Initiative for Responsible Mining Assurance

EXCERPT FROM THE

IRMA Standard

for

Responsible Exploration, Extraction, and Processing of Minerals

2nd DRAFT

for public consultation

CHAPTER 4.6 – **Climate Action**

IRMA Standard v2.0 DRAFT 2

July 2025

English Version

Disclaimer and Context on this Draft

The 2nd DRAFT Version of the IRMA Standard for Responsible Exploration, Extraction, and Processing of Minerals V2.0 (hereafter referred to as the "2nd DRAFT") is being released for public consultation, inviting the world to join once again in a conversation around expectations that drive value for greater environmental and social responsibility in mining and mineral processing.

The 2nd DRAFT does not represent content that has yet been formally endorsed by IRMA's equally-governed multi-stakeholder Board of Directors. IRMA's Board leaders seek the wisdom and guidance of all readers to inform this through an inclusive revision process one more time, to improve the Standard.

This draft document builds on the 1st DRAFT Version published in October 2023, and invites a global conversation to improve and update the 2018 IRMA Standard for Responsible Mining V1.0. This 2nd DRAFT is intended to provide as final of a look-and-feel as possible, although input from this consultation will result in final edits, and consolidation to reduce overall number of requirements (more on this on page 6), for a version that will be presented to IRMA's equally-governed multi-stakeholder Board of Directors for adoption and implementation.

This 2nd DRAFT has been prepared and updated by the IRMA Secretariat based on:

- learnings from the implementation of the current IRMA Standard (V1.0)
- experience from the first mines independently audited (as of July 2025, 24 sites have completed audits or are in the process of being audited)
- evolving expectations for best practices in mining to reduce harm
- comments and recommendations received from stakeholders and Indigenous rights-holders
- the input of subject-specific Expert Working Groups convened by IRMA between 2022 and 2024
- all comments and contributions received during the public-comment period of the 1st DRAFT version (October 2023-March 2024)

Please note that Expert Working Groups were created to catalyze suggestions for solutions on issues we knew most needed attention in this update process. They were not tasked to come to consensus nor make formal recommendations. Their expertise has made this consultation document wiser and more focused, but work still lies ahead to resolve challenging issues. We encourage all readers to share perspectives to improve how the IRMA system can serve as a tool to promote greater environmental and social responsibility, and create value for improved practices, where exploration, extraction, and processing of minerals happens.

IRMA is dedicated to a participatory process including public consultation with a wide range of affected people globally and seeks feedback, comments, questions, and recommendations for improvement of this Standard. IRMA believes that diverse participation and input is a crucial and determining factor in the effectiveness of a Standard that is used to improve environmental and social performance in a sector. To this end, every submission received will be reviewed and considered.

This current 2nd DRAFT is based on content already in practice in the IRMA Standard for Responsible Mining V1.0 (2018) for mines in production, and its accompanying normative Guidance document and Supplementary Guidance, combined with the content drafted in the IRMA Standard for Responsible Mineral Development and Exploration ('IRMA-Ready' Standard – Draft v1.0 December 2021) and in the IRMA Standard for Responsible Minerals Processing (Draft v1.0 June 2021), and offers an updated version of the 1st DRAFT Version of the IRMA Standard V2.0 that received over 2,500 unique points of comments between 2023 and 2024.

Please note: The IRMA Standard V2.0 is new in its approach in that it now covers more phases of the mining and mineral supply chain, from exploration and development, through mining, closure, and mineral processing. IRMA also, separately, oversees a Chain of Custody Standard for tracking materials through the supply chain from mine-to-market end use products.

Disclaimer on Language and Corrections

For this public consultation, only an English version is available. A Glossary of Terms used in this Standard is provided at the end of the full version of the document (see below). IRMA reserves the right to publish corrigenda on its web page, and readers of this document should consult the corresponding web page for corrections or clarifications.

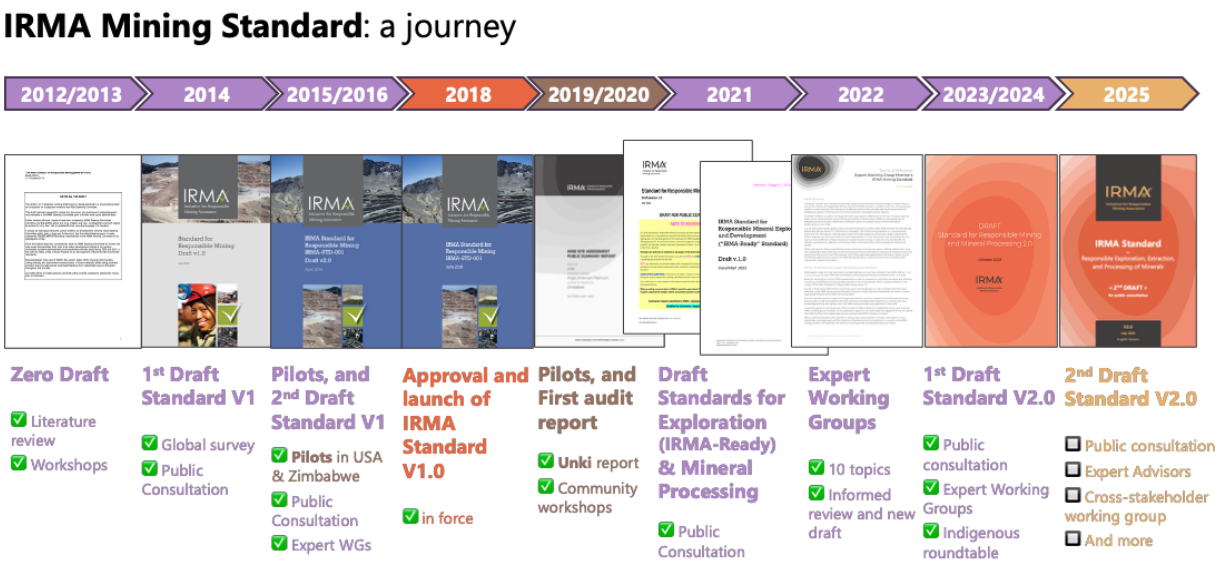
This document provides only one chapter excerpt from the IRMA Standard v2.0 DRAFT 2.

