



The Copper Mark Summary Report

Participant Information

Name of the Site	Onsan Smelter & Refinery (Onsan I and II)
Unique identifier provided by the Copper Mark	P0017
Address	148 Sanam-ro, Onsan-eup, Ulju-gun, Ulsan
Country of Operation	Republic of Korea
Products produced on site (e.g., concentrate, anodes, cathodes, sulphuric acid, slag, etc.)	Copper Cathode
Metals produced on site (e.g., copper, gold, nickel, silver, molybdenum)	Copper, gold, silver
Metals included in scope of Criterion 31 (this must be all, or a sub-set of the metals produced on site)	Copper
Types of operations included in scope	
Mining	<input type="checkbox"/>
Concentrate blending	<input type="checkbox"/>
Solvent extraction and electrowinning	<input type="checkbox"/>
Smelting	<input checked="" type="checkbox"/>
Refining	<input checked="" type="checkbox"/>
Other (please explain)	
Infrastructure owned or controlled by the site and included in scope	
Roads	<input type="checkbox"/>
Rails	<input type="checkbox"/>
Ports	<input checked="" type="checkbox"/>
Other (please explain)	

Independent Review

<p>During this step, the Independent Reviewer examined the Copper Producer’s self-assessment, supporting documentation, independent third-party assurance reports, and publicly available information.</p> <p>The activities included review for completeness, verifying equivalence, and conducting desk-based due diligence.</p> <p>As a result, the Independent Reviewer recommended the scope of the site assessment to the Copper Mark.</p> <p>The Independent Review took place on these dates:</p>	<p>20/09/2021 – 05/10/2021</p>
<p>The Independent Reviewer confirmed completeness, indicating available evidence for the assessor to review for all applicable criteria:</p>	<p>All criteria except:</p> <ul style="list-style-type: none"> • 3. Stakeholder Engagement • 5. Child Labor • 6. Forced Labor • 17. Freshwater Management and Conservation • 23. Community Health and Safety • 26. Human Rights <p>Due to the timing of the site assessment, it was agreed that these would be fully reviewed by the assessors on site.</p> <p>These criteria were fully reviewed and assessed as per the determinations by the assessor below.</p>
<p>The Independent Reviewer recommended the following criteria be included in the scope of the independent site assessment:</p>	<p>All criteria except:</p> <ul style="list-style-type: none"> • 14. Environmental Risk Management • 19. Tailings Management • 22. Mine Closure and Reclamation • 25. Artisanal and Small-Scale Mining • 27. Security and Human Rights • 28. Indigenous Peoples Rights

	<ul style="list-style-type: none"> • 29. Land Acquisition and Resettlement 	
<p>The following equivalent systems were applied:</p> <p>Equivalent systems are determined by the Copper Mark to have standards and assurance requirements that are materially comparable in scope and intent to those of the Copper Mark, in accordance with the Copper Mark Recognition Process.</p>		
Equivalent System (Name, date of assurance / certification)	Review Process	Criteria Covered by Equivalency
ISO 14001 12/20/2018	<p>The Independent Reviewer confirmed the assurance / certification was:</p> <ul style="list-style-type: none"> • Valid at the time of the review • No more than 24 months old and / or plans for reassessment are underway • In effect for an additional 12 months and / or plans for reassessment are underway • Covering the same scope as the Copper Mark Responsible Production Criteria, including operations, locations, and materials • Accompanied by improvement plans where applicable 	14. Environmental Risk Management
<p>The Independent Reviewer recommended the following criteria be considered focus areas for the independent site assessment:</p>		<ul style="list-style-type: none"> • 3. Stakeholder Engagement • 5. Child Labor • 6. Forced Labor • 8. Discrimination • 15. Greenhouse Gas Emissions • 16. Energy Consumption • 17. Freshwater Management and Conservation

