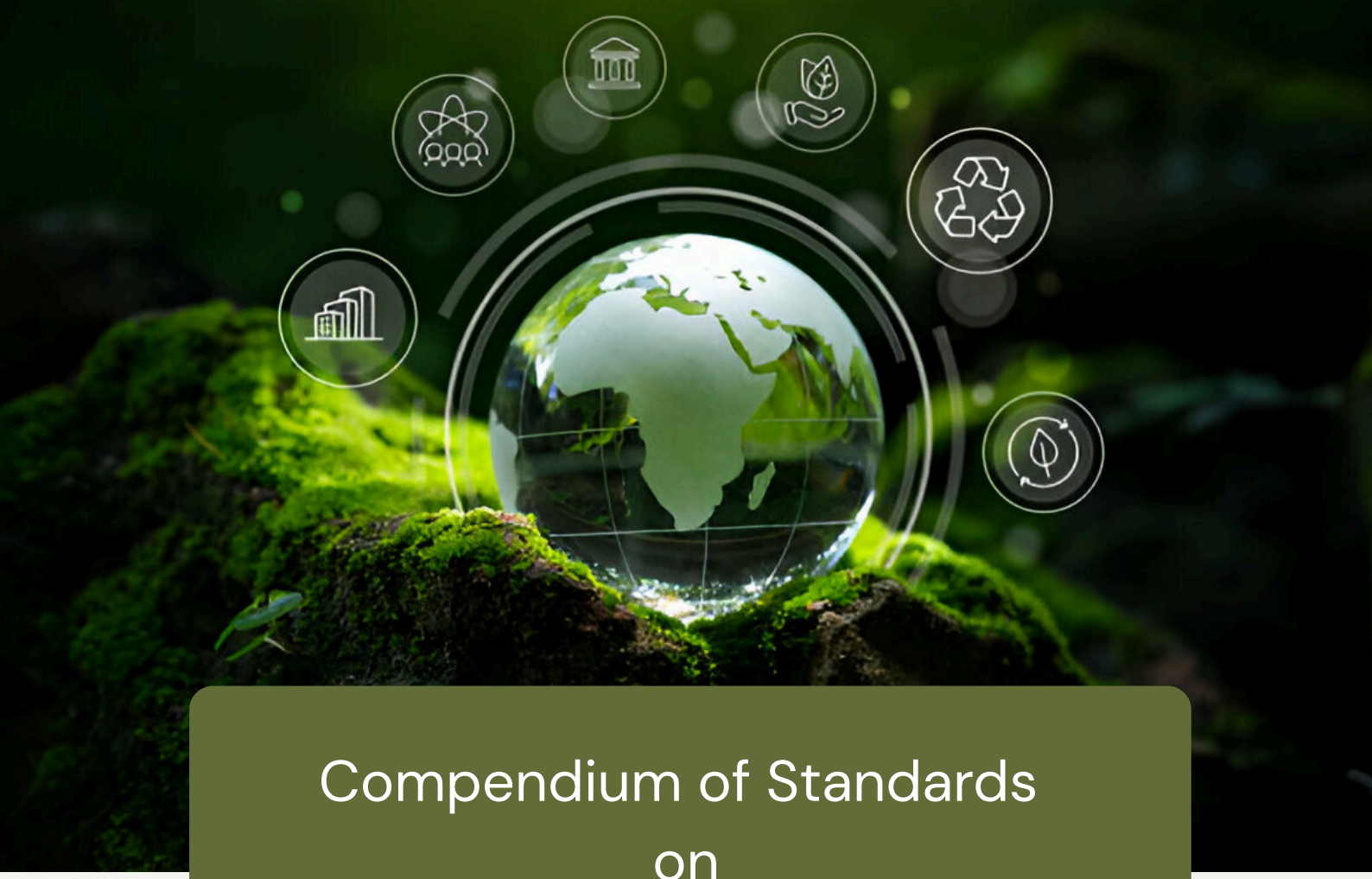

Compendium of Standards
on

Environmental Management

मानकः पथप्रदर्शकः

Environment and Ecology Department

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Environment and Ecology Department
9, Bahadur Shah Zafar Marg, New Delhi - 110002

Contact Details:

Shri Virendra Singh,
Scientist E/ Director,
Head (Environment and Ecology Department)
Email - enviro@bis.gov.in, head.eed@bis.gov.in

Shri Lalit Yadav
Scientist C/Deputy Director,
Member Secretary, EED 01
Email - enviro@bis.gov.in

मानकः पथप्रदर्शकः

Foreword

The Bureau of Indian Standards (BIS), established under the BIS Act of 1986 and revised in 2016, is India's National Standards Body under the Ministry of Consumer Affairs, Food and Public Distribution. BIS plays a vital role in the development of national standards, certification, and quality assurance, while also representing India in global standardization efforts through ISO and IEC.

This **Compendium of Standards on Environmental Management**, prepared by the **Environment and Ecology Department (EED)** of BIS, provides a structured overview of Indian Standards that support environmental protection and promote sustainable practices across sectors. These standards align with national priorities on climate action, ecological conservation, and responsible resource use.

The **Environmental Management Sectional Committee, EED 01**, is responsible for formulating standards in areas such as environmental management systems, life cycle assessment, greenhouse gas management, climate change mitigation and adaptation, and environmental labeling. The committee follows a transparent and participative process involving stakeholders from industry, government, academia, and civil society.

This compendium serves as a useful reference for environmental professionals, sustainability managers, policymakers, researchers, and students. It supports the implementation of key environmental standards and encourages the adoption of best practices in line with national and international sustainability goals.
For the latest updates and access to standards, visit www.bis.gov.in or use BIS digital platforms.

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About BIS

The Bureau of Indian Standards (BIS), the National Standards Body (NSB) of India, was established under the BIS Act, 1986 and came into existence on 1 April 1987, assuming the functions of the erstwhile Indian Standards Institution (ISI). The ISI came into being on 6 January 1947. The BIS Act, 2016 came into force on 12 October 2017, superseding the BIS Act, 1986. The BIS Act, 2016 provides for the establishment of a national standards body for the harmonious development of the activities of standardization, conformity assessment, and quality assurance of goods, articles, processes, systems, and services and for matters connected therewith or incidental thereto.

BIS, through its core activities of standardization and conformity assessment, has been benefiting the national economy by providing safe, reliable, and quality goods; minimizing health hazards to consumers; protecting the environment, promoting exports and import substitutes; and controlling over-proliferation of product varieties. The standards and certification schemes of BIS, apart from benefitting consumers and industry, also support various public policies, especially in areas of product safety, consumer protection, food safety, environmental protection, building, and infrastructure development.

BIS also represents India in international standards bodies like the International Organization for Standardization (ISO) and, via the Indian National Committee, in the International Electrotechnical Commission (IEC). It participates actively in the international standardization work undertaken in these bodies. BIS presents the national viewpoint on new areas taken up for international standardization and on various draft international standards during their development, ensuring that the country's interests are protected and reflected in the resulting standards. This also enables BIS technical committees to consider the adoption of international standards as Indian Standards, with or without modifications, thereby facilitating the integration of Indian products and services into global trade and commerce.

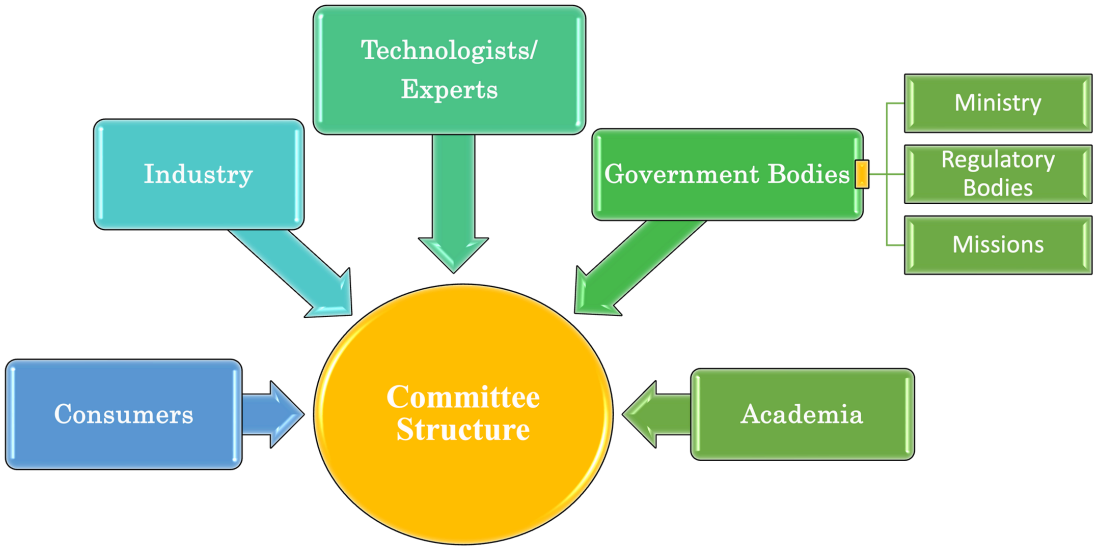
Overview of Standard Formulation

Aim of formulating a Standard:

- Provision of means of communication amongst all interested parties;
- Promotion of economy in human effort, materials and energy in the
- production and exchange of goods
- Protection of consumer interests through adequate and consistent quality
- of goods and services;
- Promotion of the quality of life, safety, health and the protection of
- environment;
- Promotion of trade by removal of barriers caused by differences in national
- practices.