The full version contains 27 Chapters, click here to view it.

Objectives of this 2nd public consultation

Following the release of a 1st DRAFT of the IRMA Standard V2.0 in October 2023 for a 90-day public consultation, the IRMA Secretariat received more than 2,500 points of comments from 82 organizations, then organized additional engagement with stakeholders and Indigenous rights-holders, and solicited complementary guidance from multiple topic-specific Expert Working Groups.

We anticipated release of this 2nd DRAFT for a second round of public consultation as early as Q3 2024, then subsequently announced that more time was needed to support engagement of diverse stakeholders; the revised release date was July 2025. We provided more detailed explanation for the extended process here and here.



The release of this 2nd DRAFT marks a significant milestone on the road to the revision of the IRMA Standard: this public consultation will be the last of this revision cycle on V2.0.

Informed by the outcomes of this public consultation, along with guidance from Expert Advisors and IRMA Working Groups (see more below), and additional engagement with Indigenous rights-holders and stakeholders as requested, the IRMA Secretariat will prepare a final version. This final version will be discussed by the IRMA Board and refined to reach consensus for adoption by all six governing houses of IRMA: Affected Communities including Indigenous Rightsholders; Environmental and Social NGOs; Organized Labor; Finance and Investment Professionals; Mining Companies; Purchasers of Mined Materials.

In IRMA's strategic decision-making, Board members work to achieve consensus. IRMA believes a majority vote is not a model of equal governance. Instead, any motion that results in both of the two representatives from the same governing house voting "no" must go back to the full group for further discussion. In other words, a proposed course of action cannot proceed if both representatives from one of our six governing houses are opposed. Board members will keep talking until a resolution that works for all groups is found. It is a model that has worked for IRMA for nearly two decades and is fundamental to IRMA's credibility, accountability and service to all six houses of governance.

What is IRMA seeking guidance on?

Comments, feedback, and suggestions are welcome on any aspect of this 2nd DRAFT version (including intent and text of the requirements, endnotes, annexes, format and structure, design, readability, etc.).

IRMA is particularly interested in hearing the views of rights-holders and stakeholders on **the provisions in the Standard that are substantially new compared to the IRMA Standard for Responsible Mining V1.0.** These provisions (requirements or at a sub-requirement level) are highlighted in yellow throughout this Draft, to ensure they are easily identifiable.

We ask readers to assist us in weighing these potential new provisions, and also hold awareness that, prior to adoption of the final version, many of these will be consolidated and reduced in overall number.

Although these new requirements have each been drafted in response to lessons learned, the current state of best practices, emerging expectations, and/or in response to requests and suggestions made during the previous public consultation, collectively they represent substantive increased expectations for both implementing entities and audit firms. The IRMA Board of Directors seeks to ensure that the IRMA Standard, while recognized the world's most rigorous and comprehensive mining standard, continue to welcome and support uptake of newcomer companies engaging from the mineral supply chain around the world.

Thus, in this consultation, we seek guidance from all on **the new provisions that seem most urgent** to be integrated in the final version of the Standard V2.0, so that the revised Standard's expectations are paced at a realistic level to support engagement of mineral operations of a range of sizes, materials and global contexts.

It is important to note that all new requirements and sub-requirements, including those not retained in the final V2.0, will serve as the basis for the ongoing review process once the V2.0 is approved and released by our Board, and will provide fodder for future revisions, when it is decided that a V2.1 or V3.0 is needed.

Chapter 4.6
Climate Action

SECOND DRAFT (JULY 2025): SUMMARY OF CHANGES

- Chapter title changed to "Climate Action", as the chapter encompasses more issues than just GHG emissions and energy efficiency.
- Added a policy requirement committing to take climate action (4.6.1.1).
- Added a requirement to assess contribution of the project/operation to climate change.
- Added exception criteria to GHG targets for "green enabling" projects (4.6.6.1.b).
- Clarified expectations related to Scope 1 and 2, and Scope 3 emissions.
- Added one requirement related to Traditional Knowledge (Section 4.6.9).
- Added optional requirements with regard to the carbon tunnel vision and planetary boundaries (4.6.7.2), and cross-cutting integrated management of climate action (4.6.2.2).
- Clarified and regrouped requirements related to information-sharing and public reporting (Section 4.6.12).
- Removed section on carbon offsets, as there is no consensus amongst the IRMA Board that these are considered 'best practice'. The IRMA Secretariat has not been able to identify agreed international best practice for carbon offsets that is consistently successful and non-controversial. Thus, IRMA does not want to appear as if its own audit system can sufficiently evaluate the legitimacy, integrity or long-term effectiveness of carbon offset projects. The chapter instead focuses on the Entity's efforts to reduce its own emissions (and those in its supply chain). While this chapter will not prohibit the use of offsets, it does not encourage them, and IRMA will not attempt to audit the legitimacy or effectiveness of carbon offset projects. Instead, it will simply require transparency and rationale about their use (4.6.11.2.e) -as a last resort-, if any. Guidance on safeguards and minimum criteria to follow when using carbon offsets could be produced and published separately from the IRMA Standard.
- Major structural changes to maintain consistency across the Standard.