	<ul style="list-style-type: none"> • 18. Waste Management • 20. Pollution • 23. Community Health and Safety • 26. Human Rights • 31. Due Diligence in Mineral Supply Chains
<p>The Independent Reviewer recommended the following criteria be considered not applicable to the Site:</p>	<ul style="list-style-type: none"> • 19. Tailings Management • 21. Biodiversity and Protected Areas • 22. Mine Closure and Reclamation • 25. Artisanal and Small-Scale Mining • 27. Security and Human Rights • 28. Indigenous Peoples Rights • 29. Land Acquisition and Resettlement • 30. Cultural Heritage

Independent Site Assessment Information

Name of the Lead Assessor	Rachelle Jackson/ James Ryu
Name of the Assessment Firm (if applicable)	Arche Advisors
Date(s) of Assessment Activities (dd/mm/yyyy – dd/mm/yyyy)	10/12/2021-10/14/2021, 11/5/2021
Assessment Period	01/09/2020-31/08/2021
Summary of the Assessment Methodology	<p>The assessment methodology used for this assessment focused on data gathering through site visits to the smelting and refining facilities, dormitory, port, and community; through observation, employee and management interviews, and extensive document review of policies, procedures, documents, and records for each of the specific Copper Mark criteria. A sampling approach was used related to document selection and employee selection, including contractor agencies.</p> <p>Permanent workers: 855 Contract workers: 402</p>

Summary of the Assessment Activities	<p>12 October 2021</p> <ul style="list-style-type: none"> • Opening meeting • Document review • Management interviews • Partial site tour <p>13 October 2021</p> <ul style="list-style-type: none"> • Dormitory and port site visits • Management interviews • Document review • Worker interviews <p>14 October 2021</p> <ul style="list-style-type: none"> • Document review • Management interviews • Closing meeting
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Summary of Findings

Criterion	Rating	Comments
	Fully meets, partially meets, does not meet, not applicable	Includes link to publicly available documents or supporting evidence where possible and at a minimum for those criteria with an *
1. Legal Compliance	Fully meets	<p>Onsan has a management system in place to ensure legal compliance and incorporate timely changes into processes.</p> <p>Compliance is monitored by the legal affairs team and supported by technology to stay abreast of legal changes. This was confirmed by document review and interviews with management.</p>
2. Business Integrity	Fully meets	<p>Onsan has policies and procedures in place related to business integrity.</p> <p>This is confirmed through the Code of Ethics, the process to receive, investigate, and address allegations of misconduct, employee training records, and interviews with management.</p>

3. Stakeholder Engagement*	Fully meets	<p>Onsan has a process to identify and engage with relevant stakeholders. Engagement plans are developed by department teams each year.</p> <p>This was confirmed through record review, interviews with management, and interviews with local communities. More information is available at LS Group website: https://ethics.lsholdings.co.kr/en/view/report.asp.</p>
4. Business Relationships	Fully meets	<p>Onsan has policies and procedures in place to manage business relationships and hold them accountable. These are managed using internal processes established for compliance with the OECD Due Diligence Guidance and the LBMA Responsible Gold Guidance.</p> <p>This was confirmed through review of contracts with business partners and suppliers, and interviews with management, sampling of surveys completed with business partners to identify risks.</p>
5. Child Labor	Fully meets	<p>Onsan has policies and procedures in place to prohibit hiring of workers under the age of 18.</p> <p>This was confirmed through a review of the policy and hiring procedures, interviews with management, review of the registry of workers, and interviews with workers about the hiring process and knowledge around child labor and minimum age.</p>
6. Forced Labor	Fully meets	<p>Onsan has policies and procedures in place to prohibit forced labor, embodied in policies on employment rules and discipline.</p> <p>This was confirmed through a review of the policies and processes to prevent practices that can contribute to forced labor such as document retention, restriction of movement, or mandatory overtime as well as interviews with management and workers (including contractors) on these topics.</p>
7. Freedom of Association and Collective Bargaining	Fully meets	<p>Onsan has employment rules that provide for access to union membership. More than 500 of the 850 workers are registered with the union. Employees are made aware of the union upon hiring.</p> <p>This was confirmed by a review of the employment rules, existing collective bargaining agreements, meetings with management,</p>

