b>C- Operations</b></p> <ul style="list-style-type: none"> <li>• Eco-Efficiency <ul style="list-style-type: none"> <li>• Water</li> <li>• Energy</li> <li>• Greenhouse Gas</li> <li>• Industrial Waste</li> <li>• Wastewater</li> <li>• Air Emission &amp; Odor</li> <li>• Noise &amp; Vibration</li> </ul> </li> <li>• Biodiversity Protection</li> <li>• Environmental Incident Mgt.</li> <li>• Chemical Management</li> <li>• Mechanical Integrity</li> </ul>
<p><b>D - Product and Services</b></p> <ul style="list-style-type: none"> <li>• New Product and Service Development</li> <li>• Life Cycle Assessment</li> <li>• Product Label and Information</li> <li>• Product End of use</li> </ul>	
<p><b>E- Stakeholder Management and Communication</b></p> <ul style="list-style-type: none"> <li>• Stakeholder Engagement</li> <li>• Training and Development</li> <li>• External Reporting and Communication</li> <li>• Branding and Reputation</li> </ul>	

## Environmental Management Requirements

The requirements specified in SCG Environmental Management Framework are intended as guidelines to be implemented in its business operations as appropriate. They are divided into two action levels as follows:

### 1. Environmental Management Requirements – Enforcement

Levels of requirements

- **Mandatory Requirements** are the minimum requirements that the organization (company or manufacturing plant) must adhere to as a baseline and which are based on legal requirements as well as SCG's policies and practices.
- **Advanced Requirements** are based on the best practices of world-class organizations as well as national and international standards.

### 2. Environmental Management Requirements – Company and Business Levels

Levels of requirements according to organizational structure

- **Company Level Requirements** are based on applicable legal requirements and standards as well as SCG policies. Implementation of these requirements is expected at the Organization or Operation Level.
- **Business Level Requirements** are based on the best practices of world-class organizations as well as national and international standards. Implementation of these requirements is expected at the Business Unit Level.

## SCG Environmental Management Framework Requirements

### A. Governance

ชี้明ขอบข่ายของการตรวจประเมินจะมุ่งเน้นในประเด็นด้านสิ่งแวดล้อม และประเด็นด้านสิ่งแวดล้อมที่เกี่ยวข้องกับเศรษฐกิจศาสตร์ และสังคม

Processes and guidelines for sustainable development governance that take environmental, economic, and social perspectives into account and which have been developed and implemented at the business to the company or operation level as well as in related departments. The scope of the requirements will focus on environmental issues related to economics and society.

The requirements are as follows:

#### A1 Leadership and Culture

A1.1 Upper management must be the evident leader and responsible party for environmental and social management implementation and must demonstrate commitment, provide guidance, and participate in said implementation.

A1.2 An environmental policy or a sustainable development policy that has been approved by the upper management of the organization or business group must be established and communicated.

A1.3 The subject matter and scope of the policy must cover intent to comply with laws, actions to reduce environmental impacts, efficient use of resources, accountability for products and services, promotion of stakeholder engagement, as well as continuous improvement and initiative as is suited to the nature of the business, corporate risks, and environmental and social issues of materiality to the organization. Furthermore, the policy must cover implementation with suppliers, service providers, and contractors.

A1.4 Environmental and social awareness as well as participation and initiative must be promoted among operators.

A1.5 SCG or business groups must communicate and apply environmental and social management standards and guidelines.

## A2 Structure, Responsibility, and Accountability

A2.1 The structure, responsibility, and accountability for environmental and social management must be specified and integrated into the roles and responsibilities of the executives and personnel in the organization.

A2.2 The duties and responsibilities of upper management and related personnel in the organization must encompass action plans for and outcomes of environmental and social management implementation.

