



**NATIONAL ECONOMIC COUNCIL
REPUBLIC OF INDONESIA**

Leveraging ESG Standards to Position Indonesia as a Responsible Critical Minerals Supplier

**Natan Adhynagara,
Mining and Mineral Expert**

**Delivered in IEA-MEMR Workshop:
Opportunities in Managing GHG Emissions and Mine Waste
in Indonesia's Critical Minerals Regulations**

Doubletree Hotel Jakarta, 21 January 2026

4 concerns for companies to implement ESG in mining and processing/refining operations

Access to Market

Potential risk to lose market access to certain regions and markets due to regulatory requirements.

Difficult to Enter Premium Stock Exchanges and Indices. Enter indices such as IDX ESG Leaders, FTSE4Good, or S&P Global ESG Index. Attract ESG-based institutional investors.

Access to Capital

Investors & regulators to steer capital into companies that are ESG

Difficulty in obtaining green financing, sustainability-linked loans, or green bonds.
Higher cost of capital.

License to Operate

Potential risk that permitting in future will not be granted

The government now includes ESG criteria in licensing and supervision evaluations. Companies with poor ESG records will: **Have difficulty obtaining AMDAL approval, Be rejected in extending mining business permits (IUP/IUPK), Not receive technical recommendations from the local government or KLHK**

Reputational Damage

Companies considered unsustainable

Vulnerable to Boycott Campaigns, Social Rejection, and Negative Reputation. NGOs, media, and the public are now actively exposing: Companies that damage the environment, violate human rights, or are not transparent

Existing Sustainability Standards System for Mineral Resources

Standard	Founding Date	Publication of the first Standard Version	Latest revision	(Full) Members	State of Implementation	Number of Aspect			
						Environmental	Social	Governance	Reference for the requirements used for comparison
ICMM	2001	2003	2020	26	All 26 company members have to comply with the full membership requirements. Market coverage of ~34 % (in 2020)	57	23	19	Number of Performance Expectations of Mining Principles and Commitments in related Position Statements
IRMA	2006	2018	-1	50+	2018 standard in live application for independent auditing Self-assessment of currently 40 registered companies.	141	193	92	Number of requirements for certification (=IRMA 100). All sub-issues until the 4 th level are considered (e.g. 2.6.4.1.)
TSM	2004	2004	2021 ²	50+ ³	In 2021, 25 MAC members published facility-level performance indicators, comprising 54 facilities. 11 MAC companies had their Results externally verified.	39	35	19	Number of criteria for level A performance in MAC's TSM
CERA 4in1	2016	2020	2022 ¹	Membership Program planned	Piloting of the CPS at four mines in DRC (Cobalt), China (REE), Portugal (Lithium) and Norway (Graphite) ongoing.	10 (23*)	19 (87*)	14 (43*)	Number of requirements for assessment listed in the Performance Standard. These are further defined as *Potential Events in the unpublished Audit Check List (number in brackets)
IFC	1956	2006	2012	No membership program	US\$ 842 million mining portfolio (mainly copper and bauxite) including 12 mining projects in 11 countries. 331 projects in the oil, gas and mining industry have been funded worldwide from 1994 until 2019.	23	45	25*	Number of single requirements in the E&S performance standards. *Governance indicators are not covered by the E&S performance standard but addressed by the separate Corporate Governance Methodology
RMAP	2008	2011/2012	2021	400+(RMI)	3TG and cobalt programs cover majority of global producers, for all minerals 262 conformant smelters/refiners certified. Programs for mica, Cu, Ni and Zn program just started with few Producers	- / 20	- / 56	14* / 14	Obligatory DD standard / Voluntary ESG standard *slightly different DD standards for Commodities
RGMPs	1987 ⁴	2019	-	30+	Full compliance of most members expected for late 2022 or 2023. 28 out of 34 WGC members with active implementation (as of Nov 2021).	13	23	15	The RGMPs group their 51 individual criteria into 10 overarching principles and organize these under the three ESG headings
RJS	2005	2009	2019/2017	1000+	993 of almost (mainly downstream) are certified after COP (189 additionally CoC- certified). > 8,000 certified facilities (only 7 mine sites and < 100 refiners)	46	99	80*	All sub-issues of the COP until the 3 rd level are considered (e.g. 6.1.a.) * additional aspects in voluntary CoC standard
The Copper Mark	2019	2020	-	No membership program	13 sites are participants and 24 sites are recipients of the Copper Mark.	9	17	19*	Number of Issue Areas defined in the RMI Risk Readiness Assessment *mandatory conformance criteria from Joint Due Diligence Standard included
ASI	2012	2014	2022	200+ (total) 100+ (production And Transformation)	> 130 certificates (13 bauxite mine sites) issued against the ASI PS > 50 certificates (11 bauxite mine sites) issued against ASI CoC	87	81	73*	All sub-issues of the PS V3 until the 3 rd level are considered (e.g. 6.1.a.) * additional requirements in the CoCStandard
Responsible Steel	2016	2019	-	50+	25 sites out of 5 members have been certified in various countries	70	86	49	All sub-issues until the 3 rd level are considered (e.g. 1.1.1.)

