



Guideline for the Ecolabeling Certification of Cement products applied with Mutual Recognition Agreement (MRA) on harmonization criteria.

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Forward

The transition to low-carbon and sustainable construction materials is essential for meeting national climate commitments and enhancing regional competitiveness. Cement, as one of the most carbon-intensive industrial products, requires credible and harmonized environmental performance standards to support this transition. This guideline provides a practical framework for developing a Mutual Recognition Agreement (MRA) on the conformity assessment of cement using Type I ecolabel criteria shared by Thailand, India, Singapore, Sri Lanka, Malaysia, and the Philippines.

By aligning key sustainability requirements—such as greenhouse gas reduction, resource efficiency, biodiversity protection, and social responsibility—this MRA strengthens trust in ecolabel certification and reduces duplication of testing and approval processes. It also positions participating countries to better respond to emerging global regulations such as the EU Carbon Border Adjustment Mechanism (CBAM), which increasingly links market access to verified environmental performance.

This document offers policymakers, ecolabeling organizations, and industry stakeholders a clear pathway to harmonizing standards, recognizing certification across borders, and promoting the adoption of greener cement products. Through enhanced cooperation and shared technical rigor, the MRA will help accelerate the availability of sustainable construction materials and support the region's long-term environmental and economic goals.

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1. Introduction

1.1 Background and Rationale

The increasing global demand for sustainable and environmentally friendly construction materials has led to the development of ecolabel certification systems to ensure that cement products meet specific environmental and performance criteria. Several countries, including **Thailand, Singapore, and Sri Lanka** have adopted Ecolabel Type I schemes to certify cement products based on their environmental impact, resource efficiency, biodiversity reservation, social responsibility and sustainability performance.

However, variations in certification standards, testing methods, and conformity assessment procedures across these countries present challenges for trade and market access. To facilitate mutual acceptance of cement and concrete products certification, a Mutual Recognition Agreement (MRA) on Conformity Assessment can serve as a mechanism to harmonize these standards and promote cross-border recognition of certification.

This guideline provides a structured approach for developing, implementing, and managing an MRA on conformity assessment of cement and concrete products, ensuring alignment with Ecolabel Type I criteria while fostering international cooperation and market integration.

1.2 Objectives of the Guideline

This guideline is designed to:

- (1) Provide a framework for the conformity assessment of cement products based on Ecolabel Type I certification schemes in participating countries of MRA.
- (2) Establish a harmonized approach to certification, testing, and mutual recognition of ecolabels to reduce duplication and technical barriers to trade.
- (3) Ensure consistency and equivalency in environmental and social criteria for cement products across member countries.
- (4) Promote sustainable cement production and support green procurement initiatives in the regional and international markets.

- (5) Enhance collaboration among regulatory bodies, certification agencies, and industry stakeholders to improve market transparency and trust.

1.3 Scope and Application

- (1) This guideline applies to the Ecolabeling scheme involved in the certification and conformity assessment of cement products for

- Thailand by Thai Green Label Scheme, Thailand Environment Institute (TEI)
- Singapore by Singapore Green Labelling Scheme, Singapore Environment Council (SEC)
- Sri Lanka by Eco Label Sri Lanka, National Cleaner Production Centre (NCPC)

- (2) The guideline covers:

- Comparative analysis and alignment of Ecolabel Type I criteria for cement and concrete in participating countries.
- Key principles and procedures for mutual recognition of certification and conformity assessment results.
- Governance, implementation, and monitoring of the MRA to ensure compliance and effectiveness.

- (3) Target product category in this agreement refers to the following ones, as mutually agreed by the parties. Categories could be added upon the agreement of all parties.

- TEI “Cement and cement products (TGL-99-R2-25)”
- NCPC “Cement (CC-EL-09)”
- SEC “Cement and Concrete Products Category 22”

1.4 Definitions and Key Terms

For the purpose of this guideline, the following key terms are defined:

- (1) Agreement

Agreement, which may be amended or supplemented upon written mutual Agreement of the parties hereto

(2) Applicant

Suppliers of certain products that comply with specific criteria and requirements of Ecolabelling program offered by PCB or TCB

(3) Certification Body (CB) or Conformity Assessment Bodies (CABs)

An independent organization responsible for evaluating and certifying products based on ecolabeling criteria.

(4) Certification/Certified

Conveying acceptance into an Ecolabelling program of product which is in compliance with relevant criteria and other requirements of the program. If the criteria are met and Agreement between the product supplier and the Ecolabelling program is entered into, the product supplier's complying product may be represented as certified

(5) Common Criteria items

Criteria item that the Parties have agreed on and denoted as "harmonized" between Green Label criteria, Eco Label Sri Lanka criteria , and Singapore Green Labelling criteria

(6) Conformity Assessment

The process of evaluating whether a product meets specified standards and regulatory requirements.

(7) Ecolabel Type I

A voluntary, third-party certification based on life cycle considerations, awarding products that meet pre-defined sustainability criteria.

(8) Ecolabel

The graphic emblem or seal of the Ecolabelling program, which is used on or in association with a product to acknowledge that product's compliance with relevant criteria.

(9) License

The license under which the right to bear the ecolabel on a product is granted by the Ecolabel Type I, as the case may be.

(10) Green Procurement

The practice of purchasing products and services with minimal environmental impact, including ecolabeled cement.

(11) License fee

The fees paid to the licensing organization, including but not limited to annual fee, marketing fee and certificate issuance fee.

(12) Mutual Recognition Agreement (MRA)

A formal agreement between two or more Ecolabels type I to recognize each other's conformity assessment results, reducing technical barriers to trade.

(13) Non-Common Criteria items

Criteria item whichever Green Label criteria or Eco Label Sri Lanka criteria or Green Choice criteria or Green Mark criteria or Singapore Green Labelling criteria do not constitute the Common Criteria.