Process of Standards Formulation:

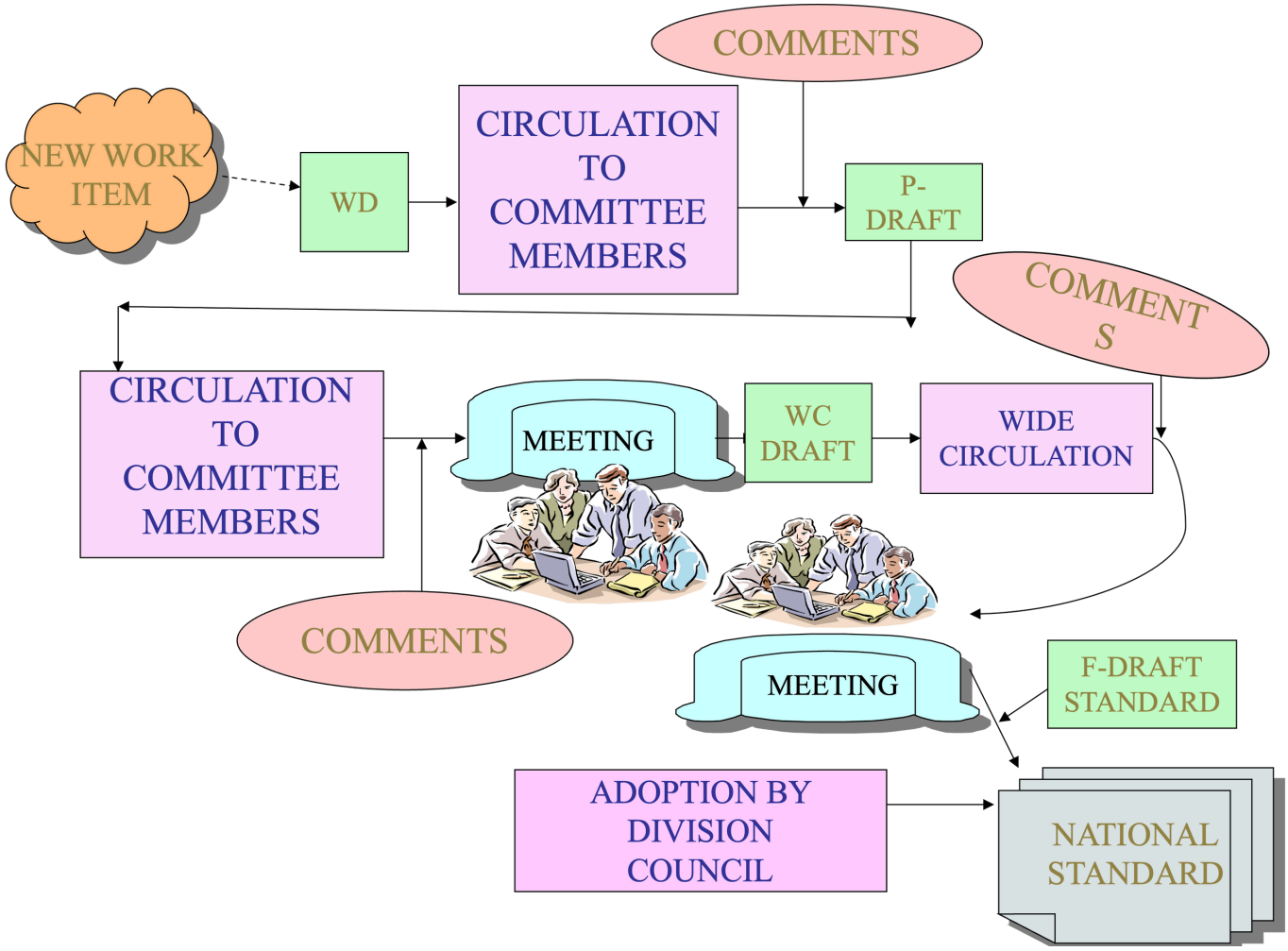
BIS formulates Indian Standards through sectional committees under a Division Council, which are set up to deal with specific group of subjects. The committee structure is designed to bring together all those with substantial interest in a particular field, so that standards are developed keeping in view the balance of interests among the relevant stakeholders



Overview of Standard Formulation

Standards Formulation Process

Bureau of Indian Standards (BIS) initiates the standardization process with a New Work Item Proposal (NWIP), where a stakeholder submits a formal request outlining the need for a new or revised standard, which, upon approval by the Division Council, leads to the Technical Committee creating a Working Draft (WD) as an initial internal document for expert discussion, evolving into a Preliminary Draft (PD) with refined details and committee consensus, followed by its transformation into a Wide Circulation Draft (WCD) that is publicly shared for at least one month to gather stakeholder feedback, culminating in a Finalized Draft (FD) that incorporates revisions and, after final approval, is published as an official Indian Standard.



About Environment and Ecology Department

BIS, in its ongoing commitment to environmental protection and ecological conservation, has established the Environment and Ecology Department (EED) as a focused initiative to address the growing need for sustainable development. The EED is one of the 17 technical departments of BIS and has been recently constituted by consolidating various environment and ecology related standardization activities under a single dedicated division. This strategic move aims to streamline efforts, enhance coordination, and develop robust Indian Standards that support environmental sustainability, promote eco-friendly practices, and align with national and global environmental goals.

Key Areas Identified for Standardization in Environment and Ecology

1. **Pollution:** Air, Water, Noise, Soil
2. **Waste Management and Sanitation:**Municipal Solid Waste, Effluent Treatment, Other Solid Wastes (all types), Hygiene
3. **Ecology:** Biodiversity, Ecosystems, Environment Impact Assessments
4. **Climate Action:** Climate Change Mitigation, Climate Change Adaptation, Climate Change Impact Reduction
5. **Environmental Measurement and Management:** Monitoring and Management, Management System, Life Cycle Assessment, Environmental Services

About Environment and Ecology Department

Scope of EEDC

Standardization in the fields of (a) control of pollution, (b) sanitation, (c) ecology, (d) climate change, (e) environmental measurement, management and services, including:

- Prevention and Control of Water, Air (including noise) and Soil Pollution;
- Waste Management;
- Circular Economy;
- Biodiversity and Ecosystem (including Himalayan and Coastal Ecosystems);
- Environmental Services;
- Environmental Impact Assessment;
- Environmental Monitoring, Measurement and Management;
- Environmentally Sustainable Practices;
- Climate Change and Human Health;
- Water Protection, Conservation and Management of Natural Water Resources;
- Sustainable Habitat;
- Strategic knowledge for Climate Change; and
- Green India.

About Environment and Ecology Department

Present Sectional Committees Under EEDC

- EED 1 Environmental Management
- EED 2 Environment Pollution
- EED 3 Effluent Treatment
- EED 4 Drinking Water Supply, Wastewater and Stormwater Systems and Services
- EED 5 Environmental Services
- EED 6 Biodiversity
- EED 7 Sustainability in Building Construction
- EED 8 Waste Management

About Environmental Management Sectional Committee

Environmental Management Sectional Committee (EED 01)

Scope :
To formulate Indian Standards on:
a) Environment Management Systems;
b) Life Cycle Assessment;
c) GHG Management;
d) Climate Change and Adaptation; and
e) Environmental Labelling.

Liaison :

- ISO/TC 207 - Environmental management - Participating (P)
- ISO/TC 207/SC 1 - Environmental management systems - Participating (P)
- ISO/TC 207/SC 2 - Environmental auditing and related practices - Participating (P)
- ISO/TC 207/SC 3 - Environmental labelling - Participating (P)
- ISO/TC 207/SC 4 - Environmental performance evaluation - Participating (P)
- ISO/TC 207/SC 5 - Life cycle assessment - Participating (P)
- ISO/TC 207/SC 7 - Greenhouse gas and climate change management and related activities - Participating (P)

About Environmental Management Sectional Committee

Composition of EED 01

Chairperson: S.K. Sharma, Emeritus Professor, Punjab University

Member Secretary: Shri Lalit Yadav, Scientist C/Deputy Director, BIS

Industry Association: 5

- Association of Certification Bodies of India, New Delhi
- Confederation of Indian Industry, New Delhi
- Federation of Indian Chambers of Commerce and Industry, New Delhi
- The Fertiliser Association of India, New Delhi
- Indian Chemical Council, Mumbai

Regulatory Body: 2

- Central Pollution Control Board, New Delhi
- Quality Council of India, New Delhi

R&D Organization: 6

- Bhabha Atomic Research Centre, Mumbai
- CSIR – Central Leather Research Institute, Chennai
- Environment Protection Training and Research Institute, Hyderabad
- Indian Oil Corporation (R and D Centre), Faridabad
- National Council for Cement and Building Materials, Faridabad
- Center for Study of Science, Technology and Policy, Bengaluru

Academic Institution: 1

- Jadhavpur University, Kolkata

About Environmental Management Sectional Committee

Composition of EED 01

Industry: 6

- Carbon Minus India, New Delhi
- India Glycols Limited, Uttarakhand
- JK Tyre & Industries Limited, Rajasthan
- JSW Steel Limited, Mumbai
- RITES Limited, Gurugram
- Tata Consultancy Services Limited, Mumbai

Consumer Group: 1

- Consumer Education and Research Centre, Ahmedabad

Central Ministry/Dept.: 1

- Bureau of Energy Efficiency, New Delhi

Expert: 1

- Shri Virendra Swaroop Mathur, Former GM, Tata Chemicals

Standards Related to Environmental Management

At present Environmental Management Sectional Committee (EED 01) has published 36 Standards related to environmental Management. These standards are formulated by representatives of a balance of stakeholders including consumers, industry, R&D institutes, government departments/ regulators, technologies through various technical committees including sectional committee, subcommittee, panel and working group.