RESPONSE TO CONSULTATION QUESTIONS OUTLINED IN FIRST DRAFT

Question #	Question	Feedback and Proposed Decision
4.5-01	(4.5.1.1 – Technology Selection) **Question**: Do you agree with adding this requirement? Are there other ways a company might demonstrate it has given the minimization of energy use and greenhouse gas emissions due weight in its mine design processes? Should this requirement be limited to proposed projects, or is it reasonable to create a similar requirement that applies to existing operations that are adding or replacing equipment or processes?	**Feedback received**: 6 responses received (4 mining, 1 finance, 1 NGO). Almost all respondents agreed that it makes sense to add a requirement, although several made suggestions regarding how it could be revised: including by adopting a risk-based approach, or by requiring the ENTITY to demonstrate how these considerations are integrated in decision-making. **Proposed Decision**: We propose to keep the requirement, but we propose to refocus it to assess the presence of a "system", and the extent to which integration and rationales are documented (see 4.6.3.1).
4.5-02	(4.5.2.1 – Targets) **Question**: Do you agree with the proposal to require absolute emissions AND intensity targets? If this is the chosen approach, what would realistic targets and timeframes be for each measure and how should they be linked?	**Feedback received**: 11 responses received (6 mining, 2 finance, 1 NGO, 1 purchaser, 1 consultant). Responses were mixed. Across responding sectors, there was a majority of respondents in favor of either requiring both or focusing on absolute targets (instead of intensity). **Proposed Decision**: We propose to focus on the need to have absolute targets, in what is now requirement 4.6.6.1. We clarify that alignment with the Paris Agreement can be demonstrated for site-level targets, or as part of company-wide targets. For more information and rationale on Paris Agreement targets, see the Section entitled Issues Under Close Watch, which precedes the Chapter requirements.
4.5-03	(4.5.2.1 – Targets) **Question**: Do you agree with the addition of a renewable energy target? If not, why not?	**Feedback received**: 10 responses received (6 mining, 2 finance, 1 purchaser, 1 consultant). Responses were mixed, but a majority (5) agreed with the proposition. 1 respondent suggested to exclude exploration projects from this requirement. **Proposed Decision**: We propose to keep this sub-requirement (now 4.6.6.2.b). As already clarified in the applicability guidance (and now visible directly in this document), these targets are not required for exploration projects (until the project permitting and development stages).
4.5-04	(4.5.3.1 – Emissions Quantification) **Question**: Do you have any suggestions of other methodologies for calculating Scope 1, Scope 2 and Scope 3 emissions that could be added as examples in IRMA Guidance?	**Feedback received**: 6 responses received (4 mining, 2 finance). Some suggested including ICMM Scope 3 Guidance, AEE methods for energy savings, and GHG Protocol Project Overview. One respondent suggested that IRMA could allow entities to be assessed against country of operation's laws. **Proposed Decision**: No substantial change. Some structural and minor content changes to add clarity and increase auditability. Taking into account respondents' suggestions, we will review and update guidance on this requirement.

4.5-05	(4.5.3.1 – Emissions Quantification) **Question**: Are you aware of trends in use of direct measurements for particular greenhouse gas emissions? If so, what are the methods being used to do so, and what are the main limitations in the use of those approaches?	**Feedback received**: 3 responses received (all mining). They all signaled that direct measurements are not practical, difficult to undertake, and seldom occur. **Proposed Decision**: No requirement added, at this stage.
4.5-06	(4.5.3.2 – Scope 3 emisisons) **Question**: Has IRMA struck an appropriate balance between driving progress on Scope 3 emissions with creating the necessary breathing space for sites to work towards conformance within a reasonable timeframe?	**Feedback received**: 6 responses received (4 mining, 2 finance). Overall sense is that IRMA has not struck the right balance yet. One thought it was fine, another didn't know because it has not yet been implemented. Others made suggestions for improvement. Suggestions include: ▪ Allowing projects to determine relevant Scope 3 emissions on a project-by-project basis, and do not prescribe the Scope 3 sources [this is aligned with our requirement] ▪ Emissions should be confined to when the product is in the company's custody, otherwise, impossible to track all downstream emissions in this global economy ▪ Only require quantification of immediate downstream customers in the value chain. ▪ Scope 3 emissions not feasible for most exploration and development companies ▪ Instead of a time bound commitment, require commitment to advancing downstream emissions quantification in a manner aligned with best practice, which IRMA can update over time. ▪ Agrees that setting a time frame is important (given that Scope 3 emissions from Downstream activities account for close to 90% of GHG emissions from the mining industry), but also need to acknowledge that it will take time to do the groundwork (map and work with downstream users/emitters on emissions reductions) **Proposed Decision**: Language has been updated to ensure targets on Scope 3 emissions reduction consider what can be done, to the greatest extent possible (see 4.6.6.2.c). We will provide guidance on what this means in practice. Additionally, the Sections on calculations (4.6.4) and target-setting (4.6.6) are now separated for greater clarity and consistency across the Standard. Language has been updated to ensure targets on Scope 3 emissions reduction consider what can be done, to the greatest extent possible. As already clarified in the applicability guidance (and now visible directly in this document), these targets are not required for exploration projects (until the project permitting and development stages).