(14) Partner Certification Body (PCB)

The partner certification body who verifies the target product meets agreed criteria on behalf of target certification body.

(15) Target certification body (TCB)

The Party verifying and licensing its Ecolabel to an applicant product which has already been verified and licensed for the PCB's Ecolabel.

(16) Testing Laboratory

A facility accredited to conduct tests on cement products to assess compliance with ecolabeling and performance standards.

(17) Technical Barrier to Trade (TBT)

Regulations, standards, and certification requirements that can create obstacles for international trade.

(18) Verification

The fees paid to the verification organization, including but not limited to on-site auditing fee, document auditing fee, etc.

1.5 Environmental and Sustainability Considerations

One of the fundamental criteria is **carbon footprint reduction**, which requires cement manufacturers to adopt **low-carbon technologies, optimize clinker content, and use alternative fuels** such as biomass or industrial waste to reduce greenhouse gas (GHG) emissions. This is particularly critical for compliance with evolving international regulations such as the **European Union's Carbon Border Adjustment Mechanism (CBAM)**, which imposes carbon tariffs on high-emission imports. By harmonizing carbon accounting and emissions reporting standards, participating countries can facilitate trade while promoting climate-friendly cement production.

Another essential criterion is **the use of alternative raw materials**, such as **fly ash, slag, and pozzolanic materials**, to reduce reliance on virgin limestone extraction, thereby minimizing environmental degradation and preserving biodiversity. Quarrying and raw material extraction are major sources of habitat destruction, and the common criteria require cement producers to implement **sustainable land rehabilitation plans, afforestation programs, and ecosystem restoration initiatives** to mitigate their impact on biodiversity.

Pollution control is another critical component of the common criteria, requiring cement manufacturers to adhere to **strict limits on air pollutants such as sulfur dioxide (SO₂), nitrogen oxides (NO_x), and particulate matter (PM)**. Additionally, measures for **water conservation and responsible wastewater management** ensure that cement production does not negatively impact local water resources or contaminate surrounding ecosystems. Common standards for **waste management and circular economy practices** also encourage the reuse of industrial by-products, reducing landfill waste and promoting sustainable production processes.

Beyond environmental considerations, the **common core criteria integrate social responsibility requirements**, ensuring that cement production adheres to **fair labor practices, workplace safety regulations, and ethical business conduct**. This includes compliance with **ILO labor standards, prohibition of child and forced labor, and implementation of occupational health and safety measures** to protect workers. Cement manufacturers are also encouraged to engage with **local communities, support infrastructure development, and promote educational initiatives** as part of their corporate social responsibility (CSR) efforts.

2. Framework for Mutual Recognition Agreement (MRA)

2.1 Purpose of the MRA

A Mutual Recognition Agreement on conformity assessment – herein after referred to as an MRA – is a voluntary agreement (procedures and processes) between parties for recognition of conformity assessment results for cement products. A party is a body that chooses to join an MRA. Participating parties are obliged to implement the processes and procedures to support the MRA for mutual benefit.

An MRA does not undermine regulatory authority within the jurisdiction of the parties. To implement the MRA certain procedures must be followed. These apply to distinct bodies identified in the MRA.

This document is intended as a guide and management tool for each party to an MRA. It contains:

- information on the steps necessary to establish and implement the MRA;
- identification of areas for management and technical information to be recorded to facilitate operation and maintenance of the MRA, including:
 - basic procedures and processes;
 - distribution of data;
 - the identification of the functions and the delegations of the entities responsible for carrying out these functions.

Recorded information will provide each party with a reference of key decisions and action for on-going operation of the MRA. This will provide some measure of continuity in the event of changes to personnel or organizations over the course of operation of the MRA.

2.2 Benefits of the MRA

A Mutual Recognition Agreement (MRA) on the conformity assessment of cement utilizing Ecolabel Type I harmonizing criteria offers significant advantages to participating countries by fostering regulatory alignment, enhancing resource efficiency, and promoting environmental sustainability.

One of the primary benefits of the MRA is the reduction of technical barriers to trade (TBTs) by allowing cement products that meet ecolabel standards in one country to be recognized in another without undergoing redundant testing and certification. This not only streamlines market access for manufacturers but also reduces compliance costs, accelerates time-to-market, and supports investment in sustainable cement production. By ensuring mutual acceptance of ecolabeling certifications, cement producers can benefit from greater regional and international trade opportunities while governments can improve regulatory oversight without compromising environmental or product quality standards.

Cement production has significant environmental and social impacts throughout its life cycle, including high CO₂ emissions, resource depletion, pollution, biodiversity loss, and community disruptions. It is a major source of industrial CO₂ emissions due to limestone calcination and fossil fuel combustion, while also contributing to air and water pollution. Quarrying depletes natural resources, destroys habitats, and threatens biodiversity, while cement plants can cause land conflicts, poor working conditions, and health risks for nearby communities.

Harmonizing Ecolabel Type I criteria through a Mutual Recognition Agreement (MRA) helps mitigate these impacts by promoting cleaner technologies, energy efficiency, and responsible sourcing. A standardized ecolabel framework ensures that only environmentally and socially responsible cement products gain market recognition, encouraging best practices in carbon reduction, waste utilization, and biodiversity conservation. This alignment also strengthens compliance with global regulations like the EU's Carbon Border Adjustment Mechanism (CBAM), positioning MRA-participating countries for uninterrupted market access while avoiding carbon tariffs and trade restrictions.

In addition to environmental and trade benefits, the MRA strengthens regulatory cooperation among conformity assessment bodies (CABs) and ecolabeling organizations. By fostering knowledge exchange and capacity building, the agreement improves testing infrastructure, enhances mutual trust among certification bodies, and supports the development of regional ecolabeling best practices. This also enhances consumer and industry confidence in ecolabeled cement products, leading to wider adoption in both public and private construction projects. Furthermore, by aligning ecolabeling standards with global sustainability trends, the MRA contributes to the harmonization of cement-related policies with international green procurement initiatives, encouraging governments and industries to prioritize low-carbon, eco-friendly construction materials.