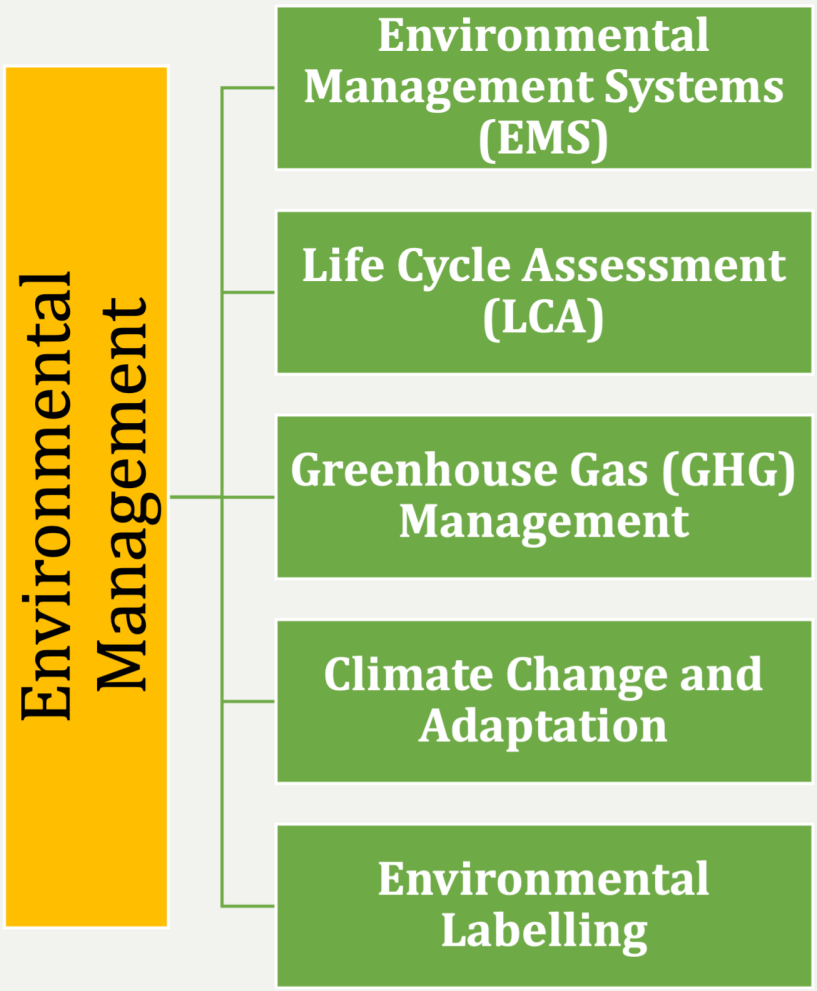
Categorization of Subjects

Environmental management standards are categorized into **Environmental Management Systems (EMS), Life Cycle Assessment (LCA), Greenhouse Gas (GHG) Management, Climate Change and Adaptation, and Environmental Labelling** to reflect the comprehensive and interlinked dimensions of environmental responsibility.

This categorization ensures clarity and focus in implementation. EMS forms the structural backbone, providing a systematic approach to managing environmental impacts. LCA extends this by evaluating the environmental footprint of products and services across their life cycle, enabling more informed, sustainable choices.
GHG Management addresses the quantification, reduction, and verification of emissions, crucial in the fight against climate change. Standards on Climate Change and Adaptation guide organizations in assessing climate risks and building resilience, recognizing the urgent need for proactive responses to global climate variability. Lastly, Environmental Labelling empowers consumers and businesses by promoting transparency and enabling environmentally responsible purchasing decisions.

Standards Related to Environmental Management

Together, these categories capture the full spectrum of environmental management from operational systems and technical assessments to communication and climate resilience supporting integrated, scalable, and outcome-oriented sustainability practices.



Standards Related to Environmental Management

Need for developing Environmental Management Standards

Environmental management plays a critical role in guiding organizations toward sustainability by integrating environmental considerations into decision-making, operations, and long-term strategy.
It encompasses a broad spectrum of practices—from managing environmental impacts through structured systems to quantifying emissions, assessing life cycle impacts, adapting to climate change, and providing transparent environmental information through labeling.

Standardization in environmental management ensures a harmonized approach across industries and regions, fostering credibility, accountability, and consistency. It helps organizations identify and manage environmental risks, comply with regulations, and meet stakeholder expectations.
Moreover, it drives continual improvement in environmental performance, supports climate action, and enables informed choices for both producers and consumers. In an era of growing environmental challenges and policy shifts, standardized environmental management empowers organizations to reduce their ecological footprint, enhance resilience, and contribute meaningfully to global sustainability goals.

Let us look at the standardization done in this critical domain by topic areas-

Environmental Management Systems

The Environmental Management Systems (EMS) standards published by BIS are designed to help organizations systematically manage their environmental impacts and improve sustainability performance. At the core is IS/ISO 14001:2015, which sets out the requirements for establishing, implementing, and continually improving an environmental management system. This standard provides a structured approach to identifying environmental aspects, ensuring compliance, and enhancing environmental outcomes. Supporting standards offer additional guidance on implementation strategies, integration of ecodesign, material efficiency, and site assessments, enabling organizations to tailor the EMS to their specific needs and contexts. Collectively, these standards help build organizational resilience, demonstrate environmental responsibility, and support long-term sustainability goals.

List of Standards

1. IS/ISO 14001 : 2015 Environmental management systems — Requirements with guidance for use
2. IS 16652 : 2024 Implementation of Environmental Management Systems in Single Super Phosphate (SSP) Fertilizer ndustry - Guide (First Revision)
3. IS/ISO 14004 : 2016 Environmental management systems — General guidelines on implementation
4. IS/ISO 14005 : 2019 Environmental management systems — Guidelines for a flexible approach to phased implementation
5. IS/ISO 14006 : 2020 Environmental management systems — Guidelines for incorporating ecodesign
6. IS/ISO 14009 : 2020 Environmental management systems — Guidelines for incorporating material circulation
7. IS/ISO 14002-1 : 2019 Environmental management systems — Guidelines for using ISO 14001 to address environmental aspects and conditions within an environmental topic area — Part 1: General
8. IS/ISO 14015 : 2022 Environmental management — Environmental assessment of sites and organizations

Environmental Management Systems

IS/ISO 14001 : 2015 Environmental management systems — Requirements with guidance for use

IS/ISO 14001:2015 is the cornerstone standard for establishing an Environmental Management System (EMS). It helps organizations of all sizes and sectors enhance environmental performance, comply with regulations, and pursue sustainability goals. The standard promotes a proactive approach to environmental management by integrating it into core business processes and decision-making.

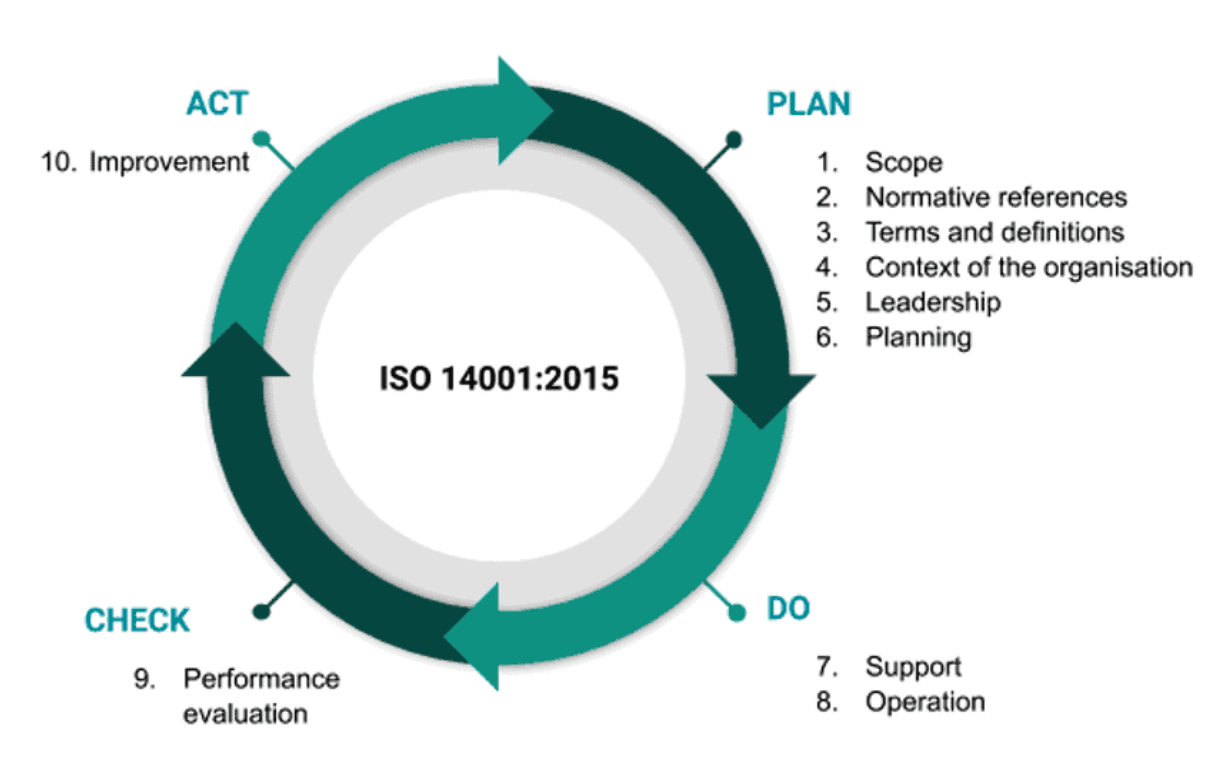
The standard follows the **High-Level Structure (HLS)** common to all ISO management system standards, ensuring compatibility with systems like ISO 9001. The clauses include:

- **Scope** – Defines the applicability of the standard to any organization seeking to enhance environmental performance through a structured EMS.
- **Normative References** – Identifies any essential referenced documents
- **Terms and Definitions** – Clarifies key concepts and terminology used throughout the standard for consistent understanding.
- **Context of the Organization** – Understanding internal and external issues, and identifying interested parties and their expectations to define the EMS scope.
- **Leadership** – Demonstrating top management commitment, setting environmental policy, and assigning responsibilities.
- **Planning** – Identifying environmental aspects, compliance obligations, and risks and opportunities; setting environmental objectives.
- **Support** – Providing necessary resources, competencies, communication, and documentation for effective EMS implementation.
- **Operation** – Planning and controlling processes to manage significant environmental aspects and ensure emergency preparedness

Environmental Management Systems

- **Performance Evaluation** – Monitoring, measuring, auditing, and reviewing EMS performance and legal compliance.
- **Improvement** – Taking corrective actions and driving continual improvement in environmental management and outcomes.

By adopting this structured framework, organizations can effectively manage their environmental responsibilities and contribute meaningfully to sustainability and climate resilience.



Environmental Management Systems

IS 16652 : 2024 Implementation of Environmental Management Systems in Single Super Phosphate (SSP) Fertilizer ndustry - Guide (First Revision)

This Indian Standard provides practical guidance for implementing Environmental Management Systems (EMS) in the Single Super Phosphate (SSP) fertilizer industry, addressing sector-specific environmental challenges while supporting sustainability and regulatory compliance. It emphasizes understanding the organization's environmental context, including internal factors and stakeholder expectations, and calls for an environmental policy focused on legal compliance, pollution prevention, and continual improvement.

The standard guides the identification and assessment of environmental aspects across the product lifecycle and sets criteria to determine significance, enabling the establishment of clear objectives for reducing emissions, conserving resources, and managing waste.

Operational controls are outlined for handling hazardous materials, managing emissions, preparing for emergencies, and ensuring supply chain compliance. Integration of environmental practices into daily operations is encouraged to ensure effectiveness.

It also highlights the importance of monitoring key indicators, conducting audits, and performing management reviews to evaluate performance and drive continual improvement. Adopting this standard enables SSP manufacturers to build a strong EMS that enhances environmental performance, ensures compliance, and promotes long-term sustainability.

Environmental Management Systems

IS/ISO 14004:2016 – Environmental Management Systems — General Guidelines on Implementation

This standard provides guidance on the establishment, implementation, maintenance, and improvement of an EMS. It complements ISO 14001 by offering more detailed explanations and examples to assist organizations in effectively applying the requirements. The standard covers:

- **Establishing the EMS**: Guidance on understanding the organization's context, leadership commitment, and planning processes.
- **Implementing the EMS**: Insights into resource management, competence, communication, and operational control.
- **Maintaining and Improving the EMS**: Strategies for performance evaluation, internal audits, management reviews, and continual improvement.

By following these guidelines, organizations can develop a robust EMS tailored to their specific needs and contexts.

IS/ISO 14005:2019 – Environmental Management Systems — Guidelines for a Flexible Approach to Phased Implementation

This standard offers a flexible, phased approach for organizations, particularly small and medium-sized enterprises (SMEs), to develop and implement an EMS at their own pace. It outlines six consecutive stages within each phase, allowing for gradual development according to the organization's circumstances. This approach enables organizations to:

- **Assess Current Practices:** Evaluate existing environmental management practices and identify gaps.
- **Develop an Implementation Plan:** Set realistic objectives and timelines for EMS development.
- **Implement in Phases**: Gradually apply EMS elements, ensuring each phase is manageable and builds upon the previous one.

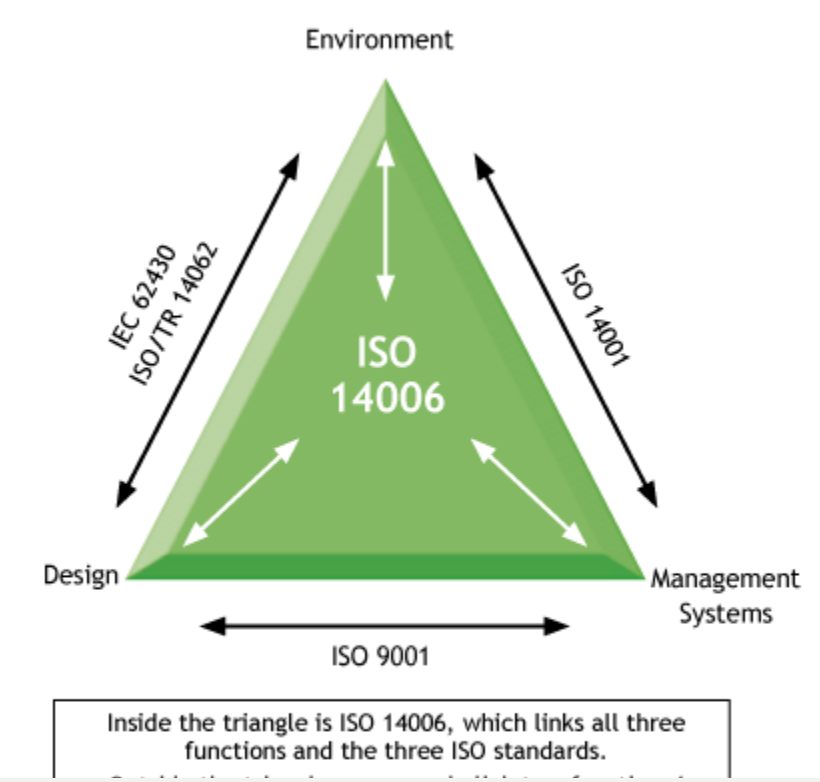
Environmental Management Systems

IS/ISO 14006:2020 – Environmental Management Systems — Guidelines for Incorporating Ecodesign

This standard provides guidelines for integrating ecodesign into an organization's EMS. Ecodesign focuses on minimizing environmental impacts throughout a product's life cycle, from raw material extraction to end-of-life disposal. Key aspects include:

- **Understanding Ecodesign:** Recognizing the benefits and strategic importance of incorporating environmental considerations into product design and development.
- **Integrating into EMS:** Aligning ecodesign activities with the organization's existing EMS framework.
- **Operational Control**: Implementing processes to ensure environmental considerations are addressed during design and development.

By adopting ecodesign principles, organizations can create products that are environmentally friendly and resource-efficient.