A2.3 The organization must have processes in place that encourage employees to take responsibility for environmental and social goals. (*Advanced Requirement*

A2.4 The business must have a committee dedicated to sustainable development, the environment, or organizational management (consisting of management-level representatives from relevant divisions) which is responsible for undertaking initiatives and environmental and social risk management, with information and support from sub-working groups or specialists from departments or divisions related to the environment and society (such as Environment, Human Resources, and Supply Chain) to ensure the effectiveness of the business's environmental and social work plans. (*BU Level Requirement*)

## A3 Risk and Materiality Assessment

A3.1 There must be a business risk management process in place for reviewing social and environmental risks and opportunities stemming from the company's production activities or services, legal requirements, the interests/issues of stakeholders (e.g. law enforcement agencies, customers, suppliers, employees, and communities); issues of materiality at the business and SCG

levels or problematic aspects at the company level; global issues; and economic, social, and environmental trends.

**A3.2** The risk assessment process must take into account potential normal, abnormal, and emergent events. Social and environmental risks and opportunities for improvement must be assessed quantitatively or in terms of monetary or concrete impact.

**A3.3** Stress tests or sensitivity tests (scenario analysis) on material environmental risks (e.g., water-related risk and climate change) must be performed. (*Advanced Requirement*)

**A3.4** An enterprise-wide risk profile and prioritization of material risks in the order specified in the criteria must be undertaken and reported to the business and SCG levels.

**A3.5** Review of environmental and social risk assessment must be performed as appropriate, taking into account new potential risks that can affect the organization's business operations.

#### **A4 Strategies**

**A4.1** The process for establishing the organization's strategies/business plans/medium-term plans (MTPs) must take into account risks and opportunities as well as environmental and social issues which are of materiality to the organization.

**A4.2** Strategy/business plans/medium-term plans (MTPs) must encompass a management plan of risks and opportunities as well as issues of materiality related to the environment and society.

**A4.3** A process must be put in place for monitoring, reviewing, and improving strategies/business plans/medium term plans (MTPs) related to the environment and society according to changes in circumstances (e.g. in the case that the implementation does not go according to plan or changes in business operations occur).

#### **A5 Goals, Plans/Programs, and Internal Reporting**

**A5.1** Goals, indicators, and work plans for the management of environmental and social risks/opportunities/materiality must be established.

**A5.2** The environmental and social work plans established must be consistent with the strategies/business plans/medium term plans (MTPs), risks, opportunities, and materiality and must cover topics related to management (e.g. system improvements, audits, training, and awareness raising) and topics or issues related to performance improvement (e.g. greenhouse gas emissions, energy consumption, water consumption, and waste management).

**A5.3** A process must be put in place for monitoring and reporting the progress and outcomes of environmental and social operations to the management at regular intervals.

**A5.4** Information related to environmental and social outcomes must be properly verified by internal or external agencies.

## **A6 Management System**

**A6.1** An environmental management system (such as ISO 14001 or other appropriate management system) must be applied to ensure systematic management and the achievement of environmental and social objectives.

**A6.2** Personnel or a committee must be assigned responsibility for overseeing the establishment, implementation, maintenance, and improvement of the environmental management system to ensure effectiveness.

**A6.3** A management review of the outcomes of the environmental management system must be performed and improvements to the system undertaken as deemed appropriate.

## **A7 Legal Compliance**

**A7.1** A process must be put in place for identifying the applicable environmental and social legal requirements and reviewing new applicable laws.

**A7.2** A process must be put in place for reviewing operations to ensure compliance with legal requirements at least once a year.

### **A8 Audit**

**A8. 1** Internal or third- party auditing and inspection that is adequate and appropriate for environmental and social risks and problems must be performed.

**A8.2** A process must be put in place for reviewing noncompliance periodically to identify weaknesses in the management system, along with plans for improvements and a process for monitoring the progress of correcting noncompliance.

**A8. 3** Upper management and department heads must facilitate and ensure timely corrective and preventive action against noncompliance.

### **A9 Information Technology Systems**

**A9. 1** Databases must be utilized, and environmental reports on issues relevant to the organization must be input into the environmental database system.

**A9.2** Responsible personnel with knowledge and understanding of inputting environmental reporting into the environmental database system must be designated.

**A9. 3** Environmental data must be reviewed for accuracy and approved by designated personnel within the specified time frame.