Ultimately, a well-structured MRA for cement conformity assessment not only facilitates trade efficiency and regulatory cooperation but also plays a critical role in accelerating the transition to a low-carbon economy. By integrating Ecolabel Type I criteria across participating countries, the agreement helps enhance market competitiveness, strengthen environmental governance, and align with global carbon reduction frameworks such as CBAM, making it an essential tool for the future of sustainable cement production and international trade.

2.3 Key Principles of the MRA

The principle of harmonizing criteria are explained [in section 4 of signing MRA](#) which covers

- The product category specified in section 1.0 of signing MRA will be set the common criteria items through mutual consultation.
- Common criteria items will be accepted with Certificate issued by PCB, that is, they will not be verified by TCB.
- In principle, Non-common criteria items should be verified by TCB; provided, however, that this shall not apply if all parties agree with other alternatives.
- If each party decides or plan to revise, abolish, or review the criteria concerning mutual recognition, it shall notify all party of another country. If the target criteria of each party has been revised, all parties will review the common criteria items if needed.

2.4 Institutional Considerations

The development and implementation of a Mutual Recognition Agreement (MRA) on harmonizing criteria of Cement products among Ecolabel Type I certification body require a robust legal and institutional framework to ensure clarity, consistency, and obligation across participating countries. The legal and institutional considerations involve key aspects such as regulatory alignment, mutual recognition principles, governance structures, enforcement mechanisms, and dispute resolution procedures.

(1) Institutional Framework and Governance Structure

A well-defined institutional framework is essential for overseeing the implementation of the MRA. This includes the establishment of a working group composed of representatives responsible for cement standards and ecolabeling certification ensuring compliance with Ecolabel Type I criteria.

The working group will serve as the governing body responsible for coordinating MRA implementation, resolving technical challenges, updating ecolabeling standards, and ensuring continuous cooperation. The working group should also oversee the development of mutual recognition procedures and provide a platform for capacity-building initiatives among participating countries.

(2) Mutual Recognition of Certification and Accreditation

For the MRA to function effectively, participating countries must establish legally binding agreements on the mutual recognition of ecolabel certifications and testing results. This includes:

- Recognition and Acceptance: Each Ecolabel Type I certification body should designate a competent conformity assessment bodies responsible for ecolabel certification.
- Equivalence of Testing Standards: Laboratories performing cement testing must be accredited under internationally recognized frameworks, such as ISO/IEC 17025, to ensure harmonized assessment methodologies.
- Cross-Border Acceptance of Ecolabels: Certified cement products meeting the agreed Ecolabel Type I criteria will be automatically recognized in all participating markets, reducing duplication and administrative burdens.

(3) Enforcement, Compliance, and Monitoring Mechanisms

To maintain the integrity of the MRA, the contractual and scheme-based enforcement mechanisms should define clear enforcement mechanisms that ensure compliance with the agreed ecolabeling criteria. This includes:

- Enhance transparency and traceability
- Periodic audits and surveillance
- Data sharing and transparency
- Corrective actions or measures

In addition, Enforcement tools (non-legal but binding)

These are binding within the scheme, not under public law:

- Corrective Action Requests (CARs)
- Suspension of certification or label use
- Withdrawal of certificate
- Public disclosure within the scheme

These are administrative decisions of the scheme owner or certification body, not court decisions.

GEN member ecolabeling programs can comply with Section 3 Recognition and Acceptance by ensuring mutual recognition of accredited certification bodies, harmonizing testing and certification procedures, and maintaining transparency through data sharing and peer reviews. By aligning with ISO standards and leveraging GEN's ecolabeling frameworks, Type I ecolabels in these countries can seamlessly integrate into the MRA, enhancing trade, sustainability, and cooperation.

Additional recommendation: Legal Framework and Regulatory Alignment

For the MRA to be effective, participating ecolabeling scheme must identify and align their certification rules and ecolabeling standards governing cement certification. Each country has its own environmental and sustainability requirements under Ecolabel Type I certification, and achieving harmonization will require legal adjustments to facilitate mutual acceptance of conformity assessment results. National authorities should review existing trade, environmental, and industrial policies to ensure they are compatible with the MRA while maintaining compliance with international trade obligations.

Additionally, ecolabels type I must ensure that the MRA aligns with evolving global regulations, such as the EU's Carbon Border Adjustment Mechanism (CBAM), which places additional requirements on cement exporters regarding carbon emissions. Legal provisions should be established to incorporate mechanisms for carbon footprint verification, emissions reporting, and cross-border regulatory compliance to avoid trade disruptions.

How GEN Members comply with the requirement in Section 2.4

MRA requirements	Compliance
Mutual recognition of ecolabel certifications	Follow ISO 14024 and agree to recognize equivalent ecolabel certifications through GEN network agreements.
Acceptance of test reports and verification results	Rely on ISO/IEC 17025-accredited laboratories, allowing cross-border recognition of required testing.
Accreditation by recognized national bodies	Must be accredited under ISO/IEC 17065, ensuring credibility of certification decisions.
Data sharing for certification validation	Share ecolabeling data through GENICES or national ecolabel registries.
Compliance monitoring and peer review audits	Requires ecolabel programs to undergo peer assessments and quality assurance reviews.

3. Ecolabel Type I Criteria for Cement

3.1 Overview of Ecolabel Type I Standards

Type I Ecolabels, as defined by ISO 14024, are voluntary, third-party environmental certification programs that assess products based on multi-criteria life cycle considerations. These ecolabels ensure that cement products meet sustainability, environmental impact, and performance-based standards while promoting eco-friendly construction practices.