Environmental Management Systems

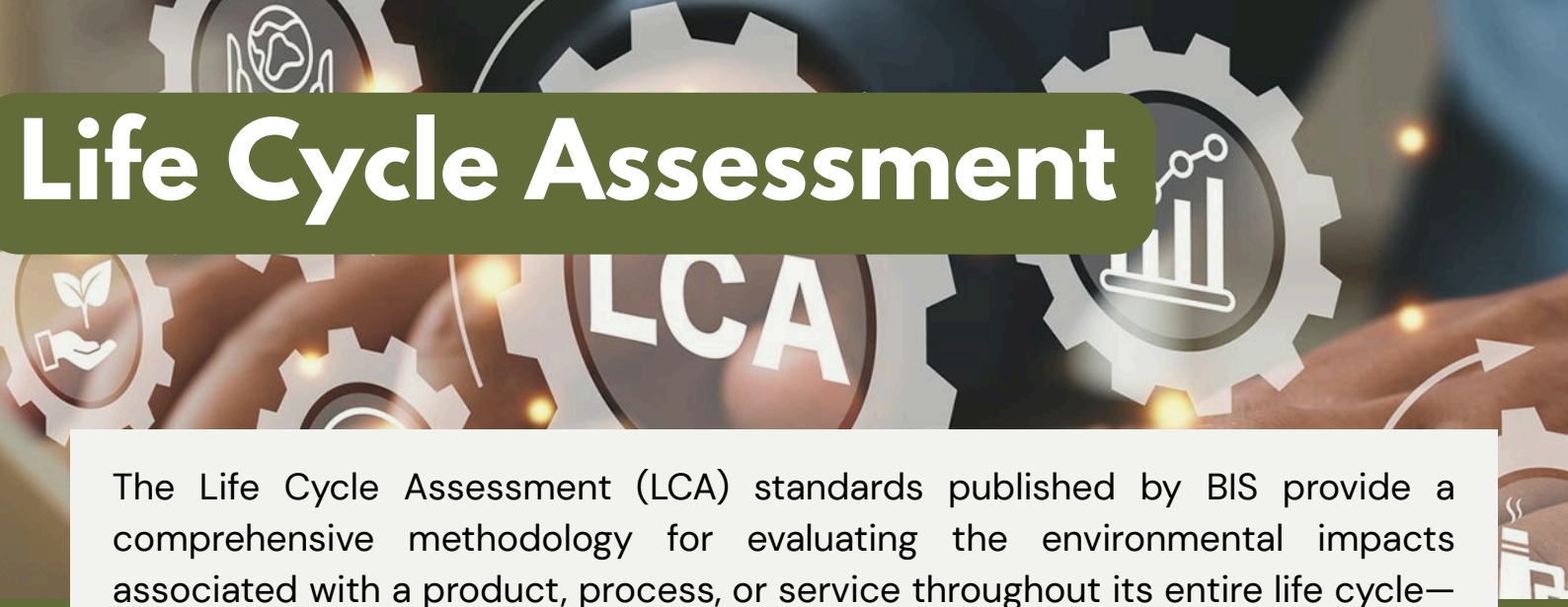
IS/ISO 14009:2020 – Environmental Management Systems — Guidelines for Incorporating Material Circulation

This standard provides guidelines for organizations to establish, document, implement, maintain, and continually improve material circulation in their design and development processes. Material circulation refers to strategies aimed at enhancing resource efficiency by reusing, recycling, and recovering materials within the production process. The standard covers:

- Identifying Opportunities: Recognizing areas where material circulation can be improved.
- Design and Development Integration: Incorporating material circulation strategies into product design and development.
- Implementation and Monitoring: Establishing controls and monitoring mechanisms to ensure effective application of material circulation practices.

IS/ISO 14002-1:2019 – Environmental Management Systems — Guidelines for Using ISO 14001 to Address Environmental Aspects and Conditions within an Environmental Topic Area — Part 1: General

This standard provides general guidelines for organizations seeking to systematically manage environmental aspects or respond to changing environmental conditions within specific environmental topic areas, based on ISO 14001. It serves as a framework for subsequent parts of the ISO 14002 series, ensuring that the management of specific environmental topic areas—such as water, climate change, biodiversity, or waste—is seamlessly incorporated into an existing environmental management system aligned with ISO 14001.



Life Cycle Assessment

The Life Cycle Assessment (LCA) standards published by BIS provide a comprehensive methodology for evaluating the environmental impacts associated with a product, process, or service throughout its entire life cycle—from raw material extraction to end-of-life disposal. The foundational standard, IS/ISO 14040, outlines the principles and framework of LCA, while IS/ISO 14044 details the requirements and guidelines for conducting a thorough and consistent assessment. To support practical implementation, standards such as IS/ISO 14047 and 14049 offer illustrative examples and case applications that help practitioners apply LCA in real-world contexts. These standards enable informed decision-making by identifying environmental hotspots, improving resource efficiency, and supporting sustainable product design and policy development.

List of Standards

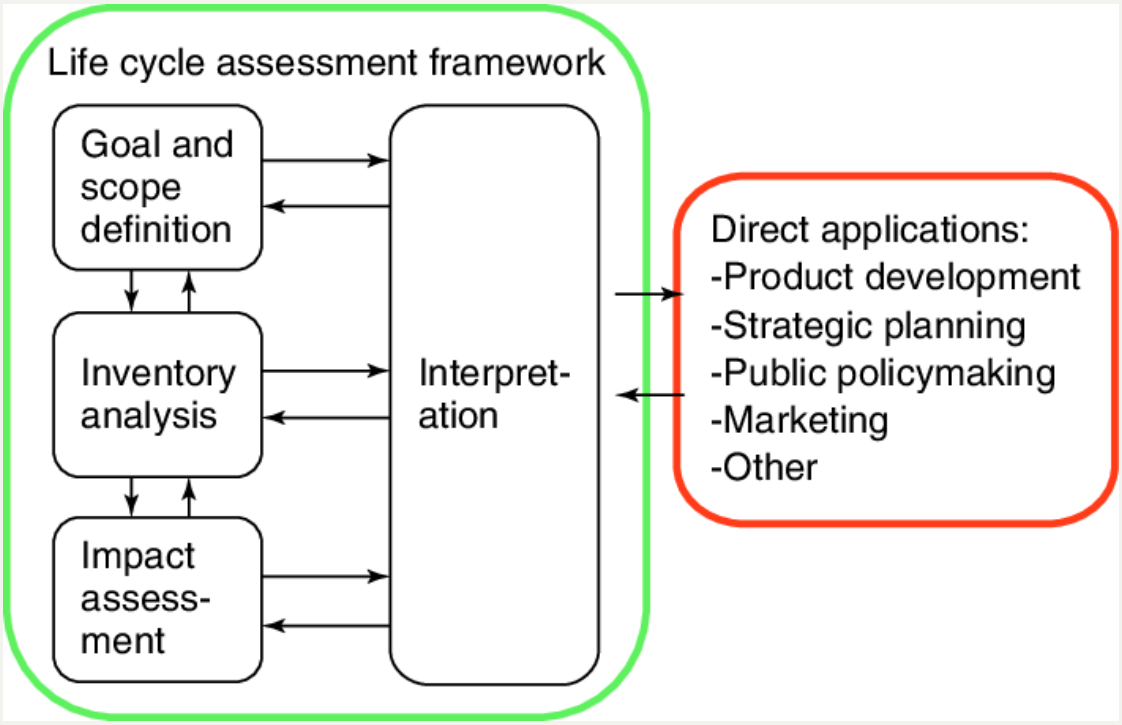
1. IS/ISO 14040 : 2006 Environmental management — Life cycle assessment — Principles and framework
2. IS/ISO 14044 : 2021 Environmental management — Life cycle assessment — Requirements and guidelines
3. IS/ISO 14047 : 2012 Environmental management — Life cycle assessment — Illustrative examples on how to apply ISO 14044
4. IS/ISO 14049 : 2012 Environmental management — Life cycle assessment — Examples of application of ISO 14044 to goal and scope definition and inventory analysis

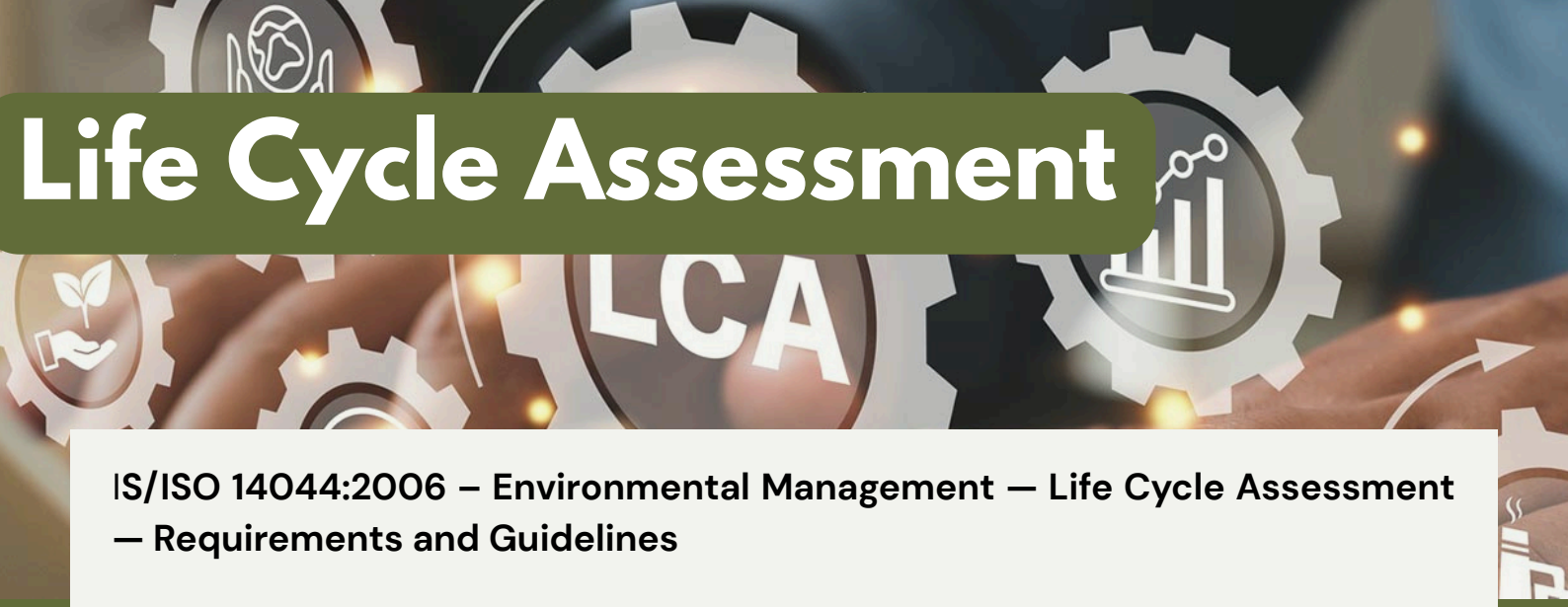
Life Cycle Assessment

1IS/ISO 14040:2006 – Environmental Management — Life Cycle Assessment — Principles and Framework