4.5-07	(4.5.3.4 – Intensity) **Question**: Do you agree with the proposed method(s) of reporting GHG intensity and energy intensity? If not, please suggest what metrics would be more appropriate, and why.	**Feedback received**: 4 responses received (4 mining). Responses all in favor, though 1 respondent suggesting that as long as the company is reporting then the units should not matter. **Proposed Decision**: IRMA will not prescribe how intensities are calculated.
4.5-08	(4.5.5 – Carbon offsets) **Question**: Do you agree with the proposed approach to offsets? If not, what would you change and why?	**Feedback** received: 4 responses received (3 mining, 1 NGO). General agreement with the approach. However, respondents want more clarity that offsets are a strategy of last resort. **Proposed Decision**: In the absence of consensus within the IRMA Board of Directors on whether carbon offsets could be considered best practice, we propose to remove the proposed Section dedicated to carbon offsets. The IRMA Secretariat has not been able to identify agreed international best practice for carbon offsets that is **consistently successful and non-controversial.** Thus, IRMA does not want to appear as if its own audit system can sufficiently evaluate the legitimacy, integrity or long-term effectiveness of carbon offset projects. The chapter instead focuses on the Entity's efforts to reduce its own emissions (and those in its supply chain). While this chapter will not prohibit the use of offsets, it does not encourage them, and IRMA will not attempt to audit the legitimacy or effectiveness of carbon offset projects. Instead, it will simply require transparency and rationale about their use (4.6.11.2.e) -as a last resort-, if any.
4.5-09	(4.5.5 – Carbon offsets) **Question**: Should IRMA include a requirement addressing the use of carbon credits and if yes, what limits (if any) should be put in place, and what expectations are reasonable with respect to establishing the credibility of the credit issuer?	**Feedback received**: 5 responses received (4 mining, 1 consultant). Respondents are split, 2 support carbon credit requirement (one only as "a last option"), 2 do not support (1 had no comment). **Proposed Decision**: We propose to not include requirements related to carbon credits in the Standard.
4.5-10	(4.5.6.1 – Reporting and disclosure) **Question**: Do you support the proposal that GHG management plans be made publicly available? If not, why not?	**Feedback received**: 8 responses received (5 mining, 1 NGO, 1 finance, 1 consultant). The responses are split, with no clear divide between sectors. **Proposed Decision**: We propose to keep this requirement. It is not a critical requirement, and therefore won't prevent higher achievement levels if the ENTITY does well on other requirements. Also, the Standard requires management plan disclosures in many other chapters.
4.5-11	(4.5.6.4 – Reporting and disclosure)	**Feedback received**: 6 responses received (4 mining, 1 finance, 1 consultant). Most think that in general the level of

	Question: Do you support the proposed approach for greater transparency in greenhouse gas and energy data? If not, what would you change and why?	disclosure is reasonable, but a few revisions are suggested (including exceptions for exploration and development, exclusion of raw calculation files/sheets, exclusion of business-sensitive data). **Proposed Decision**: No substantial change. As already clarified in the applicability guidance (and now visible directly in this document), these public reporting elements are not required for exploration projects (until the project permitting and development stages). As per chapter 1.2, business-sensitive information (if any) can be redacted as long as a rationale is documented and proactively shared with stakeholders.

BACKGROUND

Humans are increasingly influencing the climate and the earth's temperature by burning fossil fuels, cutting down rainforests and raising livestock.[1] These activities release gases such as carbon dioxide, methane, nitrous oxide, ozone and a few others that have the ability to trap heat in the Earth's atmosphere. Many of these gases occur naturally, but human activity is increasing the concentrations of some of them in the atmosphere[2] The need to reduce emissions is urgent: the Intergovernmental Panel on Climate Change (IPCC) recently noted that to limit warming to around 1.5°C (2.7°F) requires global greenhouse gas emissions to peak before 2025 at the latest, and be reduced by 43% by 2030.[3] As a result, the United Nations Framework Convention on Climate Change has spurred the establishment of targets for the reduction of greenhouse gas emissions that are applicable in nearly 200 countries.[4]

Mines and mineral processing operations are major energy consumers and emitters of greenhouse gases (GHG). These operations therefore have an opportunity and responsibility to manage their energy use and carbon emissions, at a pace and scale consistent with mitigation pathways that meet the goals of the Paris Agreement, the legally-binding international treaty on climate change signed by 196 Parties at the UN Climate Change Conference (COP21) in 2016.

The potential exists for these operations to consume less energy, increase the proportion of energy used that comes from renewable sources, emit less carbon from ongoing activities, capture carbon already emitted to the atmosphere, and improve the ENTITY's bottom line.

There are three categories of greenhouse gas emissions from mines and mineral processing operations:

1) **Scope 1** or direct emissions resulting from fossil fuel use in operations, transportation of ore, feed and waste materials and products, and non-renewable electricity generation at remote sites, and fugitive emissions. This also includes emissions from land use changes and reductions in land carbon stock arising from the site's direct activities[5],
2) **Scope 2** or indirect emissions associated with electricity purchased from third-party service providers; and
3) **Scope 3** emissions, which are defined as all other indirect emissions not included in Scope 2 that occur in the upstream and downstream value chain of the operation.

Mines and mineral processing operations can manage Scope 1 and Scope 2 emissions and at the same time cut costs and improve competitiveness by adopting best practices in energy sourcing, efficiency, and emissions reductions.

Until relatively recently, the focus in the mining sector has been on Scope 1 and Scope 2 emissions. For many operations, however, Scope 3 emissions are substantially larger than then cumulative total of Scope 1 and Scope 2. Therefore, progress must also be made on this third category of emissions if the mining sector is to successfully decarbonize its operations.

KEY REFERENCES

This chapter strongly builds on, or aligns with, the following international or multilateral frameworks, conventions, and guidance:

- Paris Agreement, 2015
- Rio Declaration on Environment and Development, 1992
- The GHG Protocol Corporate Accounting and Reporting Standard, and Calculation Tools
- ISO 14064-1: 2018 Greenhouse gases
- United Nations Framework Convention on Climate Change (UNFCC)
- United Nations Convention on Biological Diversity, 1993

OBJECTIVES OF THIS CHAPTER

To minimize contribution to climate change impacts through increased energy efficiency, reduced energy consumption, and reduced emissions of greenhouse gases from direct and indirect sources, in a manner that aligns with the Paris Agreement.

SCOPE OF APPLICATION

This chapter is applicable to all exploration, mining and mineral processing projects and operations. For each requirement, the following colors are displayed in the margin to indicate the phases for which it is required:

E1	Exploration – Stage 1
E2	Exploration – Stage 2
E3	Exploration – Stage 3
D	Project Development and Permitting
M	Operating Mine
P	Operating Mineral Processor

CRITICAL REQUIREMENTS IN THIS CHAPTER

Throughout the Standard, critical requirements are identified using a red frame.
There is one (1) **critical requirement** in this Chapter.

OPTIONAL IRMA+ REQUIREMENTS IN THIS CHAPTER

Throughout the Standard, optional IRMA+ requirements are identified using a dotted blue frame. There are two (2) **optional IRMA+ requirements** in this Chapter.