**A9. 4** Information technology must be applied to environmental and social management (*Advanced Requirement*).

## A10 Merger/Acquisition and Change Management

A10.1 Environmental and social issues must be considered as part of the analysis and management of project, manufacturing plant, and production changes (e.g. performing EIA and establishing other requirements in the consideration of applicable environmental and social issues/legislation when creating an investment project).

A10.2 Measures must be put in place to prevent and mitigate environmental and social impacts caused by project, manufacturing plant, and production changes.

A10.3 Environmental and social due diligence audits (both in terms of impacts and related costs), as well as environmental and social risk and liability management plans must be part of the capital expenditure process from beginning to completion. *(BU Level Requirement)*

A10.4 Applicable international standards and practices (e.g. equator principles, circular economy, and LEED) must be implemented, and the appropriate best available technology must be considered in the design of projects, manufacturing plants, and production processes in order to reduce environmental and social impacts.

A10.5 In the case of projects that require preparation or amendment of EIA reports, an environmental and social impact assessment must be performed by professionals who are legally licensed to perform such assessments for project changes/new projects that have the potential to cause impacts on the environment and communities without proper planning and management.

A10.6 In case of projects which involve EIA, the impact prevention and reduction measures specified in the EIA must be implemented appropriately, and EIA monitoring reports must be submitted to the regulatory body.

A10.7 Monitoring must be performed on the budget allocated for and expenses incurred from environmental and social impact-related factors, including project delays caused by resistance from the community, illegal operations, and community engagement activities.

## **B. Supply Chain Management**

The management of risks and liability potentially caused by suppliers, including product and service providers, contractors, and contract workers, the use of whose products and services may have a significant impact on the environment and the community without proper planning and control.

Suppliers who fall within the scope of this item are those whose products and services pose significant potential risks and liability to the company, which may be considered based on A) the value of the products or services, B) the duration of the contract, and C) the nature of the products and services.

**The requirements** are as follows:

### **B1 Supplies and Services Impact Analysis**

**B1.1** All suppliers/ contractors who provide products and services to the organization which may affect the outcomes of environmental and social operations must be identified.

**B1.2** A preliminary environmental and social risk assessment must be performed on the use of products and services from suppliers/ contractors whose operations may impact the environment and society.

### **B2 Supplier/Contractor Selection**

**B2.1** Consideration for the approved vendor list is contingent upon signed agreement or demonstration of commitment to comply with SCG Supplier Code of Conduct.

**B2.2** Environmental and social criteria or expectations appropriate to the level of impact must be established and used as part of the selection of suppliers/contractors who provide products and services that may affect the effectiveness of the company's environmental and social operations based on analysis of the impact of the use of such products and services.

### **B3 Contract Management**

**B3. 1** Conditions and duties for environmental and social responsibility appropriate for the risks associated with the use of products and services must be specified on the purchase order or employment contract (e.g. legal compliance, waste management, and audit).

### **B4 Environmental and Social Risk Assessment**

**B4.1** Environmental and social risk assessment consistent with sustainability/ESG risk assessment guidelines must be performed on the operations of suppliers/contractors that may impact the environment and society.

**B4.2** Supplier/contractor segmentation must be performed in order to manage and control risks to an acceptable level, specifying suppliers/ contractors with environmental and social risks that are consistent with high sustainability/ ESG risk guidelines as well as the critical supplier/ contractor system.

**B4. 3** Appropriate review of sustainability/ ESG risk assessment must be performed, taking into account new potential risks which can affect the organization's business.

### **B5 Supplier Audit**

**B5.1** Regular audits must be performed on the operations of suppliers to identify operational efficiency, challenges, and opportunities for improvement in order to ensure that the operations of suppliers are consistent with the organization's guidelines.

**B5.2** Audits on compliance to the organization's environmental and social requirements and expectations must be performed for critical suppliers with high environmental and social risks.

**B5.3** There must be effective processes and guidelines in place for monitoring, correcting, and preventing noncompliance with environmental and social requirements by suppliers/contractors.

## B6 On-Site Supplier/Contractor Management

B6.1 The organization's expectations regarding environmental and social operations, such as organizational regulations and contractual terms on the environment and society, must be established and communicated to suppliers/contractors.