This standard outlines the fundamental principles and framework for conducting Life Cycle Assessments (LCA). IS/ISO 14040:2006 provides a clear overview of the practice, applications, and limitations of LCA to a broad range of potential users and stakeholders. It delineates the four main phases of LCA:

- **Goal and Scope Definition:** Establishing the objectives, system boundaries, and level of detail for the LCA study.
- **Life Cycle Inventory Analysis (LCI)**: Compiling and quantifying inputs and outputs for a product throughout its life cycle.
- **Life Cycle Impact Assessment (LCIA):** Evaluating the potential environmental impacts based on the LCI results.
- **Life Cycle Interpretation**: Analyzing results to draw conclusions and make informed decisions.





Life Cycle Assessment

IS/ISO 14044:2006 – Environmental Management — Life Cycle Assessment — Requirements and Guidelines

Building upon ISO 14040, this standard specifies detailed requirements and offers guidelines for conducting LCA. It covers all phases of LCA, including goal and scope definition, inventory analysis, impact assessment, and interpretation. ISO 14044:2021 aims to ensure consistency, transparency, and quality in LCA studies, facilitating informed decision-making in environmental management.

It encompasses:

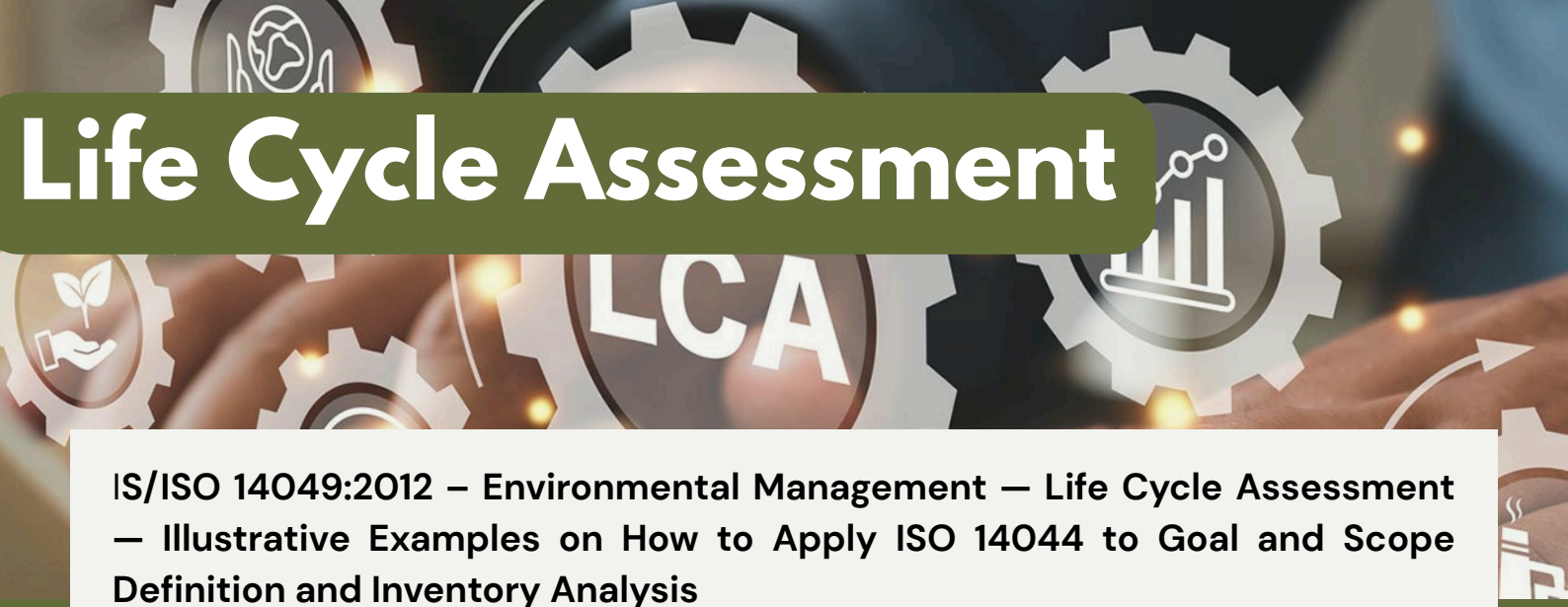
- Methodological Framework: Detailed guidance on goal and scope definition, LCI, LCIA, and interpretation.
- Reporting and Review: Standards for documenting and communicating LCA findings, including provisions for third-party reviews to enhance credibility.

IS/ISO 14047:2012 – Environmental Management — Life Cycle Assessment — Illustrative Examples on How to Apply ISO 14044 to Impact Assessment Situations

This technical report provides practical examples demonstrating the application of life cycle impact assessment (LCIA) in accordance with ISO 14044:2006. It includes:

- Diverse Case Studies: Illustrations of various impact assessment scenarios, showcasing the flexibility and applicability of LCIA methods.
- Methodological Clarifications: Explanations of complex concepts within LCIA, aiding practitioners in accurate implementation.
- Best Practice Recommendations: Suggestions to enhance the robustness and credibility of LCIA results.

These examples reflect key elements of the LCIA phase and offer "a way" rather than the "unique way" of applying ISO 14044



Life Cycle Assessment

IS/ISO 14049:2012 – Environmental Management — Life Cycle Assessment — Illustrative Examples on How to Apply ISO 14044 to Goal and Scope Definition and Inventory Analysis

Complementing ISO 14044, this report offers illustrative examples focused on the initial phases of LCA: goal and scope definition and life cycle inventory analysis.

Key aspects include:

- Practical Scenarios: Real-world examples demonstrating the establishment of study objectives, system boundaries, and functional units.
- Inventory Data Collection Techniques: Guidance on gathering and handling data related to energy and material inputs and environmental releases.
- Interpretative Insights: Strategies for analyzing inventory data to inform subsequent impact assessments.

Greenhouse Gas (GHG) Management

To support India's commitments to climate action and carbon reduction, the Bureau of Indian Standards (BIS) has adopted a robust suite of standards under the IS/ISO 14064 series and related documents. These standards collectively guide organizations and project developers in the quantification, monitoring, reporting, verification, and validation of greenhouse gas (GHG) emissions and removals. By aligning with internationally recognized best practices, they enable consistent and transparent accounting of emissions at both organizational and project levels.

The standards also ensure the credibility and competence of third-party validation and verification bodies and professionals involved in the assurance process. Their implementation is instrumental in enabling Indian organizations to participate in voluntary and compliance-based carbon markets, enhance climate disclosures, and advance toward net-zero goals. Through these standards, BIS plays a crucial role in strengthening national and global climate governance frameworks.

List of Standards

- IS/ISO 14064-1 : 2018 Greenhouse gases — Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
- IS/ISO 14064-2 : 2019 Greenhouse gases — Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements
- IS/ISO 14064-3 : 2019 Greenhouse gases — Specification with guidance for the verification and validation of greenhouse gas statements
- IS/ISO 14065 : 2020 Greenhouse gases — Requirements for GHG validation and verification bodies
- IS/ISO 14066 : 2011 Greenhouse gases — Competence requirements for GHG validation/verification teams

Greenhouse Gas (GHG) Management

IS/ISO 14064-1:2018 Greenhouse gases — Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

This standard provides a robust framework for organizations to develop and manage their greenhouse gas (GHG) inventories. It outlines principles and detailed requirements for identifying emission sources and sinks, establishing organizational and operational boundaries, selecting appropriate quantification methods, managing data quality, and reporting emissions and removals. The standard supports transparency, consistency, and comparability, and is designed to be compatible with environmental management systems like ISO 14001, enhancing integration and overall climate accountability at the organizational level.

IS/ISO 14064-2:2019 Greenhouse gases — Specification with guidance at the project level for quantification, monitoring and reporting of GHG emission reductions or removal enhancements

This part focuses on GHG reduction and removal enhancement projects, offering a clear methodology for quantifying, monitoring, and reporting results. It includes guidance on defining project boundaries, establishing baselines, identifying GHG sources, sinks, and reservoirs, as well as selecting quantification approaches. The standard enables consistent assessment of project performance over time, supports verification needs, and is applicable across sectors — from renewable energy to afforestation — ensuring the credibility of climate mitigation efforts at the project level.