1 revision process currently ongoing/not finalized yet

2 date of latest protocol (climate change)

3 members of MAC (Mining Association of Canada) only, TSM is also implemented in 8 other countries with a total of over 200 companies in various stages of TSM implementation

4 founding date of the initiator of the standard (World Gold Council)

The diversity of ESG Standards reflects the depth of sustainability issues but creates fragmentation, confusion and a double reporting burden for businesses and investors.

Issue

There are many different, overlapping, and not always aligned ESG reporting standards, frameworks, and guidelines.. This creates high complexity in sustainability implementation and reporting..

Impact

- **Double reporting burden:** Multinational companies may be asked to report to GRI, SASB, TCFD, RMI, IRMA and also regional standards (e.g. CSRD in Europe).
- **Data duplication and inconsistency:** One issue can be reported with different indicators according to the required standards..
- **It's difficult to compare between companies:** Because each uses a different reporting framework, comparing ESG performance is like comparing apples and oranges..
- **Greenwashing risks increase:** Fragmentation gives companies room to choose the standards that are most lenient or beneficial to their image, so that investment decision making is not precise..
- **Non-uniform ESG data can mislead long-term risk analysis.**

Needed

“Consolidation of Standardization, Interoperability and Efficiency in ESG Reporting”

Examples of Consolidation Efforts Already Undertaken

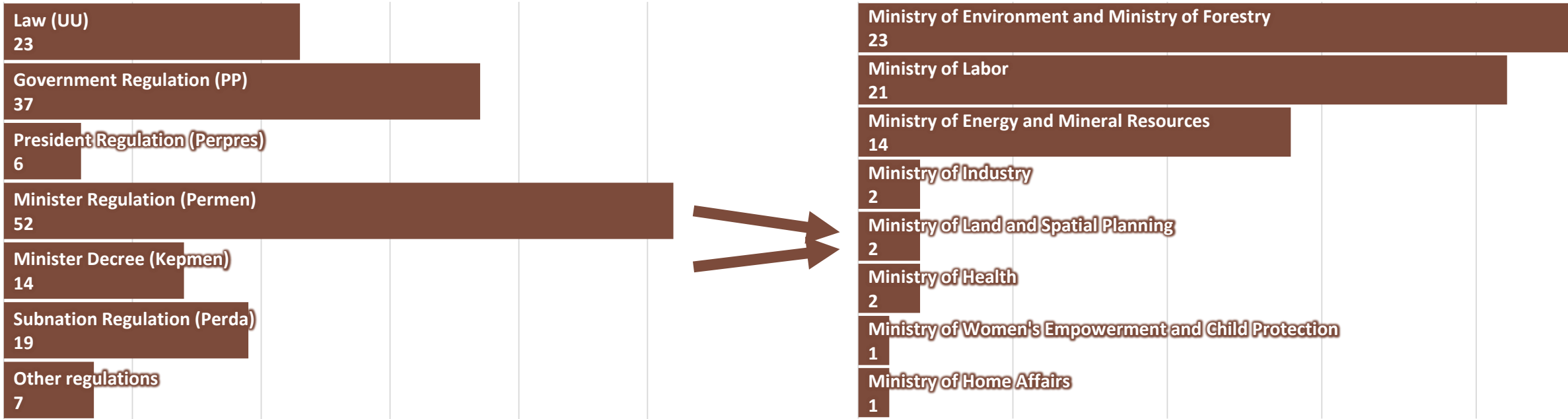
ISSB & GRI - uniting “two sides of materiality”.

Nickel Institute, The Copper Mark, Responsible Mineral Initiative, International Zinc Association, IMO, ILA – Joint Due Diligence Standard.

The Copper Mark, ICMM, TSM, World Gold Council – Consolidated Mining Standard.