B6.2 The effectiveness of suppliers'/contractors' environmental and social operations in accordance with the stipulations specified in the purchase order or the employment contract must be monitored and reported.

B6.3 Responsible personnel must be designated, and a program must be put in place to monitor the operations of suppliers/contractors to ensure that said operations do not impact the environment and society.

B6.4 Necessary training must be provided to suppliers/contractors to ensure that their environmental and social operations are consistent with the organization's expectations (e.g. waste management).

B6.5 Plans or programs for joint operations with suppliers/contractors which take into consideration various factors, such as product and service quality, impacts on the organization's reputation, and returns on investment, must be established.

## B7 Supply Chain Partnerships

B7.1 Strategies or partnerships with suppliers/contractors must be established to manage important environmental and social risks, taking into consideration various factors, such as product and service quality, impacts on the organization's reputation, and returns on investment.

B7.2 Plans or programs for joint environmental and social operations with suppliers/contractors that benefit both the company and the suppliers/contractors in the management of major environmental and social risks and opportunities must be established.

### C. Operations Management

Operations management refers to the management of potential environmental and social issues and impacts that may be caused by the activities and operations of the organization (such as production processes, equipment, machinery, and production support activities). Environmental issues encompass water and energy efficiency; the emission of greenhouse gases, waste, water and air pollutants, and odors; noise and vibration; spills; biodiversity; environmental incident management; chemical management; and mechanical integrity.

The scope of this risk management does not cover occupational health issues and personal safety.

**The requirements** are as follows:

#### C1 Water Efficiency

C1.1 Data on water use (including water source and quality) related to the operations of the organization must be monitored, measured, and analyzed.

C1.2 Risks, material issues/ aspects, opportunities, and legal requirements related to water use (including drought) which may affect business operations must be fully and appropriately identified and assessed.

C1.3 An effective prevention and control plan for risks, material issues/aspects, opportunities, and legal requirements related to the use of water must be established and implemented.

C1.4 Goals and work plans for water use management appropriate for the organization's operations must be established.

C1.5 The effectiveness of water use operations relative to the set goals must be monitored and reported on a regular basis.

C1.6 Work plans regarding water use must be reviewed and verified.

## C2 Energy Efficiency

C2.1 Data on both direct and indirect energy use must be monitored, measured, and analyzed.

C2.2 Risks, material issues/aspects, opportunities, and legal requirements related to energy use which may affect business operations must be fully and appropriately identified and assessed.

C2.3 An effective prevention and control plan for risks, material issues/aspects, opportunities, and legal requirements related to the use of energy must be established and implemented.

C2.4 Goals and work plans for energy use management appropriate for the organization's operations must be established.

C2.5 The effectiveness of energy use operations relative to the set goals must be monitored and reported on a regular basis.

C2.6 Work plans regarding energy use must be reviewed and verified.

## C3 Greenhouse Gas Emissions

C3.1 Data on greenhouse gas emissions must be monitored, measured, and analyzed.

C3.2 Risks, material issues/aspects, opportunities, and legal requirements related to greenhouse gas emissions which may affect business operations must be fully and appropriately identified and assessed.

C3.3 An effective prevention and control plan for risks, material issues/aspects, opportunities, and legal requirements related to greenhouse gas emissions must be established and implemented.

C3.4 Goals and work plans for greenhouse gas emissions appropriate for the organization's operations must be established.

C3.5 The effectiveness of greenhouse gas emissions operations relative to the set goals must be monitored and reported on a regular basis.

C3.6 Work plans regarding greenhouse gas emissions must be reviewed and verified.

#### **C4 Air Emissions and Odor Management**

C4.1 Data on air emissions and odor related to the operations of the organization (e.g. dust, NOx, SOx, PM, VOC, and ozone destroying substances) must be monitored, measured, and analyzed.

C4.2 Risks, material issues/aspects, opportunities, and legal requirements related to air emissions and odor which may affect business operations must be fully and appropriately identified and assessed.