In this second draft, IRMA introduces a new category of requirements: IRMA+. These requirements are aspirational and forward-looking. They reflect emerging expectations and recommendations from stakeholders, but currently go above and beyond existing and established best practice. IRMA+ requirements are entirely optional, and they will not affect the scores and achievement levels obtained by the entities choosing to be assessed against them.

ISSUES UNDER CLOSE WATCH (EYE ICON)

Integration of Traditional Knowledge (TK) and Traditional Ecological Knowledge (TEK) into climate action processes:

In 1992, in the Rio Declaration on Environment and Development, over 175 countries affirmed that "Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development". And in its associated UN Convention on Biological Diversity[6], which all UN member states (except the USA) have ratified, article 8(j) specifically request each state to, "respect, preserve and maintain knowledge, innovations and practices of Indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices[…]".

Several countries have since adapted these expectations into national laws and regulations, or for projects sporadically, including in relation with mineral development and mining activities (e.g. Canada, Norway, Rwanda, USA[7]). The lack of explicit reference to TEK in the was one of the very few areas for improvement identified in a recent benchmark of standards against the 2023 Risk Readiness Assessment Criteria Guide V3.0 (conducted by a consultancy firm on behalf of an industry association). IRMA added one requirement, 4.6.8.1, assessing how entities integrate TK and TEK of local affected communities, and Indigenous rights-holders if applicable, into their climate action processes. This requirement (4.6.8.1) is signaled with an 'eye icon' to ensure that IRMA monitors more closely its implementation and relevance, as the Standard V2.0 would get gradually adopted; and to ensure IRMA can review the decision more quickly if necessary. Note that this requirement is not 'optional' (unlike IRMA+).

Setting Greenhouse Gas Emission Targets that are in line with the Paris Agreement:

IRMA noted in the 2018 Standard V1.0 that, while there was agreement among IRMA sectors that setting greenhouse gas reduction targets was something that every responsible company should be doing, there was not yet cross-sectoral agreement within IRMA regarding how to set those targets. Many frameworks have been published since, and global expectations have gradually mounted regarding the need for all industrial sites, including mines and mineral processing operations, to set targets that are in line with the Paris Agreement, and to develop action plans to meet them. IRMA acknowledges that some mineral processes still rely almost entirely on fossil fuels, and that several companies have developed company-wide targets that are in line with the Paris Agreement, but that do not necessarily translate into each and every asset's targets being aligned. IRMA also acknowledges that some companies may own only one asset (mining or mineral processing operation) that produces mineral/s that demonstrably contribute to global energy transition towards lower-carbon energy sources or mobility solutions. IRMA has proposed different pathways to reflect these realities. This requirement (4.6.6.1) is signaled with an 'eye icon' to ensure that IRMA monitors more closely its implementation and relevance, as the Standard V2.0 would get gradually adopted; and to ensure IRMA can review the decision more quickly if necessary. Note that this requirement is not 'optional' (unlike IRMA+).

IRMA Requirements

4.6.1 Formalized Policy

E1 E2 E3 D M P

4.6.1.1 The ENTITY has a formal policy in place that

a. Commits to take climate action in order to protect workers, affected rights-holders and stakeholders, and facilities, from the adverse impacts of climate change;

b. Includes a clear commitment to avoid and reduce greenhouse gas emissions linked to the ENTITY's mining-related activities[8] at a pace and scale consistent with mitigation pathways that meet the goals of the Paris Agreement[9] to curb global temperature rise to 1.5°C above pre-industrial levels;

c. Is approved at the top management level of the ENTITY;

d. Is proactively communicated to affected rights-holders and stakeholders, personnel, contractors, suppliers, customers, and other relevant business partners;

e. Is publicly accessible; and

f. The ENTITY has allocated financial and staffing resources to implement this policy at the level of the site.

4.6.2 Contribution to Climate Change

D M P

4.6.2.1 Building on the scoping and risk and assessment processed required in 2.1, an assessment of the significant contributions of the site and its associated facilities to climate change is conducted and documented by competent professionals as follows:

a. The assessment includes a full inventory of identified causes and effects of the contributions of the site and its associated facilities to climate change, and their levels of significance;

b. The assessment considers direct and indirect contributions to climate change;

c. It is updated, at least annually, and whenever there is the potential that the magnitude, duration, or probability of already-identified causes and effects have changed; and

d. The ENTITY facilitates the participation of affected rights-holders and stakeholders in the assessment process, in accordance with Chapter 1.2.

D M P

4.6.2.2 **IRMA+**
The ENTITY has an comprehensive site-wide plan (or equivalent) to mitigate and adapt to the adverse environmental, bio-geophysical, and social impacts of climate change, always following the mitigation hierarchy[10] that **integrates** all its management plans and mitigation measures related to:

a. Greenhouse gas emissions and energy reduction;

b. Waste and materials management;

c. Water management;

d. Air pollution; and

e. Biodiversity, ecosystem services, and protected areas.

4.6.3 Technology Selection

D M P **4.6.3.1** The ENTITY has a system in place to ensure energy efficiency and minimization of greenhouse gas emissions[11] are considered by competent professionals:

a. When selecting technology options and alternatives for, if any, energy sources, mining and processing methods, technologies and equipment, and the design of new buildings and facilities (at proposed projects, or existing operations);

b. When there are opportunities to replace, upgrade, or add technology, or change processes; and

c. The ENTITY documents how energy efficiency and minimization of greenhouse gas emissions were considered, and the rationale for the final selections.