World Economic Forum (WEF) × Big Four Accounting Firms - Develop core ESG metrics aligned with GRI, SASB, and TCFD.

Government of Indonesia has already settled ESG principles in a number of regulations



Note:

Subnational Regulation only includes:


1. Southeast Sulawesi Province
2. Central Sulawesi Province
3. North Maluku Province

Some institutions have initiated strategies to implement ESG principles

	Developing ESG Guidelines based on Gap Analysis of Indonesian Regulations to Internationally-recognized ESG Standards	Developing New National ESG Standards as Alternative to Internationally-recognized ESG Standards
Principal	National Economic Council, in partnership with World Resources Institute	<ol style="list-style-type: none"> 1. Association of Indonesian Mining Professionals (Perhapi) 2. Indonesian Nickel Miners Association (APNI)
Opportunities	<p>Facilitates smoother acceptance by global buyers, financiers, and downstream manufacturers that already reference standards.</p> <p>Builds upon existing Indonesian laws and regulations, minimizing duplication while strengthening their coherence and credibility through benchmarking.</p> <p>Signals regulatory predictability and convergence with global norms, which is particularly important for ESG-screened capital.</p>	<p>Enables Indonesia to define ESG priorities reflecting its development stage, resource endowment, and socio-economic context.</p> <p>Standards can be designed to better accommodate local conditions, including SMEs, state-owned enterprises, and regional governments.</p> <p>Positions ESG standards as part of broader industrial policy and downstreaming strategy, rather than purely compliance instruments.</p>
Challenges	<p>International standards may not fully reflect domestic realities (e.g., artisanal mining interfaces, infrastructure gaps, local community dynamics).</p> <p>Gap analysis may reveal overlaps or inconsistencies across Indonesian regulations, requiring inter-ministerial coordination and legal harmonization.</p> <p>Effective alignment requires technical expertise, data systems, and audit capacity that may not be evenly available across regions.</p>	<p>Global buyers, regulators, and investors may not accept national-only standards as credible substitutes for established ESG benchmarks.</p> <p>Divergence from international norms may complicate exports to jurisdictions with binding ESG requirements (e.g., EU, OECD markets).</p> <p>Requires sustained international engagement to gain legitimacy, equivalence recognition, or mutual acceptance.</p>
Global acceptance	High	Uncertain / requires advocacy
Policy autonomy	Moderate	High
Industry adoption ease	Relatively easier	Potentially harder
Export market compatibility	Strong	Potentially constrained
Context sensitivity	Moderate	High
Implementation complexity	Medium (coordination-heavy)	High (design + legitimacy)


Developing ESG Guidelines based on Gap Analysis of Indonesian Regulations to Internationally-recognized ESG Standards

The objective is to provide guidance to mining industry players in Indonesia to comply to internationally-recognized ESG standards required by the market.



Mapping of ESG-Related Regulations in the Critical Minerals Sector

<u>Scope</u>	<u>Methodology</u>
<ul style="list-style-type: none"> • More than 50 legal instruments, including laws, government regulations, president regulations, minister regulations, and subnation regulations. • Mapped items are: <ul style="list-style-type: none"> ➢ Relevant articles ➢ Criteria and requirements ➢ Sanctions for non-compliance ➢ Regulating institutions 	<ul style="list-style-type: none"> • A structured inventory based on industry type, project lifecycle, and ESG pillars. • Outputs are: <ul style="list-style-type: none"> ➢ A regulatory inventory matrix. ➢ A report summarizing the ESG regulatory landscape.



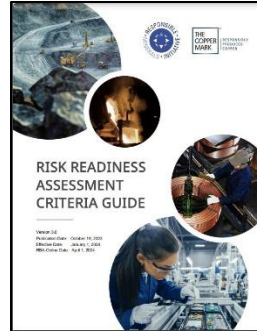
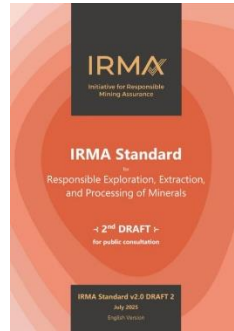
Gap Analysis between Regulations and International Standards

<u>Scope</u>	<u>Methodology</u>
<ul style="list-style-type: none"> • The three internationally-recognized standards examined are: <ul style="list-style-type: none"> ➢ IRMA ➢ IFC Performance Standard ➢ Copper Mark/RMI • Analysed items are: <ul style="list-style-type: none"> ➢ Sub-topic ➢ Criteria and requirements 	<ul style="list-style-type: none"> • Scoring to measure the degree of equivalency or the level of coverage of national regulations against international standards.