C4.3 An effective prevention and control plan for risks, material issues/aspects, opportunities, and legal requirements related to air emissions and odor must be established and implemented.

C4.4 Goals and work plans for the control of air emissions and odor appropriate for the organization's operations must be established.

C4.5 The effectiveness of air emissions and odor control operations relative to the set goals must be monitored and reported on a regular basis.

C4.6 Work plans regarding air emissions and odor must be reviewed and verified.

#### **C5 Wastewater Management**

C5.1 Data on water pollution released into the environment as a result of the organization's operations, including discharge/effluent as well as wastewater quality (e.g. COD, suspended solids, heavy metals, and temperature), must be monitored, measured, and analyzed according to water pollution management methods.

C5.2 Risks, material issues/aspects, opportunities, and legal requirements related to water pollution emissions which may affect business operations must be fully and appropriately identified and assessed.

C5.3 An effective prevention and control plan for risks, material issues/aspects, opportunities, and legal requirements related to water pollution emissions must be established and implemented.

C5.4 Goals and work plans for the control of water pollution emissions appropriate for the organization's operations must be established.

C5.5 The effectiveness of water pollution management operations relative to the set goals must be monitored and reported on a regular basis.

C6.6 Work plans regarding water pollution must be reviewed and verified.

## C6 Industrial Waste Management

C6.1 Data on hazardous and nonhazardous industrial waste must be collected and analyzed by type of waste and disposal method.

C6.2 Risks, material issues/aspects, opportunities, and legal requirements related to waste management which may affect business operations must be fully and appropriately identified and assessed.

C6.3 An effective prevention and control plan for risks, material issues/aspects, opportunities, and legal requirements related to waste management must be established and implemented.

C6.4 Goals and work plans for industrial waste management that are appropriate for the organization's operations must be established.

C6.5 The effectiveness of industrial waste management operations relative to the set goals must be monitored and reported on a regular basis.

C6.6 Work plans regarding industrial waste management must be reviewed and verified.

C6.7 Industrial waste disposal must be performed by an authorized industrial waste disposal service provider and reviewed through regular audits.

C6.8 There must be procedures in place for managing on-site storage of industrial waste which are consistent with applicable laws and international practices to prevent leakage into the environment and employee exposure to industrial waste.

## C7 Noise and Vibration Management

C7.1 Data on noise and vibration related to the organization's operations must be monitored, measured, and analyzed.

C7.2 Risks, material issues/aspects, opportunities, and legal requirements related to noise and vibration which may affect business operations must be fully and appropriately identified and assessed.

C7.3 An effective prevention and control plan for risks, material issues/aspects, opportunities, and legal requirements related to noise and vibration must be established and implemented.

C7.4 Goals and work plans for noise and vibration control that are appropriate for the organization's operations must be established.

C7.5 The effectiveness of noise and vibration management operations relative to the set goals must be monitored and reported on a regular basis.

C7.6 Work plans regarding noise and vibration must be reviewed and verified.

## C8 Biodiversity Protection

C8.1 The organization must understand and comply with the legal requirements and/or standards related to biodiversity that are applicable to the business.

C8.2 The boundaries of all land occupied by and/or affected by the operations of the organization must be identified, especially land within vicinity of environmentally protected areas or areas with high biodiversity value.

C8.3 A biodiversity database must be created and evaluated, or the guidelines prescribed by law must be followed.

C8.4 Specific goals, plans, and procedures must be established to protect and preserve the applicable biodiversity affected by the organization's operations.

C8.5 Cooperative efforts must be undertaken to preserve biodiversity.

C8.6 The implementation of the biodiversity protection plan must be monitored, reported, and reviewed against the set goals on a regular basis.

## C9 Environmental Incident Management

C9.1 The organization must understand and continuously comply with the legal requirements and/or standards related to environmental incidents that are relevant to the business (e.g. spills, sub-standard wastewater discharge, and improper waste disposal).

C9.2 A process for defining, identifying, and assessing different types of environmental incidents that require reporting and investigation (e.g. incident reporting and investigation procedure) must be established.