Each MRA partner country has its own ecolabeling program with distinct criteria for cement certification. Despite some differences, these ecolabels share common sustainability principles through the life cycle consideration, including biodiversity and social protection, promoting resource efficiency, control of pollutants, minimizing hazardous substances, and reducing carbon emissions.

3.2 Comparative Analysis of Cement Certification Criteria

Beside Cement Certification Criteria of Thailand, Singapore, and Sri Lanka, which are MRA partners. These table has included SIRIM Eco-labelling and Green Choice Philippines criteria to consider and reference for future update (in case)

	Thailand	Singapore	Sri Lanka	Malaysia	Philippines
<i>Ecolabel</i>	Thai Green Label	Green Labelling Scheme	Eco Label Sri Lanka	SIRIM Eco-Labelling Scheme	Green Choice Philippines
<i>Certification Criteria</i>	Cement and Cement products (TGL-99-R2-25)	Cement and Concrete Products Category 22 V7.1	Cement (CC-EL-09)	SIRIM Eco 029 Cement	Cement (NELP-GCP 2006009)
<i>Extraction of raw materials</i>	Environmental Impact Assessment (EIA) National Environmental Quality Promotion and Conservation Act B.E. 2535	EIA Environmental Protection and Management Act (EPMA)	Biodiversity Conservation Initiative The National Environmental Act (No. 47 of 1980 with subsequent amendments in Act No. 56 of 1988 and Act No. 53 of 2000)	EIA Environmental Quality Act 1974 Section 34A of the Environmental Quality Act 1974 (Amendment 2000)	Law on Mining Acts Presidential Decree No. 1586
• <i>Biodiversity protection</i>	Quarry rehabilitation and reforestation after raw material extraction	Ensures quarries follow eco-friendly land restoration programs	Restore quarry sites with native vegetation	Minimize impact on protected forests and wildlife corridors. Encourages biodiversity offsets	Requires wildlife protection plans if cement plants are near critical habitats. Enforces stringent quarry restoration policies to support reforestation.

	Thailand	Singapore	Sri Lanka	Malaysia	Philippines
<ul style="list-style-type: none"> <i>Social responsibility</i> 	Get certified according to Occupational health and safety management systems according to ISO 9001, 14001, and 45001	Get certified according to Occupational health and safety management systems according to ISO 9001, 14001, and 45001	Worker Rights and Fair Wages (ILO standards) Encourages corporate social responsibility (CSR) and Occupational Health and Safety and Responsible Chemicals Management	Worker Rights and Fair Wages (ILO standards) Social impact assessment (SIA)	Labor laws and safety standards
<i>Resources efficiency</i>	Design for sustainability and encourage use of recycled materials	Design for High durability and longevity and Use of recycled or low-impact materials	Phase 01: Product Design for sustainability (b) encourage use of recycled materials or industrial by-products	3.2.5 Replacing Fossil Fuels by Alternative Fuels	Use of alternative fuel and raw materials (AFR)
<ul style="list-style-type: none"> <i>Use of alternative raw materials</i> 	> 10%	> 10%	Not defined	3.2.1 Materials composition 17-90% of total substitute substances (depends on types of cement)	No information but encourage use of alternative raw materials
<ul style="list-style-type: none"> <i>Water</i> 	Water Resource Consumption and Conservation	Not defined	Phase 04: Manufacturing Process 4.2 Water Resource Consumption and Conservation	Not defined	Clean Water Act.

	Thailand	Singapore	Sri Lanka	Malaysia	Philippines
<ul style="list-style-type: none"> <i>Energy</i> 	Energy efficiency management policies and procedures such as; <ul style="list-style-type: none"> The adoption of energy-efficient technologies and processes, Waste heat recovery Use of alternative fuels Transitioning to renewable energy sources, such as solar and wind Other practices 	Use of alternative fuels for kiln/furnace	Phase 04: Manufacturing Process 4.3 Energy Resource Consumption and Conservation	3.2.3 The energy intensity for the production of the product shall be less than 3.6 ± 0.5 MJ/kg product. 3.2.5 Use of alternative fuel (AF)	Use of alternative fuel
<i>Control of air pollutants</i>	Announcement of the Ministry of Industry on Ventilation Value from Cement Factories, B.E. 2549	Environmental Protection and Management (Air Impurities) Regulations (No. S 595/2000).	The Gazette of the Democratic Socialist Republic of Sri Lanka	Environmental Quality Act 1974 Environmental Quality (CLEAN AIR) Regulations 2014	Philippine Clean Air Act of 1999, Republic Act No. 8749
<ul style="list-style-type: none"> <i>CO</i> 	200 mg/Nm ³	600 mg/Nm ³	Old 400 mg/Nm ³ New 200 mg/Nm ³	50 mg/m ³	150 (ug/Ncm)
<ul style="list-style-type: none"> <i>SO_x</i> 	Grey cement kiln 500 mg/Nm ³ White cement kiln 80 mg/Nm ³	500 mg/Nm ³	Old 540 mg/Nm ³ New 270 mg/Nm ³	No information	Old 1500 mg/Nm ³ New 700 mg/Nm ³
<ul style="list-style-type: none"> <i>NO_x</i> 	800 mg/Nm ³	700 mg/Nm ³	Old 1000 mg/Nm ³ New 1000 mg/Nm ³	800 mg/m ³	Old 1000 mg/Nm ³ New 500 mg/Nm ³
<ul style="list-style-type: none"> <i>PM</i> 	50 mg/Nm ³	100 mg/Nm ³	Old 400 mg/Nm ³ New 200 mg/Nm ³	50 mg/Nm ³	150 (ug/Ncm)