		meetings with employees, contractors, and union representatives.
8. Discrimination	Fully meets	<p>Onsan has policies and procedures in place to manage discrimination, including a separate policy and training program to manage harassment. Employees are held accountable in writing to these policies and procedures. Onsan is recommended as a company that employs disabled persons through the Promotion on Employment of Disabled Persons Law.</p> <p>This was confirmed through a review of the anti-discrimination and anti-harassment policies, job postings, records of employee training including content, interviews with management, and interviews with workers on awareness of the policy and where to locate it.</p>
9. Gender Equality	Fully meets	<p>Onsan has policies and procedures in place to support gender equality in hiring, leave time, protection for pregnant employees, maternity leave, childcare, salaries, and raises. The company has been certified by the government as a female friendly company.</p> <p>This was confirmed through review of the policies and procedures, interviews with management, and interviews with workers regarding their knowledge of the policies and procedures as well as workplace experiences.</p>
10. Working Hours	Fully meets	<p>Onsan has a system in place to manage working hours in line with legal requirements that are stricter than the international standards. These include limiting working hours to 52 hours per week including 12 hours of overtime, voluntary overtime, rest days and leave. This is communicated to suppliers through the code of conduct as well.</p> <p>This was confirmed through review of the policies and procedures, collective bargaining agreements, sampling of records to demonstrate working hours and leave, review of the code of conduct, interviews with management, and interviews with workers to confirm the consistent implementation of the stated policies and procedures.</p>
11. Remuneration	Fully meets	Onsan has a system in place to pay wages that are equal to or exceed the national minimum

		<p>wage, industry standard, and negotiated through collective bargaining agreements.</p> <p>This was confirmed through documents, records including payroll records, industry wage reports, training records, business partner code of conduct. It was corroborated through interviews with management and workers who understand the company's wage payment system, confirm consistent on-time payment, and are aware of the channels to communicate issues.</p>
12. Occupational Health and Safety	Fully meets	<p>Onsan has a system in place to manage occupational health and safety and has been certified by KOSHA18001, the local standard.</p> <p>This was confirmed by document review of the policies, procedures, records of monitoring, site visit to both the port, operations, offsite dormitory, and storage areas, interviews with management and interviews with workers to corroborate implementation of the policies and procedures. This includes training, emergency response plans, protective equipment, and how to respond to potential risks.</p>
13. Grievance Mechanism	Fully meets	<p>Onsan has a system in place to receive and respond to worker grievances, using the local labor council, which includes management and trade union members and an acting grievance commissioner</p> <p>This was confirmed through review of documents regarding the Labor-Management Council and grievance process, as well as records showing distribution of information regarding the system and receipt of specific grievances and related investigations, interviews with management, and interviews with workers about their awareness and willingness to use the grievance mechanism.</p>
14. Environmental Risk Management	Fully meets	<p>The Independent Review confirmed that the site meets the requirement as validated through ISO 14001:2015.</p>
15. Greenhouse Gas (GHG) Emissions*	Fully meets	<p>Onsan has a policies and systems in place to assess, set targets, and measure progress to monitor and reduce emissions in line with legal requirements to prepare and submit a report on the amount of greenhouse gas emissions actually produced during a compliance year in a measurable, reportable, and verifiable manner to the National Greenhouse Gas Management</p>

		<p>System. Onsan has a reduction target of 14.5% by 2030 for scope 1 and 2 emissions.</p> <p>This was confirmed through review of the process, annual reports to the government, walkthroughs to verify implementation, and interviews with management. Public information is available at ETRS: Emissions Trading Registry System, https://etrs.gir.go.kr/.</p>
16. Energy Consumption	Fully meets	<p>Onsan has policies and procedures in place to carry out continuous improvement and efficiency of energy use and consumption, in line with legal requirements to carry out continuous improvement to promote efficiency of energy use and consumption and is required to annually submit the aggregated consumption of emergency to Korea Energy Agency.</p> <p>The system includes a risk assessment, management plan, reduction program, monitoring on energy efficiency and renewable energy.</p> <p>This was confirmed through review of the policies and procedures, interviews with management, and interviews with workers to verify their understanding on the policy. A walkthrough was conducted to further verify implementation, revealing the use of a combination of solar power, high-efficiency energy machinery and equipment, heating and cooling temperature controlled according to the government guidance.</p>
17. Freshwater Management and Conservation	Fully meets	<p>Onsan recognizes the value of water as a shared resource and has a system in place to ensure that the water is used to minimize the impact to the water sources, surrounding water users and environmental resources. There is a process in place to evaluate the impacts on the environment related to water intake and water discharge on a regularly and establish the target for water consumption and promote reduction activities.</p> <p>This was confirmed through management interviews, review of policies and procedures and government documents, interviews with workers to understand their level of awareness with the policies, and facility walkthrough where it was observed that the facility uses greywater to reduce water consumption.</p>