Greenhouse Gas (GHG) Management

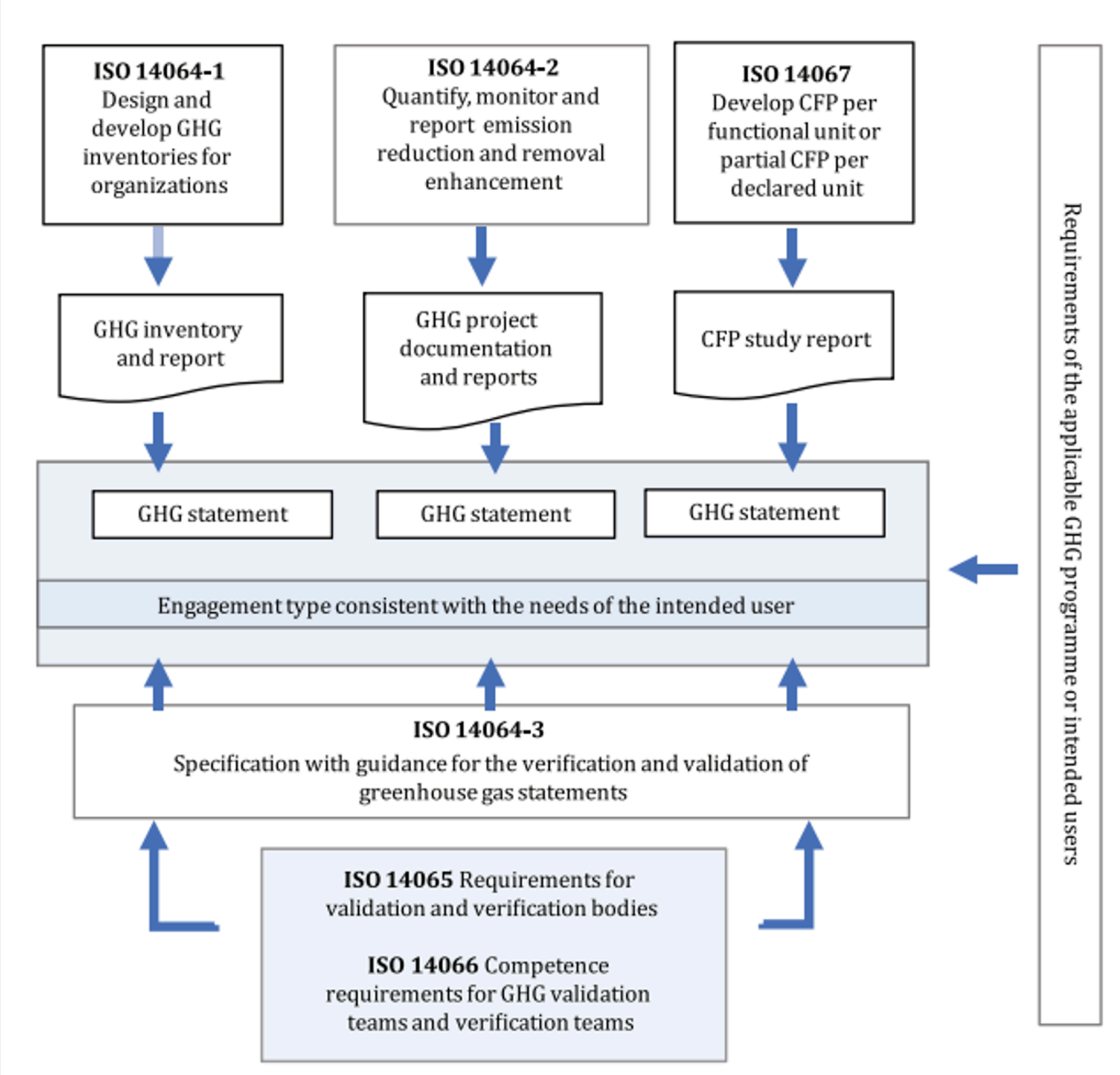
IS/ISO 14064-3:2019 Greenhouse gases — Specification with guidance for the verification and validation of GHG statements

This standard establishes the process for verifying and validating GHG statements, whether related to organizational inventories (as in 14064-1) or GHG projects (as in 14064-2). It defines steps for planning, executing, and documenting verification and validation activities, including assessing risk, determining materiality, and forming conclusions. It also emphasizes the importance of impartiality and competence among verifiers. The goal is to ensure GHG statements are complete, accurate, consistent, and verifiable — which is vital for transparency and stakeholder confidence.

IS/ISO 14065:2020 Greenhouse gases — Requirements for GHG validation and verification bodies

This standard sets out the requirements for bodies that validate or verify GHG statements. It includes provisions for impartiality, competence, consistent operation, and management of conflicts of interest. The standard supports credible third-party assurance, forming the backbone of trusted climate disclosures and carbon credit mechanisms. It is applicable to both government-regulated and voluntary schemes and harmonizes well with ISO/IEC 17029 for conformity assessment bodies.

Greenhouse Gas (GHG) Management



Relationship among the ISO 14060 family of GHG standards.

Greenhouse Gas (GHG) Management

IS/ISO 14066:2011 Greenhouse gases — Competence requirements for GHG validation/verification teams

This standard complements ISO 14065 by specifying the skills, knowledge, and experience needed for individuals conducting GHG validations or verifications. It outlines requirements for team composition, sector-specific expertise, technical understanding of GHG quantification, and knowledge of applicable GHG programs. Ensuring competence is crucial for credible assessments and helps uphold the reliability of emissions reporting across diverse industries and project types.

Environmental Labelling

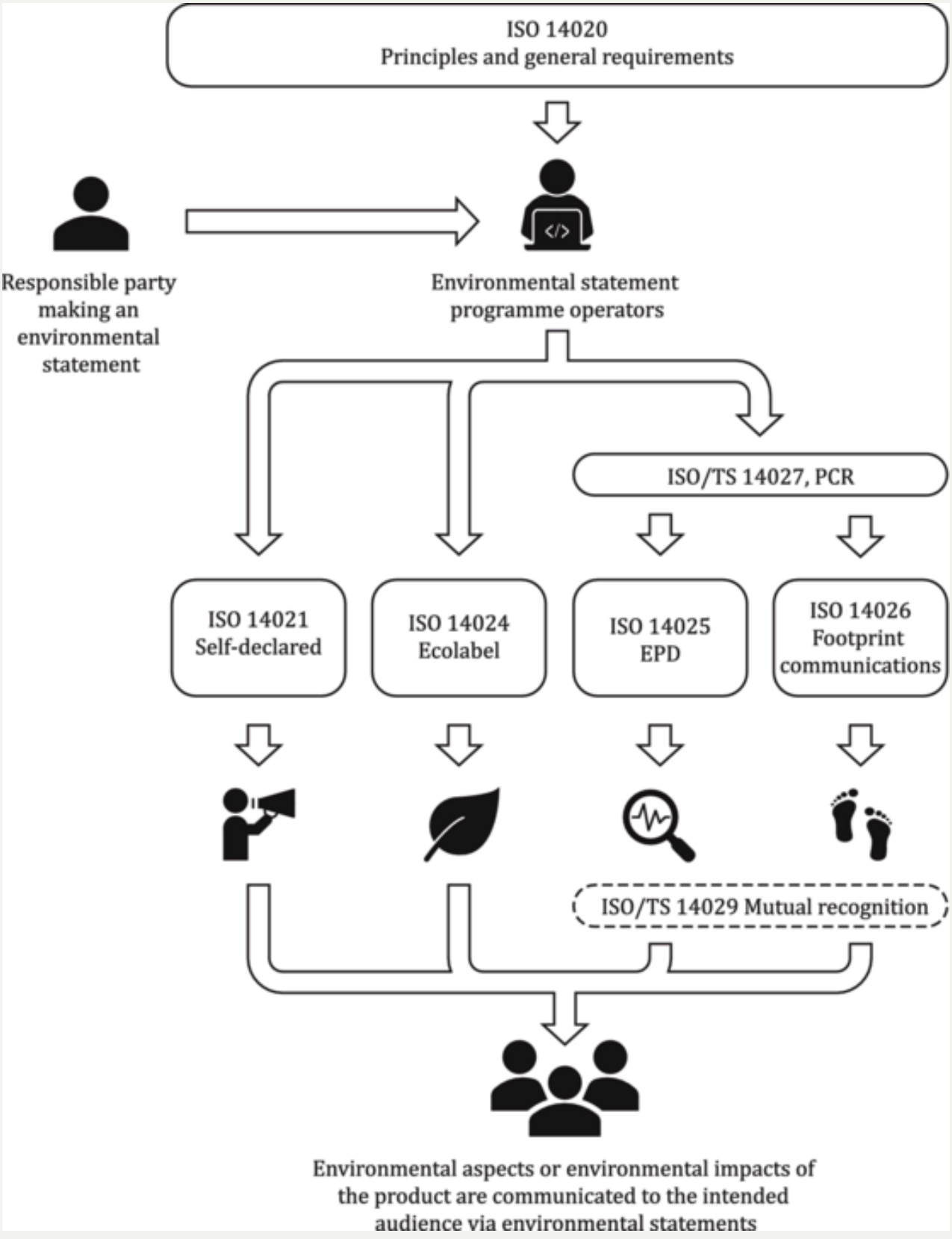
Environmental labels and declarations are tools used to communicate information about the environmental performance or attributes of products and services, typically based on standardized criteria such as life cycle assessments or specific ecological claims. These can include certifications, self-declared claims, or quantified environmental data, aimed at fostering transparency and encouraging sustainable consumption.