Final Output

Environmental, Social, and Governance (ESG) Due Diligence Guidelines for Critical Minerals

Internationally-recognized ESG Standards analysed by NEC-WRI



Reasons for Selecting Standards



Presence of users in Indonesia → indicates the industry's risk appetite for certification and for going beyond national requirements → serving as evidence that the standards are applicable in Indonesian context.



Critical minerals sector → covers both **upstream** and **downstream** activities; therefore, standards were selected that encompass the entire value chain, not only the upstream segment.



Sector's conditions are highly site-specific (geological, physical, biological, and social) → accordingly, **site-level** standards were chosen rather than company-wide standards.



Market access and access to financing → key ESG considerations → therefore, the IFC Performance Standards (IFC PS) were selected as they best represent the requirements for **accessing financing**.

	IRMA	Risk Readiness Assessment (RRA) – RMI & Copper Mark	IFC PS
Indonesian clients	4 nickel companies (audit process)	2 copper companies	Commonly used in many sectors
Scope of supply chain	Mining	Mining, Processing	Mining and others
Scope of audit	Site	Site	Site
Main objectives	Certification, market access, public accountability	Certification, market access, public accountability	Financing access

ESG Parameters in Internationally-recognized ESG Standards



IRMA has four main chapters that more specifically classify its parameters into 26 ESG aspects.

RMI and Copper Mark/RMI RRA have 33 ESG criteria.

The IFC Performance Standards (IFC PS) have eight main overarching aspects within the ESG categories, which are then regulated in greater detail.

Benchmarking

ESG General Management System or Manual		
E	S	G
Resource Efficiency	Working Hours	Compliance Management
Energy Management	Anti-Harassment	Financial Transparency
GHG Emission Management and Climate	Benefits	
Air Pollution Control	Forced labor	
Noise and Vibration	Child Labor	
Hazardous Material Management	Labor Union and Collective Bargaining	
Pesticide Management	Non-Discrimination and Equal Opportunity	
Waste Management	Wages	
Emergency and Spill Response	Disciplinary	
Land and Soil	Gender	
Mine Closure and Reclamation	Human Rights	
Physical Stability	Occupational Health and Safety	
Wastewater Management	Conflict Affected and High Risk Area	
Water Management	Land Acquisition	
Biodiversity and Ecosystem Services	Physical Displacement	
Artisanal and Small Scale Mining	Economic Displacement	
	Community Development	
	Community Health and Safety	
	Security	
	Cultural Heritage	
	Indigenous People	

ESG Management System

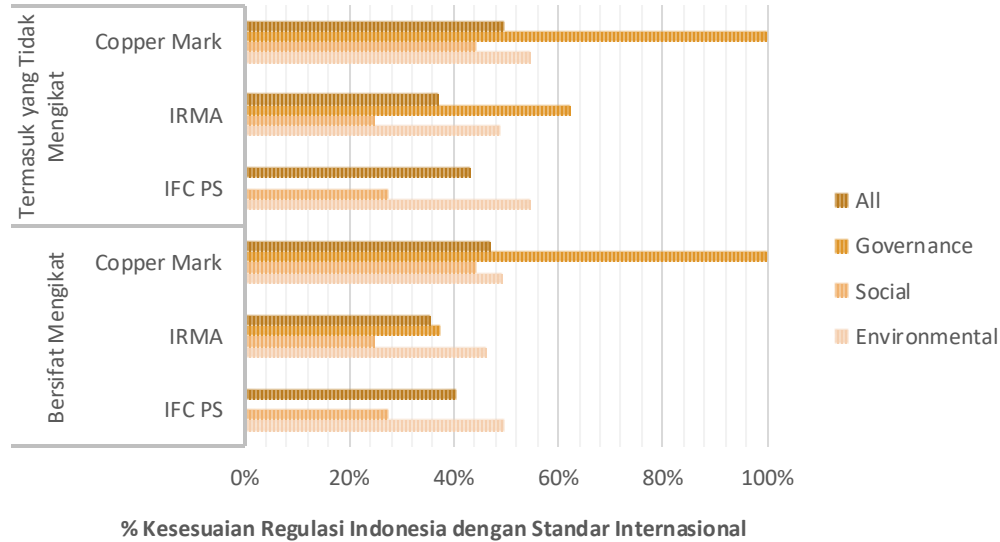
- 1 Policy**
Demonstrates a commitment to manage, avoid, and mitigate ESG risks.
- 2 Impact or Risk Screening/Scoping**
Periodic screening of potential impacts or risks that need to be managed.
- 3 Baselineing**
All impact assessments must be based on baseline conditions that are continuously updated.
- 4 Impact/Risk Assessment Study**
A detailed impact assessment study to determine the necessary mitigation measures and the residual impacts after those mitigation measures are implemented.
- 5 Management Program**
A set of mitigation measures formalized into management programs, procedures, assignment of responsibilities, and allocation of costs.
- 6 Monitoring Program**
To understand the actual effectiveness of mitigation measures, companies must formalize a monitoring program complete with procedures and indicators (both leading and lagging).
- 7 Stakeholder Engagement**
Across all components of the ESG management system, engagement with relevant stakeholders is essential to ensure a social license to operate and to enhance stakeholders' sense of ownership.
- 8 Organizational Capacity**
A set of organizational structures, roles, responsibilities, competencies, and budget allocations to implement the system. Training plans and their implementation must be documented.
- 9 Reporting and Disclosure**
Publicly available reporting to enhance public trust, including among relevant stakeholders.
- 10 Supply Chain Management**
Ensuring that the entire supply chain and third parties involved in the company's activities are equally committed to aligning their business practices with the company's ESG commitments.