4.6.4 GHG Emissions and Energy Consumption Quantification

D M P **4.6.4.1** For Scope 1 and 2 emissions, at least annually:

a. Emissions of all relevant Scope 1 greenhouse gases associated with the site and its associated facilities[12], including emissions from land use changes and reductions in land carbon stock arising from the site's direct activities[13], are calculated by competent professionals, using internationally-recognized (or national, where they meet or exceed them) protocols or standards[14];

b. Emissions of all relevant Scope 2 greenhouse gases associated with the site and its associated facilities[15] are calculated by competent professionals, using internationally-recognized (or national, where they meet or exceed them) protocols or standards[16]; and

c. All Scope 1 and Scope 2 emissions calculations are verified by a credible third-party expert.

D M P **4.6.4.2** For Scope 3 emissions:

a. A screening exercise is completed by competent professionals to determine relevant upstream and downstream Scope 3 categories associated with the site and its associated facilities, using credible methodologies;

b. At least annually, Scope 3 emissions of all relevant greenhouse gases for those relevant categories of emissions identified are calculated using credible methodologies; and

c. All Scope 3 emissions calculations are verified by a credible third-party expert.

D M P **4.6.4.3** At least annually, energy consumption associated with the project/operation is measured using a credible methodology, and data are disaggregated into:

a. Energy generated by the site and its associated facilities from fossil fuels and consumed by fixed and mobile equipment (collectively referred to as 'sources of Scope 1 emissions');

b. Acquired and consumed electricity, steam, heat, or cooling (collectively referred to as 'sources of Scope 2 emissions'); and

c. Energy derived from renewable sources purchased from external suppliers and, separately, from renewable sources generated by the ENTITY.

4.6.5 Scoping

D M P

4.6.5.1 A scoping process (or equivalent) is undertaken and documented by competent professionals to:

a. Identify sources of direct and/or indirect emissions that can be eliminated and/or that have the highest reduction potential;

b. Identify technically feasible opportunities to increase energy efficiency, including through the adoption of less impactful sources of energy[17];

c. Identify opportunities for carbon capture and storage of any emissions that cannot be avoided;

d. Building on a. to c., identify and prioritize options for managing GHG emissions sequentially, in accordance with the mitigation hierarchy, starting with action to avoid emissions at the level of the project/operation, followed by action to reduce and minimize them, and, as a last resort, compensate[18] for them; and

e. Ensure that any emission-reduction opportunity takes into consideration the potential adverse social and human rights impacts arising from its implementation.

4.6.6 Greenhouse Gas and Energy Targets

D M P

4.6.6.1 **Critical Requirement**

Building on the quantification required in 4.6.4 and the scoping process required in 4.6.5, the Entity has site-based targets in place for **absolute** Scope 1 and Scope 2 greenhouse gas emissions, developed by competent professionals using a credible methodology[19], as follows:

a. These targets include time-bound short-term (<5 years), medium-term (5-15 years) and long-term (>15 years) site-based targets;

b. These targets are in line with the Paris Agreement, or are part of corporate-level targets that are in line with the Paris Agreement; unless the site meets all the criteria for Green Enabling Projects[20] and can demonstrate the environmental benefits of its production's end-use[21]; and

c. These targets are verified and validated by a credible third-party expert.

D M P

4.6.6.2 Building on the quantification required in 4.6.4 and the scoping process required in 4.6.5, the Entity has the following targets in place, developed by competent professionals using a credible methodology:

a. An energy consumption reduction target, either at site-level or as part of corporate-level targets;

b. A target for increasing the proportion of energy consumed that comes from renewable sources, either at site-level or as part of corporate-level targets; and

c. Targets to reduce, to the greatest extent possible, Scope 3 emissions of all relevant greenhouse gases, disaggregated by the relevant categories of emissions identified in 4.6.4.2, either at site-level or as part of corporate-level targets.

4.6.7 Greenhouse Gas and Energy Management

D M P

4.6.7.1 Building on 4.6.4, 4.6.5, and 4.6.6, a management plan (or equivalent) is developed and documented by competent professionals, at the level of the site, to manage energy and GHG emissions reductions. The plan:

a. Outlines specific measures with their priority levels to achieve, in accordance with the mitigation hierarchy, the site-level Scope 1, Scope 2 and, if relevant, Scope 3 greenhouse gas reduction targets required in 4.6.6 and updated as per 4.6.10;

b. Outlines specific measures with their priority levels to achieve, in accordance with the mitigation hierarchy, the site-level energy consumption reduction targets required in 4.6.6 and updated as per 4.6.10;

c. Outlines specific measures with their priority levels to achieve, in accordance with the mitigation hierarchy, the site-level targets for the proportion of energy consumed at the site that comes from renewable sources, required in 4.6.6 and updated as per 4.6.10;

d. Assigns implementation of measures, or oversight of implementation, to responsible staff[22];

e. Includes an implementation schedule, estimates of human resources and budget required;

f. Includes a financing plan to ensure that funding is available for the effective implementation of the plan; and

g. Is made and maintained publicly accessible.

D M P

4.6.7.2 **IRMA+**

This management plan is integrated into an overarching holistic approach that moves beyond the carbon tunnel vision, and takes into account all nine planetary boundaries: Climate change, Change in biosphere integrity, Biogeochemical, Ocean acidification, Land use, Freshwater change, Ozone depletion, Atmospheric aerosols, and Novel entities.

4.6.8 Traditional Knowledge

D M P

4.6.8.1 The ENTITY has systems in place to ensure that traditional knowledge, and especially traditional ecological knowledge, of local affected communities, and Indigenous rights-holders if applicable, is integrated into:

a. The scoping process required in 4.6.5;

b. The development of the management plan required in 4.6.7;

c. Relevant monitoring and evaluation processes required in 4.6.9; and

d. Relevant review and continuous improvement processes required in 4.6.10.

4.6.9 Monitoring and Evaluation

D M P

4.6.9.1 To monitor and evaluate the implementation and effectiveness of its climate action, the ENTITY, at least annually:

a. Tracks and documents its performance on reducing in accordance with the mitigation hierarchy site-level Scope 1 and Scope 2 and, if relevant, Scope 3 greenhouse gas emissions, over successive time periods, against the targets required in 4.6.6 and updated as per 4.6.10;

b. Tracks and documents its performance on reducing site-level energy consumption, over successive time periods, against the targets required in 4.6.6 and updated as per 4.6.10; and

c. Tracks and documents its performance on increasing the proportion of energy consumed at the site that comes from renewable sources, over successive time periods, against the targets required in 4.6.6 and updated as per 4.6.10.