	Thailand	Singapore	Sri Lanka	Malaysia	Philippines
Control of water pollutants	Notification of Ministry of Industry : Announcement on Wastewater Quality Specification B.E2560	NEA's Allowable Limits for Trade Effluent Discharge to Watercourse or Controlled Watercourse, Environmental Protection and Management Act 1999	General Standards and Criteria for the Discharge of Industrial Effluent into Inland Surface Waters	Environmental quality (industrial effluent) regulations 2009	"Clean Water Act. Water Quality Guidelines and General Effluent Standards of 2016"
• Arsenic	0.01 mg/L	0.01 mg/L	0.2 mg/L	0.05 mg/L	0.01 mg/L
• Cadmium	0.01 mg/L	0.003 mg/L	0.1 mg/L	0.01 mg/L	0.003 mg/L
• Lead	0.1 mg/L	0.1 mg/L	0.1 mg/L	0.1 mg/L	0.01 mg/L
• Mercury	0.005 mg/L	0.001 mg/L	0.005 mg/L	0.005 mg/L	0.001 mg/L
• Hexavalent Chromium	0.05 mg/L	0.05 mg/L	0.1 mg/L	0.05 mg/L	0.1 mg/L
• Selenium	0.01 mg/L	0.01 mg/L	0.05 mg/L	0.02 mg/L	0.01 mg/L
Control of solid waste	Waste management policies and procedure comply ISO 14001	Waste management policies and procedure comply ISO 14001	Waste management policies and procedure comply ISO 14001	No information	No information

	Thailand	Singapore	Sri Lanka	Malaysia	Philippines
Product Carbon Footprint	An assertion of CO ₂ emissions and removals should be recorded, calculated, and maintained. The CO ₂ emission limit are <ul style="list-style-type: none"> - < 800 kg CO₂/ton (for structural works) - < 500 kg CO₂/ton (for brickwork/plastering) - < 230 kg CO₂/ton (mortar/others) 	Not defined	GHG Emission Management Documentation demonstrating participation in the Science-Based Targets Initiative (SBTi) and alignment of emission reduction targets with the initiative's criteria	3.2.4 The cradle-to-gate CO ₂ emission shall be less than 0.75±0.05 kg CO ₂ /kg cement SIRIM Product Carbon Footprint scheme will fully cover the development of PCR for cement related product category without setting PCF limits.	Manufacturer shall submit its program on CO ₂ reduction and/or sequestration. A 10 % reduction of CO₂ per unit of output

	Thailand	Singapore	Sri Lanka	Malaysia	Philippines
<i>Hazardous Substances (in finished product)</i>	The concentration of heavy metals from Toxicity characteristics Leaching Procedure (TCLP) extract Refer test method to US EPA, Evaluating Solid Waste, hysical/Chemical Methods (SW-846) Test Methods 1311	Third party laboratory test reports according to the USEPA 1311 test Toxicity Characteristic Leaching Procedure (TCLP). Validity of test reports should be 5 years. The limit of each parameter below refers to Resource Conservation and Recovery Act (RCRA)	No heavy metals (eg: mercury, lead, cadmium, hexavalent chromium, arsenic & antimony) and release of solvents	The concentration of heavy metals from Toxicity characteristics Leaching Procedure (TCLP) extract shall not exceed the limits as stated in the following	The production process of the product shall meet the requirements of all applicable environmental laws and regulations. Toxic Substances and Hazardous and Nuclear Wastes Control (Republic Act No. 6969 of 1990).
• <i>Arsenic</i>	2 mg/L	5 mg/L	2 mg/L	5 mg/L	0.05 mg/L
• <i>Cadmium</i>	1 mg/L	1 mg/L	2 mg/L	1 mg/L	0.02 mg/L
• <i>Lead</i>	2 mg/L	5 mg/L	2 mg/L	5 mg/L	0.05 mg/L
• <i>Mercury</i>	0.2 mg/L	0.2 mg/L	2 mg/L	0.2 mg/L	0.002 mg/L
• <i>Hexavalent Chromium</i>	2 mg/L	5 mg/L	2 mg/L	5 mg/L	0.1 mg/L
• <i>Selenium</i>	1 mg/L	1 mg/L	2 mg/L	1 mg/L	Not defined
• <i>Others</i>	Not defined	Not defined	Not defined	Silver 5 mg/L, Barium 100 mg/L	Not defined

	Thailand	Singapore	Sri Lanka	Malaysia	Philippines
Control of packaging	<p>The appropriate initiatives/measures should be taken toward reducing the impact of the product's end-of-life phase or a mechanism for encouraging product take back</p> <p>Instructions for managing the packaging after use. The instructions should cover the following</p> <ul style="list-style-type: none"> o Caution for hazard statement "May cause and allergic skin reaction" o Recommendation to reuse or recycle the cement bag o A recommendation stating that "cement bags can be used as fuel in authorized facilities. o Guidelines on how to return products and packaging. 	<p>The label on the product should include the following information, specific to the product or product type and also :</p> <ul style="list-style-type: none"> • Cement or cement mixture packaging must labelled or give hazard statement "May cause and allergic skin reaction". • Recommendation to consult local authorities for disposal or recycling advice. If the manufacturer provides a take-back program, the label shall include instructions on how the product and packaging can be returned. <p>Primary packaging paperboard recycled content shall more than 70%</p>	<p>Packaging & Labelling: encourage use of <u>recycled materials of more than 20%</u>, required information specified in the Consumer Affairs Authority Act, No. 09 Of 2003, and communicate relevant to environment-related information.</p> <p>Phase 05: Consideration of the End-of-life phase</p> <ul style="list-style-type: none"> a) Appropriate initiatives/measures should be taken toward reducing the impact of the product's end-of-life phase b) A mechanism for encouraging product take back should be implemented for recycling or safe disposal 	<p>4.1.1 Cement labeling on product packaging shall include the following information:</p> <ul style="list-style-type: none"> • Brand • Notation of the product • Name of the manufacturer <p>4.1.2 The technical data sheet or product brochure shall include all of the above and the following:</p> <ul style="list-style-type: none"> ☑ General application guidelines 	Not defined

	Thailand	Singapore	Sri Lanka	Malaysia	Philippines
<i>Hazardous Substances (in packaging)</i>	Limit contamination from heavy metal and its compound of Cadmium, Hexavalent chromium, Mercury, and Lead in compliance with RoSH directive	Not defined	Compliance with national standards by the Consumer Affairs Authority (CAA)	Not defined	Not defined

3.3 Common Core Criteria for Mutual Recognition

To establish the mutual acceptance according to the harmonizing criteria, it is essential to define a set of common core criteria that ensure uniform sustainability, environmental, and social responsibility standards. These criteria serve as the foundation for recognizing ecolabel certifications across participating countries, reducing the need for redundant testing and certification while maintaining high-quality and environmentally responsible cement production.