Application of ESG Management System on Waste Water

Management System/ ESG parameters	Policy	Risk and Impact Screening or Scoping	Baseline	Risk and Impact Assessment	Management Program and Procedure	Monitoring Program and Procedure	Stakeholder Engagement and Consultation	Reporting	Organizational Capacity	Supply Chain or Third Party
	The company's commitment and policies to take responsibility for specific ESG parameters in its business activities.	The scoping of risks or impacts related to specific ESG parameters in the company's business activities.	Baseline conditions related to specific ESG parameters in the company's business activities.	Forecasting of risks and impacts related to specific ESG parameters in the company's business activities.	Procedures and management programs related to specific ESG parameters in the company's business activities.	Procedures and monitoring programs related to specific ESG parameters in the company's business activities.	Active engagement of all stakeholders in the management system for specific ESG parameters in the company's business activities.	Reporting or public disclosure of all actions related to specific ESG parameters in the company's business activities.	Internal capacity, competencies, and resources (human resources, organizational structure, training, budget, and technology) allocated to manage specific ESG parameters in the company's business activities.	Engagement with, management of, and oversight over suppliers, contractors, or other third parties to ensure compliance with specific ESG parameters in the company's business activities (if applicable).
As evidenced by the relevant documentation --> deliverables										

Waste Water	Company's written policy to take responsibility for wastewater management in its business activities.	Documentation of the results of wastewater impact scoping for potential impacts arising from the company's business activities.	Baseline wastewater documentation.	Documentation of the projected wastewater impacts that may arise from the company's business activities.	Documentation of management plans, standard operating procedures (SOPs), and related instruments to manage the risks and impacts on wastewater that may arise from the company's business activities.	Documentation of monitoring plans, SOPs, and related instruments to monitor and evaluate the management of risks and impacts on wastewater that may arise from the company's business activities.	Documentation of public consultations, meeting minutes, memoranda of understanding, and similar instruments with stakeholders that ensure stakeholder engagement in the wastewater management system for potential impacts arising from the company's business activities.	Reports, logbooks, study results, public notifications, and similar materials that are publicly accessible and related to wastewater.	Documentation of internal capacity, competencies, and resources (human resources, organizational structure, training, budget, and technology) allocated to manage wastewater from the company's business activities.	Documentation that ensures engagement with, management of, and oversight over suppliers, contractors, or other third parties to ensure compliance with wastewater-related parameters.
-------------	---	---	------------------------------------	--	---	---	--	---	--	---

Preliminary Findings – Alignment of Indonesian Regulations with Internationally-recognized ESG Standards



Parameters	Mandatory			Not mandatory			
	Standards	IFC PS	IRMA	Copper Mark/RMI	IFC PS	IRMA	Copper Mark/RMI
Environmental		50%	47%	50%	55%	49%	55%
Social		28%	24%	42%	28%	25%	44%
Governance			38%	100%		63%	100%
All		41%	35%	46%	43%	37%	49%

*What is currently included under the Governance category is Financial Transparency; however, the IFC Performance Standards do not specifically regulate this aspect. This remains an object of discussion.