C9.3 A process for reporting and investigation of severe environmental incidents to those involved, including the management, according to the severity and the prescribed duration (e.g. chemical spills with material environmental and community impacts, complaints, and negative press), must be established.

C9.4 Response plans and preparations must be made for severe environmental incidents.

C9.5 Appropriate corrective action and prevention of recurrence of severe environmental incidents must be undertaken.

C9.6 Work plans for and outcomes of severe environmental incidents response operations must be reviewed and verified.

#### **C10 Chemical Management**

C8.1 The organization must understand and continuously comply with the legal requirements related to chemical management that are applicable to the business.

C10.2 A register of the chemicals used by the organization must be compiled, containing the name, classification, method/place of storage, and estimated stored volume of each chemical.

C10.3 Hazardous substances must be identified, and prohibition on the use of hazardous substances by applicable regulations must be adhered to.

C10.4 Material safety data sheets (MSDS) on all chemicals used by the company and related products must be readily accessible.

C10.5 Procedures for the management of chemicals and materials stored on-site which reduce the likelihood of leakage into the environment, employee exposure to chemicals, and waste generation in accordance with internationally accepted practices must be put in place.

C10.6 Chemical handling and material storage procedures must be observed, such as appropriate storage of oil and chemicals within areas equipped with spill containment berms.

#### **C11 Mechanical Integrity**

C11.1 Machinery and equipment, including machinery and equipment that may have the potential to cause environmental incidents or impact the environment and society as well as equipment related to environmental monitoring and measuring, must be identified and prioritized by importance.

C11.2 Preventive and regular maintenance plans for machinery and equipment of all kinds, including machinery and equipment that may have the potential to cause environmental incidents or impact the environment and society, must be established so as to keep such machinery and equipment in good condition.

C11.3 Environmental monitoring and measuring equipment must be maintained in good condition through regular preventive maintenance and calibration plans.

C11.4 All types of machinery and equipment, including machinery and equipment that may have the potential to affect operational eco-efficiency, must be identified and prioritized by importance.

*(Advanced Requirement)*

C11.5 Preventive and regular maintenance plans for machinery which may have the potential to affect operational eco-efficiency must be established so as to keep such machinery and equipment in good condition. *(Advanced Requirement)*

C11.6 Non-functioning machinery and equipment must be repaired within a specified period of time or disposed of by appropriate means (e.g. returned to the manufacturer or disposed of by a government-approved disposal or treatment agency for the recycling of parts).

#### **D. Products and Services Management**

Analysis and mitigation of environmental and safety impacts on users throughout the life cycle of a product (from the raw material, raw material preparation and delivery, and production stages to storage, distribution, and use all the way to the end of the product's life cycle) through design, research, and development as well as taking on accountability for products in order to encourage new innovations that can meet the needs of customers as well as the relevant requirements and standards.

The requirements are as follows:

##### **D1 New Product and Service Development**

D1.1 In the development of new goods and services, consideration must be given to environmental and safety factors (e.g. legal requirements and market opportunities for products and services that are environmentally friendly and safe for users; the needs, environmental interests, and safety of the target customer group; and circular economy principles) as well as the environmental impact of end-of-use products.

D1.2 Quantifiable reduction in environmental and safety impacts from the use of products and services (e.g. carbon footprint reduction resulting from product sales and services) must be monitored and assessed. (*Advanced Requirement*)

##### **D2 Life Cycle Assessment**

D2.1 Environmental impact analysis must be performed on the entire life cycle of the company's primary products or services, including the environmental impact of end-of-use products, in accordance with internationally recognized guidelines or standards (e.g. ISO 14040: 2006). (*Advanced Requirement*)

D2.2 The results of environmental impact assessment on the entire life cycle of products and services must be utilized to formulate and implement an impact reduction plan to achieve demonstrable impact reduction. *(Advanced Requirement)*

D2.3 The data used to assess environmental impact related to the life cycle of products and services must be verified and reliable. *(Advanced Requirement)*

### D3 Product Labels and Claims

D3.1 Participation in environmental labeling programs and certification should be sought whenever possible in order to create business advantage.