4.6.10 Continuous Improvement

D M P

4.6.10.1 At least annually, but without undue delay after a significant change, the ENTITY:

a. Reviews the monitoring and evaluation results, and the ENTITY's effectiveness in meeting the targets required in 4.6.6 and updated as per 4.6.10;

b. Reviews any climate-related grievances and the functioning of its relevant grievance mechanism/s required in Section 1.4.3;

c. Reviews the potential that the magnitude, duration, or probability of the causes and effects of the contributions of the project/operation to climate change, identified in 4.6.2, have changed;

d. Develops and implements time-bound corrective measures to update, if necessary[23], the scoping process in accordance with Section 4.6.5;

e. Develops and implements time-bound corrective measures to update, if necessary[24], the greenhouse gas and energy targets in accordance with Section 4.6.6;

f. Develops and implements time-bound corrective measures to update, if necessary[25], the greenhouse gas and energy management plan in accordance with Section 4.6.7; and

g. Develops and implements time-bound corrective measures to update, if necessary[26], the monitoring and evaluation processes, in accordance with Section 4.6.9.

4.6.11 Information-Sharing and Public Reporting

D M P

4.6.11.1 At least annually, the ENTITY makes publicly accessible updated versions of, and maintains[27] publicly accessible all previous versions of:

a. All the Scope 1 and Scope 2 reduction targets required in 4.6.6.1, either at site-level or corporate-level;

b. All the Scope 3 reduction targets required in 4.6.6.2, either at site-level or corporate-level; and

c. All the energy targets required in 4.6.6.2, either at site-level or corporate-level.

D M P **4.6.11.2** At least annually, the ENTITY makes publicly accessible updated versions of, and maintains[28] publicly accessible all previous versions of:

a. All site-specific Scope 1 emissions calculations[29], verified by a credible third-party expert, as required in 4.6.4.1;

b. All site-specific Scope 2 emissions calculations[30], verified by a credible third-party expert, as required in 4.6.4.1;

c. All relevant site-specific Scope 3 emissions calculations/estimates, verified by a credible third-party expert, as required in 4.6.4.2;

d. Quantified progress, informed by the review process required in 4.6.10.1, towards meeting the absolute targets for Scope 1 and Scope 2 emissions, and (if relevant) targets for Scope 3 emissions required in 4.6.6;

e. The percentage of greenhouse gas emissions reductions (Scope 1, 2 and/or 3) that has been achieved through carbon offsetting (rather than source elimination or reduction), and, if carbon offsetting was used[31], a justification for doing so;

f. The site's total energy consumption and use;

g. Disaggregated energy consumption data that details, at a minimum, delivered energy, energy from fossil fuels consumed on-site, renewable energy purchased from external suppliers and renewable energy generated at the site;

h. Quantified progress towards meeting targets for energy reduction and the proportion of energy consumed that comes from renewable sources (as set in 4.6.6.2); and

i. The methods used to measure energy consumption and use, and to calculate Scopes 1, 2 and 3 emissions;

D M P **4.6.11.3** At least annually, the ENTITY makes publicly accessible updated versions of, and maintains[32] publicly accessible all previous versions of:

a. Key findings of the monitoring and evaluation process required in 4.6.9, and of the review process required in 4.6.10.1, for the reporting period;

b. A list of the time-bound corrective measures related to its greenhouse gas and energy management plan, identified as per 4.6.10.1, for the reporting period; and

c. A list of the time-bound corrective measures related to its monitoring and evaluation processes, identified as per 4.6.10.1, for the reporting period.

CROSS REFERENCES TO OTHER CHAPTERS

This table will be added when the new content for all chapters is finalized and approved.

CHAPTER ENDNOTES

[1] European Commission: "Causes of Climate Change." https://ec.europa.eu/clima/change/causes_en

[2] Ibid.

[3] Intergovernmental Panel on Climate Change. 2022. "The evidence is clear: the time for action is now. We can halve emissions by 2030." https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/

[4] For example, see: "Nationally appropriate mitigation commitments or actions by developed country Parties," United Nations Climate Change website. https://unfccc.int/topics/mitigation/workstreams/nationally-appropriate-mitigation-actions

[5] The physical extent for calculating Scope 1 GHG emissions due to land use change (and reductions in land carbon stock) should only include specific land areas managed or controlled by the ENTITY, ensuring that only emissions from activities within these boundaries are considered.

[6] Convention on Biological Diversity, http://www.cbd.int/convention/text/default.shtml

[7] Examples in Canada: https://www.sciencedirect.com/science/article/abs/pii/S2214790X23000540

Norway: LOV-2009-06-19-100: Lov om forvaltning av naturens mangfold (naturmangfoldloven) [Nature Diversity Act]. Sametingets retningslinjer for vurderingen av samiske hensyn ved endret bruk av meahcci/ utmark i Finnmark (Guidelines for Assessment of Sami interests in cases of changes in land use in Finnmark), 2007. The status of the Guidelines as injunction to the FA was approved by the Norwegian government in 2007. The guidelines are available from https://lovdata.no/ dokument/SF/forskrift/2007-06-11-738 (accessed February 4, 2015). Sametingets planveileder. Veileder for sikring av naturgrunnlaget for samisk kultur, næringsutøvelse og samfunnsliv ved planlegging etter plan- og bygningsloven (plandelen) (The Sami Parliament's Planning Guidelines), 2010. http://www.sametinget.no/Miljoe-areal-ogkulturvern/Areal/Sametinget-planveileder/Sametinget-planveileder (accessed September 7, 2015). LOV-2005-06-17-85: Lov om rettsforhold og forvaltning av grunn og naturressurser i Finnmark fylke (finnmarksloven) [Finnmark Act]. LOV-2008-06-27-71: Lov om planlegging og byggesaksbehandling (plan- og bygningsloven) [Plan and Building Act].