Parameters	Without Volu		Without Volu		Without Volu		With Volunta		With Volunta		With Volunta	
	IFC PS	IRMA	Copper Mark	IFC PS	IRMA	Copper Mark	IFC PS	IRMA	Copper Mark	IFC PS	IRMA	Copper Mark
ESG General Management System or Manual	46%	48%	59%	46%	48%	59%	46%	48%	59%	46%	48%	59%
Compliance Management	25%	17%	100%	25%	17%	100%	25%	17%	100%	25%	17%	100%
Water Management	63%	55%	65%	63%	55%	65%	63%	55%	65%	63%	55%	65%
Wastewater Management	70%	63%	64%	70%	63%	64%	70%	63%	64%	70%	63%	64%
Resource Efficiency	10%	100%	17%	90%	100%	58%	10%	100%	17%	90%	100%	58%
Energy Management	33%	33%	75%	33%	33%	75%	58%	58%	75%	58%	58%	75%
GHG Emission Management and Climate	10%	19%	11%	40%	56%	25%	10%	19%	11%	40%	56%	25%
Air Pollution Control	55%	60%	80%	55%	60%	80%	55%	60%	80%	55%	60%	80%
Noise and Vibration	75%	61%	67%	75%	61%	67%	75%	61%	67%	75%	61%	67%
Hazardous Material Management	50%	38%	0%	50%	38%	0%	50%	38%	0%	50%	38%	0%
Pesticide Management	0%	N/A	N/A	0%	N/A	N/A	0%	N/A	N/A	0%	N/A	N/A
Waste Management	63%	67%	59%	63%	67%	68%	63%	67%	59%	63%	67%	68%
Land and Soil	50%	33%	100%	50%	33%	100%	50%	33%	100%	50%	33%	100%
Mine Closure and Reclamation	43%	54%	61%	43%	54%	61%	43%	54%	61%	43%	54%	61%
Physical Stability	64%	40%	100%	64%	40%	100%	64%	40%	100%	64%	40%	100%
Emergency and Spill Response	42%	36%	35%	42%	36%	35%	42%	36%	35%	42%	36%	35%
Biodiversity and Ecosystem Services	42%	36%	45%	42%	36%	45%	42%	36%	45%	42%	36%	45%
Human Rights	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Anti-Harassment	100%	100%	93%	100%	100%	93%	100%	100%	93%	100%	100%	93%
Child Labor	80%	71%	56%	80%	71%	56%	80%	71%	56%	80%	71%	56%
Retrenchment	63%	63%	100%	63%	63%	100%	63%	63%	100%	63%	63%	100%
Forced labor	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Labor Union and Collective Bargaining	100%	100%	90%	100%	100%	90%	100%	100%	90%	100%	100%	90%
Non-Discrimination and Equal Opportunity	100%	33%	53%	100%	33%	53%	100%	33%	53%	100%	33%	53%
Gender	100%	14%	100%	100%	14%	100%	100%	14%	100%	100%	14%	100%
Internal Grievance	0%	8%	17%	0%	8%	17%	0%	8%	17%	0%	8%	17%
Wages	100%	100%	64%	100%	100%	64%	100%	100%	64%	100%	100%	64%
Working Hours	100%	88%	61%	100%	88%	61%	100%	88%	61%	100%	88%	61%
Disciplinary	50%	40%	33%	50%	40%	33%	50%	40%	33%	50%	40%	33%
Benefits	50%	67%	63%	50%	67%	63%	50%	67%	63%	50%	67%	63%
Occupational Health and Safety	68%	58%	74%	68%	58%	74%	68%	58%	74%	68%	58%	74%
Financial Transparency	N/A	38%	100%	N/A	63%	100%	N/A	38%	100%	N/A	63%	100%
Community Development	100%	25%	44%	100%	38%	69%	100%	25%	44%	100%	38%	69%
Community Health and Safety	50%	100%	45%	50%	100%	45%	50%	100%	45%	50%	100%	45%
Security	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Land Acquisition	7%	2%	9%	7%	2%	9%	7%	2%	9%	7%	2%	9%
Physical Displacement	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Economic Displacement	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Indigenous People	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Artisanal and Small Scale Mining	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cultural Heritage	7%	17%	10%	7%	17%	10%	7%	17%	10%	7%	17%	10%
Conflict Affected and High Risk Area	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

*N/A : tidak ada parameter tersebut dalam standar internasional tersebut



NATIONAL ECONOMIC COUNCIL
REPUBLIC OF INDONESIA

THANK YOU