The **common core criteria** for mutual recognition are derived from existing **Ecolabel Type I standards** in each country and align with international best practices, including **ISO 14024 (Environmental Labels and Declarations)**, **ISO 14001 (Environmental Management Systems)**, and **ISO 45001 (Occupational Health and Safety Management Systems)**. These criteria focus on **reducing environmental impact, promoting resource efficiency, ensuring worker safety, and upholding social responsibility**. Key areas of alignment include **carbon footprint reduction, use of alternative raw materials, pollution control measures, energy efficiency, biodiversity conservation, and fair labor practices**.

The Cement common core criteria and verification method for Mutual Recognition are as follows;

Raw materials extraction

(1) Quarried and mined

Manufacturer or raw materials extraction site shall prepare the Environmental Impact Assessment (EIA) report that identifies and assesses the potential environmental and social impacts of the project, evaluates alternatives, and recommends appropriate mitigation, management, and monitoring measures, associated with national laws which applied to the site location

Thailand	Singapore	Sri Lanka	Malaysia	Philippines
EIA National Environmental Quality Promotion and Conservation Act B.E. 2535	EIA Environmental Protection and Management Act (EPMA)	Biodiversity Conservation Initiative The National Environmental Act (No. 47 of 1980 with subsequent amendments in Act No. 56 of 1988 and Act No. 53 of 2000)	EIA Environmental Quality Act 1974 Section 34A of the Environmental Quality Act 1974 (Amendment 2000)	Law on Mining Acts Presidential Decree No.1586

Verification method

The applicant shall submit the following documents:

1. An EIA report should include the following items (not necessarily in the order shown):
 - Executive summary
 - Policy, legal, and administrative framework
 - Project description
 - Baseline data
 - Environmental and social impacts
 - Analysis of alternatives
 - Environmental and social measures
2. The report demonstrates continuous implementation of environmental impact mitigation measures and environmental quality monitoring in full compliance with prescribed measures and regulations for the past 2 consecutive years.
3. In the case of a newly established mine (with an operational period of less than two years), the applicant shall submit either: Two consecutive years of approved reports on the implementation of environmental impact prevention and mitigation measures, as well as environmental quality monitoring measures,

approved by the Office of Natural Resources and Environmental Policy and Planning (ONEP); or
Evidence of submission of monitoring reports as published on the SMART EIA Plus website of ONEP.

(2) Biodiversity protection

The applicant required to ensure that the site of raw material extraction is in line with and does not contradict the National Biological Diversity policies and plans, while ensures quarries follow eco-friendly land restoration programs.

Verification method

1. Information on raw material sourcing (As specified in Item 5(1)), the applicant shall also submit records from the supplier, including the characteristics and geographical origin of the raw materials extracted from the mine (under a mining concession license). Alternatively, in cases where the raw material supplier is certified under the Green Label scheme, a copy of the Green Label certificate from the supplier may be submitted as supporting evidence.
2. Management plans to minimize adverse effects from noise, vibration, dust, and discharges to water and land.
3. Evidence of implemented Environmental Management System;
 - Mine rehabilitation documents
 - Activities that promote biodiversity, such as conducting biodiversity surveys and establishing local biodiversity learning centers
 - Community engagement activities aimed at promoting biodiversity conservation

(3) Social responsibility

1. The applicant required to ensure that the company have certified ISO on environmental, occupational safety and health and quality management systems in place.
2. The applicant must ensure that all workers receive fair wages, work in safe conditions, and have their rights protected in line with national and international labor standards

Verification method

- i. Copy of valid certificate for ISO 14001, ISO 45001, and ISO 9001
- ii. Supporting document shall be included :

- Employment records showing compliance with wage and hour laws, ensuring fair compensation.
- Documentation of worker contracts and adherence to national and international labor rights conventions (e.g., ILO standards).
- Reports on working conditions and regular audits of labor practices.
- Evidence of grievance mechanisms for addressing worker concerns.
 - Work Satisfaction Record
 - Others...

(4) Resources efficiency

The product shall be designed for sustainability and encourage use of recycled or alternative materials at least 10% by weight. Alternative materials include, but are not limited to:

- blast furnace slag
- coal washery reject
- fly ash
- furnace bottom ash
- granulated blast furnace slag
- glass cullet
- plastic aggregates
- recycled concrete and masonry
- steel furnace slag
- reclaimed aggregate
- reclaimed asphalt pavement
- recycled concrete aggregate
- scrap tyres
- used foundry sand or spent foundry sand
- washed copper slag
- limestone
- synthetic Gypsum
- limestone Calcined Clay Cement
- other alternative materials

Verification method

- Material consumption records
- Documents certifying the contents of materials
- Details of the pre-treatment implemented, issued by the material supplier

Production

(5) Energy management

The cement manufacturer must have effective energy management policies and procedures and/or an energy management programme.