18. Waste Management	Fully meets	<p>Onsan has a management system in place including risk assessment, management plan, reduction program, monitoring on waste generation. Onsan has a process to classify and separate the wastes from the generation according to properties and types, and stores and discharges wastes through the licensed waste vendors.</p> <p>This was confirmed through review of policies and procedures, documents and KPIs, interviews with management to discuss roles and accountability, interviews with workers to understand how the processes are implemented in day-to-day activities, and site walkthrough to observe the management in practice.</p>
19. Tailings Management	Not applicable	Not applicable for non-mining entities.
20. Pollution	Fully meets	<p>Onsan has a pollution management system including policy and commitment to avoid, minimize, reduce, and compensate for the impact of pollution on human health and the environment.</p> <p>This was confirmed through management interviews, review of the company’s real-time monitoring system, monitoring reports, emergency response plans, and training program. Interviews with workers and the facility walk through confirmed the air emission facility and wastewater treatment facility are operated to avoid and minimize pollution according to legal requirements and management procedures.</p>
21. Biodiversity and Protected Areas	Fully meets	<p>Onsan has a biodiversity and protected areas management system including policy and commitment to implement the mitigation hierarchy for the management of the impact on biodiversity. The site is located in the Onsan National Industrial Area, and an impact assessment concluded no adverse impacts on biodiversity.</p> <p>This was confirmed through review of the impact assessment and other documents, interviews with management, relevant workers on their role related to biodiversity and restoration, and walkthrough to see any visible impacts.</p>
22. Mine Closure and Reclamation	Not applicable	Not applicable for non-mining entities.

<p>23. Community Health and Safety</p>	<p>Partially meets</p>	<p>Onsan has a management system for Community Health and Safety including policy and commitment to avoid, minimize, reduce, and compensate for adverse project related impacts on community health and safety. Currently, no residential area is located within the industrial area.</p> <p>This was confirmed through a review of the policies and procedures, interviews with management, and interviews with local communities and stakeholders.</p> <p>There are two opportunities for improvement:</p> <ol style="list-style-type: none"> 1. The process to avoid, minimize, reduce, and compensate for adverse impacts on community health and safety is not clearly defined in the management system. 2. The company has not undertaken in partnership with local stakeholders the identification of potential health and safety impacts.
<p>24. Community Development</p>	<p>Fully meets</p>	<p>Onsan has a process in place to engage on community development. By securing communication channels with local governments, resident groups, and related organizations, the company has a process in place to identify the needs of stakeholders and reflect needs in the development of plans.</p> <p>This was confirmed through management interviews and document review, as well as interviews with community representatives and stakeholders to verify if they understand the community development initiatives and they are consulted on community development issues.</p>
<p>25. Artisanal and Small-Scale Mining</p>	<p>Not applicable</p>	<p>There is no artisanal or small-scale mining in the area of influence.</p>
<p>26. Human Rights</p>	<p>Fully Meets</p>	<p>Onsan has policies and processes in place to manage human rights in line with the UN Guiding Principles. The Business Code of Conduct and Ethics outlines expectations for treatment of others, human rights, and health and safety, as well as ethics. The site conducts a supply chain human rights risk assessment, annual surveys, and maintains a public grievance mechanism at https://ethics.lsholdings.co.kr/en/view/report.asp.</p>