Rwanda: There exists a national law nº 28/2016 of 22/7/2016 on the preservation of both tangible and intangible cultural heritage and traditional knowledge.

USA: see EPA Tribal Councils and

[8] The policy can be established at the level of the project/operation, or at the level of its corporate owner(s). IRMa acknowledges that a corporate-level commitment to meet Paris Agreement goals could include actions at the some sites that may be far more ambitious than at others, which is acceptable as long as the corporate as a whole can achieve the necessary overall emissions reductions.

[9] Evidence maybe provided to demonstrate that a site contributes to global objectives, in spite of site-specific or company-specific targets that are not in line with the Paris Agreement, if the site meets all the criteria for Green Enabling Projects and can demonstrate the environmental benefits of its production's end-use. See 4.6.6.1.b for more details and guidance.

[10] Including through avoiding and minimizing the significant contributions of the site and its associated facilities to climate change.

[11] One should refer to "net GHG emissions" if, and only if, total GHG emissions are partially offset by human-led and deliberate GHG removal activities (like forestation/plantations or tech-based CO_2 removals) thereby leading to net GHG emissions.

[12] There are seven greenhouse gases according to the United Nations Framework Convention on Climate Change and Kyoto Protocol. These are: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

[13] The physical extent for calculating Scope 1 GHG emissions due to land use change (and reductions in land carbon stock) should only include specific land areas managed or controlled by the ENTITY, ensuring that only emissions from activities within these boundaries are considered.

[14] Including GHG Protocol, PAS 2050, ISO 14064 part 1 or equivalent.

[15] There are seven greenhouse gases according to the United Nations Framework Convention on Climate Change and Kyoto Protocol. These are: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

[16] Including GHG Protocol, PAS 2050, ISO 14064 part 1 or equivalent.

[17] Including to prioritize use of renewable sources of energy, where technically and economically viable.

[18] Compensation measures (used as a last resort) may include the use of carbon offsets.

[19] The requirement is that targets are set for Scope 1 and Scope 2 emissions, but entities can choose to develop Scope 3 targets if they have already developed a robust understanding of their Scope 3 emissions.

[20] Specific criteria for eligible Green Enabling Projects, as articulated in the International Capital Market Association (ICMA) 2024 'Green Enabling Projects Guidance document' include:
1) Necessary for an enabled Green Project's value chain (see details in Guidance document);

2) No carbon lock-in;
3) Clear, quantifiable and attributable environmental benefit; and
4) Mitigated adverse social or environmental impacts.
Guidance available at: https://www.icmagroup.org/assets/documents/Sustainable-finance/2024-updates/Green-Enabling-Projects-Guidance-document-June-2024.pdf

[21] Demonstration of the environmental benefits of the production's end-use are also expected by ICMA, refer to the above document for guidance on sites where: a) the end-user is known and largely traceable; or b) the end-user is not known. The IRMA Chain of Custody Standard provides an auditable framework to ensure accounting and traceability of material produced by IRMA-audited sites. Downstream due diligence and understanding of the risk and impact associated with the end-use of products sold is also addressed under Chapter 1.4 – Upstream and Downstream Sustainability Due Diligence.
ICMA Guidance available at: https://www.icmagroup.org/assets/documents/Sustainable-finance/2024-updates/Green-Enabling-Projects-Guidance-document-June-2024.pdf

[22] If work is carried out by third party contractors, then there needs to be a staff employee responsible for overseeing the quality of work, timelines, etc.

[23] They must be updated if the review process indicates that the site is not on track with its targets (that must be aligned with the Paris Agreement, as per 4.6.6.1). This will be informed by the monitoring and evaluation process required in the previous Section, and on the review process required in a. to c.

[24] They must be updated if the review process indicates that the site is not on track with its targets (that must be aligned with the Paris Agreement, as per 4.6.6.1). This will be informed by the monitoring and evaluation process required in the previous Section, and on the review process required in a. to c.

[25] They must be updated if the review process indicates that the site is not on track with its targets (that must be aligned with the Paris Agreement, as per 4.6.6.1). This will be informed by the monitoring and evaluation process required in the previous Section, and on the review process required in a. to c.

[26] They must be updated if the review process indicates that the site is not on track with its targets (that must be aligned with the Paris Agreement, as per 4.6.6.1). This will be informed by the monitoring and evaluation process required in the previous Section, and on the review process required in a. to c.

[27] All material must remain publicly accessible at least until the completion of all post-closure activities (including any previous versions, iterations and revisions). Note that the intention is not that the reports should be removed from the public domain after that. Rather, where possible, it should be retained indefinitely as the information may be important for legal or other purposes.

[28] All material must remain publicly accessible at least until the completion of all post-closure activities (including any previous versions, iterations and revisions). Note that the intention is not that the reports should be removed from the public domain after that. Rather, where possible, it should be retained indefinitely as the information may be important for legal or other purposes.

[29] May be reported as CO_2 equivalent (CO_2e) or as the seven greenhouse gases defined in the United Nations Framework Convention on Climate Change and the Kyoto Protocol (CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

[30] May be reported as CO_2 equivalent (CO_2e) or as the seven greenhouse gases defined in the United Nations Framework Convention on Climate Change and the Kyoto Protocol (CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

[31] Carbon offsets can only be used as a last resort, see 4.6.5.1.

[32] All material must remain publicly accessible at least until the completion of all post-closure activities (including any previous versions, iterations and revisions). Note that the intention is not that the reports should be removed from the public domain after that. Rather, where possible, it should be retained indefinitely as the information may be important for legal or other purposes.

www.responsiblemining.net

IRMA Initiative for Responsible Mining Assurance