Verification method

Energy efficiency management policies and procedures such as;

- The adoption of energy-efficient technologies and processes
- Waste heat recovery
- Use of alternative fuels
- Transitioning to renewable energy sources, such as solar and wind
- Other practices

(6) Control of air and water pollutants

In cases where air and water pollutants are discharged outside the factory premises, the emission levels shall not exceed the following limits:

Air pollutants	CO**	SO _x	NO _x (as of NO ₂)	PM
Limit (ppm)	175	Grey cement 30 White cement 190	500	50
Limit (mg/m ³)**	200	White cement 80 Grey cement 500	800	50

Note: Tested under reference conditions at a temperature of 25 °C, pressure of 1 atmosphere (760 mm Hg), on a dry basis, and with 7% excess oxygen.

** Required to be reported in cases where certification under the Environmental Label Program of MRA member countries.

The conversion from mg/m³ to ppm is calculated as follows:

$$\text{Specified concentration (ppm)} = 24.45 \times \text{Specified concentration (mg/m}^3\text{)} \div \text{Molecular weight of the substance}$$

Water pollutants	Arsenic	Cadmium	Hexavalent Chromium	Lead	Mercury	Selenium**
Limit (ppm)	0.01	0.01	0.05	0.1	0.005	0.01

** Required to be reported in cases where certification under the Environmental Label Program of MRA member countries.

Verification method

- A certification letter signed by the executive officer of the manufacturer shall be provided to confirm compliance with pollution control requirements, which have been monitored and reported in accordance with national laws and standards.

- Air pollutant testing results** — Tests shall be conducted in accordance with the *Notification of the Ministry of Industry on the Determination of Air Pollutant Levels Emitted from Cement Plants, B.E. 2549 (2006)*, using testing methods referenced from the standards established by the United States Environmental Protection Agency (U.S. EPA).

- Wastewater testing results for arsenic, cadmium, hexavalent chromium, lead, mercury, and selenium** — Tests shall be conducted in accordance with the *Notification of the Ministry of Industry on Effluent Discharge Standards from Factories, B.E. 2560 (2017)*, using testing methods referenced from the Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association (APHA), American Water Works Association (AWWA), and the Water Environment Federation (WEF), *23rd Edition (2017), Method Section 3120B*.

(7) GHG reduction and Product carbon footprint

1. Manufacturer must measure, report, and verify their carbon footprint using internationally recognized methodologies such as ISO 14064-1 (GHG inventories) and ISO 14067 (Carbon Footprint of Products) or ISO 14025 (Environmental Product Declaration).
2. Manufacturer shall establish clear and achievable targets for reducing greenhouse gas (GHG) emissions.
3. The CO₂ emission limit are
 - less than 800 kg CO₂/ton (for structural works)

- less than 500 kg CO₂/ton (for brickwork/plastering)
- less than 230 kg CO₂/ton (mortar/others)

Verification method

The applicant shall submit the following documents:

- Documents on established targets for GHG emission reduction.
- Records on regular monitoring and assessment of progress towards the set targets.
- Records on implementation of corrective actions and continuous improvement initiatives.
- The greenhouse gas emission calculation results shall be verified by a third party, such as a Carbon Reduction Label certificate, Carbon Footprint Product verification evidence, or an Environmental Product Declaration (EPD) report.

Use

(8) Hazardous substances control

The test results for heavy metals in the product, obtained through the Waste Extraction Test (WET) method as specified in the *Notification of the Ministry of Industry on the Management of Unused Wastes, B.E. 2566 (2023)*, shall not exceed the following limits;

Arsenic	<2 mg/L
Cadmium	<1 mg/L
Lead	<2 mg/L
Mercury	<0.2 mg/L
Hexavalent Chromium	<2 mg/L
Selenium	< 1 mg/L

Verification method

Applicants shall submit the heavy metal leaching test results obtained using the Waste Extraction Test (WET) method, in accordance with the *Notification of the Ministry of Industry on the Management of Unused Wastes, B.E. 2566 (2023)*.

The concentration of heavy metals extracted using the WET method, expressed in milligrams of substance per liter of extract (mg/L), shall be equal to or greater than the Soluble Threshold Limit Concentration (STLC). The extraction procedure shall comply with the method specified in the Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), as established by the United States Environmental Protection Agency (U.S. EPA).

End-of-life

(9) Control of packaging

The appropriate initiatives/measures should be taken toward reducing the impact of the product's end-of-life phase or a mechanism for encouraging product take back should be implemented for recycling or safe disposal.

Instructions for managing the packaging after use shall include the following information that is specific to the product type and:

- Caution for hazard statement “May cause and allergic skin reaction”
- Recommendation to reuse or recycle the cement bag
- A recommendation stating that “cement bags can be used as fuel in authorized facilities.
- Guidelines on how to return products and packaging.

Verification method

The applicant shall submit a declaration letter ensuring that the paper or plastic packaging includes instructions for managing cement bags after use, along with a picture of the text or documentation showing that the instructions meet the requirements specified

4. Development of the MRA

4.1 Policy and Regulatory Harmonization

To ensure a successful MRA, participating countries must align national policies, regulations, and ecolabeling standards related to cement certification. This involves:

- Reviewing existing ecolabeling frameworks in each country and identifying common sustainability principles.
- Standardizing key environmental performance criteria (e.g., CO₂ reduction targets, use of alternative raw materials, pollution control, biodiversity and social criteria refer to EIA).
- Ensuring compliance with international agreements such as the Paris Agreement, ISO 14024 (Type I Ecolabels), and the EU's Carbon Border Adjustment Mechanism (CBAM).
- Addressing legal and institutional differences in certification and conformity assessment procedures to facilitate mutual recognition.