The Bureau of Indian Standards (BIS) has published key standards for environmental labeling, including standards for general principles, Type I, Type III, and Type II environmental labeling. These standards are vital for promoting transparency, credibility, and consistency in environmental claims, enabling organizations and consumers to make informed decisions while supporting sustainable practices and environmental management in India.

List of Standards

1. IS/ISO 14020: 2000 - Environmental labels and declarations - General principles (First Revision)
2. IS/ISO 14024: 2018 - Environmental labels and declarations – Type I environmental labelling – Principles and procedures (First Revision)
3. IS/ISO 14025: 2006 - Environmental labels and declarations - Type 3 environmental declarations - Principles and procedures
4. IS 16555: 2017 - Environmental labels and declarations - Self-Declared environmental claims (Type II Environmental Labelling)

Environmental Labelling



Environmental Labelling

IS/ISO 14020: 2000 - Environmental labels and declarations - General principles (First Revision)

The IS/ISO 14020: 2000 standard lays down the foundational principles for environmental labels and declarations, ensuring they are accurate, verifiable, and not misleading. It aims to promote transparency and credibility by setting guidelines that apply across all types of environmental claims, whether on products, packaging, or marketing materials. Key contents include requirements for scientific basis, relevance to environmental impact, and avoidance of vague or unprovable statements, fostering trust among consumers and businesses. This standard serves as the backbone for the ISO 14020 series, harmonizing practices for ecolabeling globally.

IS/ISO 14024: 2018 - Environmental labels and declarations – Type I environmental labelling – Principles and procedures (First Revision)

The IS/ISO 14024: 2018 standard provides a structured approach for Type I environmental labeling programs, which are voluntary, third-party certified ecolabels based on multiple environmental criteria. It outlines principles and procedures for selecting product categories, defining environmental performance standards, and assessing compliance, ensuring that labeled products are genuinely environmentally preferable across their life cycle. Key contents include certification processes, criteria development based on scientific evidence, and guidelines for third-party verification, making it a robust tool for recognizing sustainable products and combating greenwashing.

Environmental Labelling

IS/ISO 14025: 2006 - Environmental labels and declarations - Type 3 environmental declarations - Principles and procedures

The IS/ISO 14025: 2006 standard focuses on Type III environmental declarations, which provide detailed, quantified environmental performance data about a product, primarily for business-to-business communication. It establishes principles and procedures for developing these declarations using life cycle assessment (LCA) methodologies, as outlined in the ISO 14040 series. Key contents include requirements for data consistency, transparency, and independent verification, as well as the use of product category rules (PCRs) to ensure comparability, enabling stakeholders to make informed decisions based on objective environmental impacts.

IS 16555: 2017 - Environmental labels and declarations - Self-Declared environmental claims (Type II Environmental Labelling)

The IS 16555: 2017 standard governs Type II environmental labeling, which involves self-declared environmental claims made by manufacturers or suppliers without third-party certification. It provides guidelines to ensure these claims—such as "recyclable" or "energy-efficient"—are specific, accurate, and substantiated with evidence, reducing the risk of misleading consumers. Key contents include rules for clarity, relevance, and verifiability of claims, along with prohibitions on vague terms unless qualified, aligning with India's adoption of sustainable practices while maintaining credibility in self-reported environmental assertions.

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Climate Change and Adaptation

As climate change accelerates, organizations face increasing risks from extreme weather events, resource scarcity, and shifting regulatory landscapes, making climate action and adaptation not just a priority but a necessity for long-term resilience and sustainability.

Recognizing this urgency, the Bureau of Indian Standards (BIS) has published IS/ISO 14090:2019 – Adaptation to Climate Change – Principles, Requirements and Guidelines, a critical standard that provides organizations with a structured approach to assess climate vulnerabilities, develop adaptation strategies, and enhance resilience against climate impacts.

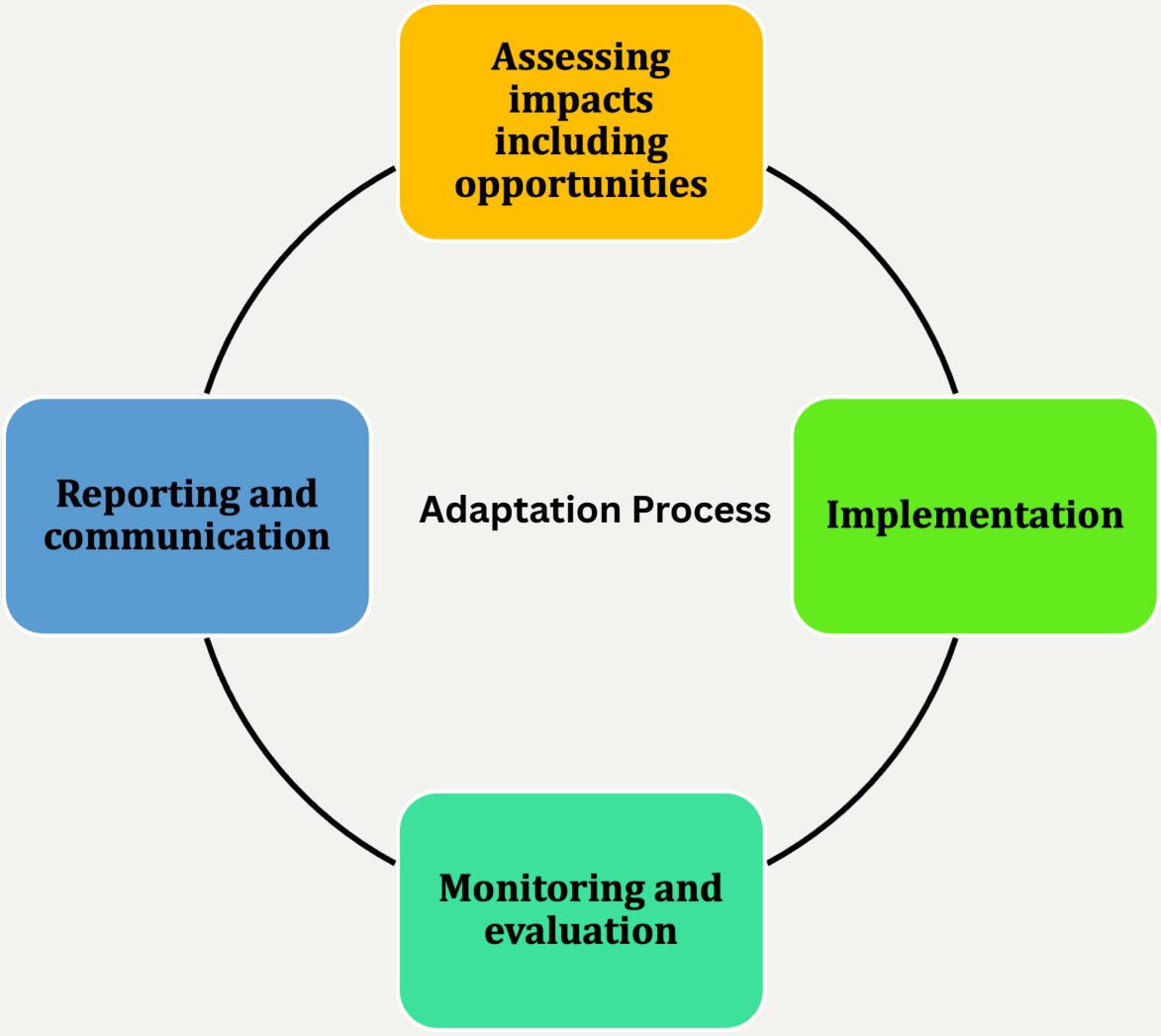
Additionally, BIS has incorporated amendments to IS/ISO 14001, the widely adopted environmental management system standard, to explicitly address climate change, ensuring that organizations integrate climate considerations into their environmental policies and objectives. These initiatives are in line with the ISO London Declaration and its commitment to climate action, reflecting a global push to align standards with sustainable development and mitigate climate change effects. Together, these efforts underscore India's dedication to tackling climate challenges through robust standardization.

IS/ISO 14090:2019 – Adaptation to Climate Change – Principles, Requirements and Guidelines

Provides a structured framework to help organizations adapt to current and future climate change impacts. It emphasizes a proactive, risk-based approach by guiding organizations through key steps such as assessing climate vulnerabilities, developing adaptation strategies, planning and implementing actions, and monitoring their effectiveness. The standard is applicable to all types and sizes of organizations, regardless of sector or location, and promotes integration of adaptation into existing planning and decision-making processes.

Climate Change and Adaptation

By following ISO 14090, organizations can build long-term climate resilience, safeguard operations, and contribute to global climate goals.



Digital Platforms of BIS

BIS website: www.bis.gov.in

eBIS - Search, download Indian Standard, and provide comments on published standards: https://www.manakonline.in

BIS care App: https://play.google.com/store/apps/details?id=com.bis.bisapp

Facebook: https://www.facebook.com/IndianStandards/

Instagram: https://www.instagram.com/indianstandards/

YouTube: http://bit.ly/BISYouTubeOfficial

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