D3.2 Labels and claims must be backed up by documentation and evidence demonstrating the environmental properties, safety of use, as well as proper disposal of products in accordance with relevant international laws and standards and without any claims which deviate from fact.

D3.3 A material safety data sheet (MSDS) or information on safe use and proper disposal must be provided for applicable products in accordance with laws and international standards.

D3.4 A regulatory process must be put in place to prevent the making of claims regarding the environmental properties of products which deviate from fact.

### D4 Product End of Use Management

D4.1 A program for the return of products into the process must be considered and established (where applicable) with cooperation from other companies in the same industry, suppliers, and government agencies as appropriate. *(BU Level Requirement)*

D4.2 A customer awareness program must be established to encourage the return of end-of-use products, as well as the proper use or handling of products/packaging (e.g. in the case of big bags/packaging with the company logo). *(BU Level Requirement)*

D4.3 Data must be collected to assess the effectiveness of end-of-use product return programs (including the quantity of products returned). (*BU Level Requirement*)

## **E. Stakeholder Management and Communications**

Analysis and engagement with stakeholders, who may include customers, communities, government officials, employees, media, and shareholders, among others, must be performed in order to better understand these key stakeholders and foster participation towards the goal of sustainable development.

The outcomes of sustainable development operations are communicated and reported to ensure transparency and enhance the image and reputation of the organization.

**The requirements** are as follows:

### **E1 Stakeholder Engagement**

**E1.1** Stakeholders (e.g., customers, government agencies, communities, suppliers, employees, and shareholders) must be identified and prioritized by importance.

**E1.2** Analysis of significant issues and emerging issues which may affect future operations as a result of expectation on the organization and/or issues of concern must be undertaken through approaches that involve stakeholder engagement (e.g. surveys, meetings or forums, training, group consultation, and interviews).

**E1.3** Strategies and guidelines for engaging and communicating appropriately with stakeholders (e.g., consultation and communication) must be established.

**E1.4** Significant stakeholder issues must be responded to in an effective manner in order to address the concerns and complaints related to the organization's activities, products, and services raised by stakeholders.

**E1. 5** Assessment of stakeholder satisfaction and opinion must be undertaken to measure the effectiveness of stakeholder engagement and communication efforts.

**E.1.6** Stakeholder engagement (identify – analyze – strategize) must be reviewed appropriately.

## E2 Training and Development

**E2.1** A needs analysis must be performed to determine essential employee training according to position, job description, roles and responsibilities, and environmental and social risks from work operations.

**E2.2** A training plan must be established and implemented, including training on topics required by law, new employee training, awareness training, training on role-specific topics, and training for suppliers/contractors and organization visitors.

**E2.3** Environmental and social issues must be integrated into the Leadership Development Program.

**E2.4** The results of employee environmental and social training must be monitored.

## E3 External Reporting

**E3.1** Data on key indicators as determined by SCG, encompassing materiality and stakeholder inclusiveness, must be recorded and reported with completeness so that SCG can be submit its annual performance report to external agencies.

**E3.2** Data on environmental and social operations, including the progress of such operations in relation to the objective, must be reported to the responsible unit according to the sustainability operations structure.

## E4 Branding/ Reputation

**E4.1** Environmental and social management operations must be integrated as part of organization branding operations. (*BU Level Requirement*)

**E4.2** The content of websites, marketing materials, and reports accessible to the public concerning the organization must cover environmental and social issues related to both the manufacturing and usage of the company's products and services. (*BU Level Requirement*)

**E4.3** The applicable legal requirements or international standards (e.g. the Federal Trade Commission Guide for the Use of Environmental Marketing Claims) must be adhered to whenever claims regarding the company's environmental operations are made in branding and marketing media. *(BU Level Requirement)*

**E4.4** The organization must be able to demonstrate that the effectiveness of its environmental and social management operations can generate competitive advantage (e.g. recruitment, sales, and investor relations). *(BU Level Requirement)*

**E4.5** The organization's operations must receive recognition and awards from external agencies as a guarantee or/and demonstration of excellence in environmental operations. *(BU Level Requirement)*

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