4.2 Establishing Common Testing and Certification Protocols

A critical component of the MRA is the mutual recognition of testing and certification results to avoid redundant assessments. To achieve this, ecolabels type I must:

- Adopt standardized testing methods based on ISO/IEC 17025 (Testing Laboratories) and ISO/IEC 17065 (Product Certification Bodies).
- Ensure equivalent GHG emissions measurement frameworks using ISO 14064 (GHG Accounting) and ISO 14067 (Carbon Footprint of Products) or ISO 14025 (EPD).
- Recognize accredited certification bodies (CBs) and testing laboratories in each country to validate compliance with ecolabel criteria.

(see MRA section 5)

4.3 Roles and Responsibilities of Participating Bodies

The successful implementation of the MRA requires well-defined roles and responsibilities among regulatory agencies, certification bodies, and industry stakeholders. Key responsibilities include:

- (1) Regulatory Authorities & Ecolabeling Organizations (MRA section 5 and 6)
 - Oversee policy alignment and ensure ecolabeling criteria comply with ISO 14024 and national environmental laws.
 - Facilitate peer reviews and audits to maintain transparency in certification processes.
- (2) Conformity Assessment Bodies (CABs) & Testing Laboratories (MRA section 5)
 - Conduct product testing and GHG emissions verification following international standards.
 - Provide mutual recognition of ecolabel test results to minimize duplication.
- (3) Cement Manufacturers & Industry Associations
 - Implement low-carbon production practices and maintain ecolabel compliance.
 - Participate in capacity-building initiatives and sustainability reporting.
- (4) Mutual Recognition Oversight Committee (MRA section 8)
 - A proposed Joint Committee on Cement Conformity Assessment (JCCCA) would manage the MRA's governance, review ecolabel updates, and address disputes.

4.4 Technical Infrastructure and Capacity Building

To ensure the successful implementation of mutual recognition, participating countries need to strengthen technical infrastructure through:

- Capacity-building programs to train certification bodies on harmonized ecolabeling standards.
- Knowledge-sharing initiatives to exchange best practices in sustainable cement production and lifecycle assessment (LCA).

4.5 Dispute Resolution Mechanism (MRA section 16)

To prevent conflicts between certification bodies, manufacturers, and regulatory authorities, the MRA must include a clear dispute resolution mechanism, which includes:

- Mediation and negotiation procedures between affected parties.
- Independent arbitration panels, possibly under ASEAN Dispute Settlement Mechanisms or equivalent frameworks.
- Appeals processes for certification disputes where manufacturers can challenge ecolabeling decisions.

5. Implementation of the MRA

This section outlines the procedures for certification recognition, compliance monitoring, enforcement mechanisms, and continuous improvement to ensure the smooth operation of the MRA.

Refer to 4.2 the recognition process for certification bodies and the acceptance and equivalence of test reports and certificates define to maintain the integrity and credibility of mutual recognition, participating countries must also establish **uniform accreditation and certification procedures**. This involves requiring type I ecolabeling bodies to adhere to **ISO/IEC 17065 (Conformity Assessment for Product Certification) and ISO/IEC 17025 (Testing and Calibration Laboratories)** in order to ensure consistency and reliability in certification decisions. Additionally, mutual recognition requires a **transparent system for information exchange, periodic audits, and peer reviews** to monitor compliance and address any discrepancies in certification processes.

5.1 Monitoring and Compliance Mechanisms

To maintain the integrity of the MRA compliance monitoring mechanisms should be established:

- Periodic Audits and Market Surveillance

Certification bodies should conduct random audits and on-site inspections of cement manufacturers to verify continued compliance with ecolabeling requirements. Independent auditors should review ecolabel certifications issued under the MRA to ensure they meet mutual recognition criteria.

- Continuous Performance Evaluation

The MRA include a systematic review of cement performance data to ensure ecolabeled products maintain their sustainability claims. Non-compliant products must be subject to corrective actions, including certification suspension or revocation if violations are found.

- Exchange of Technical Information and Best Practices

Regulatory agencies should share updates on policy changes, technological advancements, and market trends to support continuous improvement. Participating countries should conduct joint training programs for certification bodies and manufacturers on updated sustainability standards.

(see section 7 and 8),

5.2 Exchange of Information and Transparency Measures

Transparency is key to ensuring the credibility of mutual recognition. To support the exchange information and maintain transparency, the recommendation for further implement are as follows:

- Creation of an MRA Certification Database

A secure digital platform will be developed where ecolabeling bodies can upload and verify ecolabel certificates across participating countries. The database will include details on certified cement products, accredited certification bodies, and recognized testing laboratories.

- Public Disclosure of Certified Products

Consumers, construction firms, and government agencies should have access to a public registry of ecolabeled cement products to facilitate green procurement. Transparency in ecolabel certifications will increase market trust and industry participation.

(see MRA section 5 and 7)

5.3 Periodic Review and Improvement of the Agreement

To ensure the continued relevance, effectiveness, and alignment of the Mutual Recognition Agreement (MRA) on Conformity Assessment of Cement, participating countries must establish a structured periodic review and improvement process. This process will help keep the MRA updated with technological advancements, regulatory changes, evolving environmental standards, and global trade policies. For Updating the MRA Based on Evolving Standards and Technologies, the periodic review and improvement of the agreement specify to consider once every year or can request when there is any urgent issue. (see MRA section 4 and 7)

5.4 Handling Non-Compliance and Corrective Actions

The Mutual Recognition Agreement (MRA) on Conformity Assessment of Cement must establish a structured approach to handling non-compliance and corrective actions in accordance with ISO/IEC 17065 (Conformity Assessment – Requirements for Certification Bodies) and ISO 14024 (Environmental Labels and Declarations – Type I Ecolabels). These standards define the necessary procedures for identifying non-compliance, taking corrective actions, and maintaining the credibility of ecolabel certifications. Each party will notify the other when the products certified through this Agreement fall out of compliance (see MRA section 7)

Annexes

Annex 1: Cement Ecolabel Type I Criteria from Participating Countries

Annex 2: Mutual Recognition Agreement (MRA)