		This was confirmed through a review of the processes and related documents, management interviews, and interviews with employees and workers regarding their knowledge of the policies.
27. Security and Human Rights	Not applicable	Not applicable for non-mining entities.
28. Indigenous Peoples' Rights	Not applicable	There are no known indigenous peoples in the area of influence.
29. Land Acquisition and Resettlement	Not applicable	There are no instances of land acquisition and resettlement.
30. Cultural Heritage	Partially meets	<p>Onsan has developed the process to manage risks to culture and heritage, but the process is incomplete. This was confirmed through a review of the processes, results of the impact assessment, and interviews with management.</p> <p>There is one opportunity for improvement: The process implemented is not based on consulting with affected communities or stakeholders.</p>
31. Due Diligence in Mineral Supply Chains	Partially meets	<p>Onsan has an adequate and appropriate due diligence management system in place to manage due diligence in mineral supply chains, having successfully completed the LBMA responsible gold assessment for 7 years.</p> <p>However, the Conflict Minerals Policy lacks some of the required data points, which are found in LBMA audit reports published on the website. In addition, the company does not currently have a Step 5 public report.</p>
31.a. Management System	Fully meets	Onsan has a strong and sufficient management system for their supply chain due diligence, built on their experience with LBMA certification requirements for the last 7 years.
31.b. Red Flag Identification Process	Fully meets	The red flag identification process appears to be appropriate and adequate, collecting and analyzing information on the supply chain.
31.c. Risk Assessment Process	Fully meets	The Risk Management Identification System of the company appears to be appropriate and adequate for identifying risks and impacts.
31.d. Risk Management Process	Not applicable	No red flags were identified
31.e. Public Reporting*	Partially meets	The company has not yet published the Step 5 report; however, they have a plan to do so with

		<p>the first sustainability management report (see criterion 32).</p> <p>Furthermore, the company has publicly available assurance reports on their OECD Due Diligence system as part of their LBMA accreditation. The most recent report can be accessed here and includes a description of the company’s due diligence efforts.</p> <p>There is one opportunity for improvement: there is no public “Step 5” report and current public reporting on due diligence does not cover copper, as it is specific to the LBMA Responsible Gold / Silver Guidance, covering both gold and silver.</p>
32. Transparency and Disclosure*	Partially meets	<p>The company does not report publicly on their sustainability practices. However, the company has started the process to establish public reporting practices, focusing on key topics for reporting in 2021, implementation of objectives in 2022 and publication of the first report in 2023.</p> <p>There is one opportunity for improvement: fully implement the plan to define the key topics for reporting in 2021, implement goals set over the course of 2022, and publish the report in June 2023 in line with the GRI Guidelines.</p>

Conclusions

Statement of conformance	
The site is found to fully meet all applicable criteria of the Risk Readiness Assessment and, for Criterion 31, all applicable conformance criteria of the Joint Due Diligence Standard.	<input type="checkbox"/>
The site is found to fully meet or partially meet all applicable criteria of the Risk Readiness Assessment and, for Criterion 31, all applicable conformance criteria of the Joint Due Diligence Standard. The site has committed to continuous improvement to fully meet all applicable Copper Mark Criteria by 18 March 2023.	<input checked="" type="checkbox"/>
The site is found to miss some or all of the applicable criteria of the Risk Readiness Assessment and / or for Criterion 31, some or all of the applicable conformance criteria	<input type="checkbox"/>

of the Joint Due Diligence Standard. The site has committed to continuous improvement to fully meet all applicable Copper Mark Criteria by 18 March 2023.	
The site misses some or all of the applicable requirements of the Risk Readiness Assessment and / or for Criterion 31, the applicable criteria of the Joint Due Diligence Standard. The Site has not committed to continuous improvement.	<input type="checkbox"/>
Limitations:	
Additional comments:	

Copper Mark Award

This Summary Report is prepared using data from the independent review report and the independent assessment report. The Copper Mark confirms the assessors' conclusion and awards the Copper Mark as follows

Date the Copper Mark is awarded (dd/mm/yyyy)	22 December 2021
Expiry Date of the Copper Mark (dd/mm/yyyy)	21 December 2024