



The Copper Mark Summary Report

Participant Information

Name of the Site	Hitachi Refinery
Unique identifier provided by the Copper Mark	P0036
Address	1-2, Shiroganecho 1-chome Hitachi-shi, Ibaraki 317-0056
Country of Operation	Japan
Copper 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, platinum, palladium
Metals included in scope of Criterion 31 (this must be all, or a sub-set of the metals produced on site)	Copper
Metals covered by other independent assessments for Criterion 31 (e.g., RMAP, LBMA, RJC, etc.)	Gold – LBMA Responsible Gold Guidance
Types of operations included in scope	
Mining	<input type="checkbox"/>
Concentrate blending	<input type="checkbox"/>
Solvent extraction and electrowinning	<input type="checkbox"/>
Smelting	<input type="checkbox"/>
Refining	<input checked="" type="checkbox"/>
Fabrication	<input type="checkbox"/>
Other (<i>please explain</i>)	
Infrastructure owned or controlled by the site and included in scope	
Roads	<input checked="" type="checkbox"/>

Rails	<input type="checkbox"/>
Ports	<input type="checkbox"/>
Other (<i>please explain</i>)	

Equivalent Systems

The following equivalent systems were applied:

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](#).

Equivalent System <i>(Name, date of assurance / certification)</i>	Review Process	Criteria Covered by Equivalency
ISO 14001:2015 14 April 2022	The assurance / certification was confirmed to be: <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 	<ul style="list-style-type: none"> • 14. Environmental Risk Management • 16. Energy Consumption • 18. Waste Management • 20. Pollution
ISO 45001:2018 1 April 2022	The assurance / certification was confirmed to be: <ul style="list-style-type: none"> • Valid at the time of the review • No more than 24 months old and / or plans for 	12. Occupational Health and Safety

	<p>reassessment are underway</p> <ul style="list-style-type: none"> • 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 	
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Independent Site Assessment Information

Name of the Lead Assessor	Mathew Nelson, Masaki Moro, Hironori Takamura, Kirsten Hengen, Koichi Watanabe
Name of the Assessment Firm (if applicable)	EY
Date(s) of Assessment Activities (dd/mm/yyyy – dd/mm/yyyy)	26 August 2022 – 17 October 2022
Assessment Period	1 January 2022 – 31 December 2022
Summary of the Assessment Methodology	<p>EY developed a reasonable assurance methodology, specific for Copper Mark, in accordance with the International Standard on Assurance Engagements (ISAE) 3000.</p> <p>This methodology included:</p> <ol style="list-style-type: none"> 1. Planning and assurance strategy <ul style="list-style-type: none"> • Kick off meeting with JX Nippon Mining & Metals Corporation counterparts. • Assessment of performance expectations of the Copper Mark criteria, including commitment to Copper Mark. • Risk assessment against Copper Mark criteria specific to Hitachi Refinery's operating context. • Development of specific procedures and approaches for the execution of the review 2. Execution <ul style="list-style-type: none"> • Inspection of documentation, including policies, procedures, data and other relevant evidence.

	<ul style="list-style-type: none"> • Virtual meetings with JX Nippon Mining & Metals Corporation professionals to understand existing processes and activities related to Copper Mark's performance expectations. • Visit to the Hitachi Refinery's site, including interviews with workers and local stakeholders. • Comparison of the results of Hitachi Refinery's self-assessment against the Copper Mark criteria, the evidence collected, and the observations shared during the interviews. • Discussions on rating differences, supporting documentation, gaps, and plans to address identified gaps. <p>3. Conclusion</p> <ul style="list-style-type: none"> • Executive review of self-assessments. • Drafting of the Detailed Report • Drafting of the reasonable assurance statement • Final review meeting with JX Nippon Mining & Metals Corporation and Hitachi Refinery to validate the rating, gaps, and plans to address the identified gaps. • Finalization of the Detailed Report <p>About the company: Hitachi Refinery is part of JX Metals Smelting Co., Ltd., a group company of JX Nippon Mining & Metals Corporation (JX NMM), which is a subsidiary of ENEOS Holdings, Inc.</p> <p>The site implements group policies from JXNMM.</p> <p>Direct employees: 150</p> <p>Contract employees: approximately 25</p>
<p>Summary of the Assessment Activities</p>	<ul style="list-style-type: none"> • In-person and virtual interviews were conducted with JX NMM and JX Metals Smelting Co., Ltd, Hitachi Refinery staff to understand the reporting process for the Self-Assessments, including management interviews, 1 interview with community representatives, 1 interview with contract workers and 16 interviews with employees. The interviewees from the workers were selected from the employee list provided from the site, considering a balance of sections, titles, and gender. For the community, the representative of the community party with which the site communicated frequently was selected. • The accuracy and completeness of the evaluated criteria were checked • The applicability of the Copper Mark criteria for Hitachi Refinery was reviewed, and it was verified whether Hitachi Refinery has met, partially met or not, the criteria considered applicable.

	<ul style="list-style-type: none"> Referenced documents and policies were inspected to assess whether the classification can be supported. On-site inquiries were conducted with internal and external stakeholders to examine documentation and written evidence. Virtual interviews and evaluations conducted on 15 September 2022 were also taken into account. Review of whether the information disclosed in the self-assessments is consistent with our understanding and knowledge of Hitachi Refinery's governance, responsibility and sustainability management as examined in the review of JX NMM's sustainability disclosures for fiscal year 2021 in its annual report.
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Summary of Findings

Criterion	Rating <i>Fully meets, partially meets, does not meet, not applicable</i>	Comments <i>Includes link to publicly available documents or supporting evidence where possible and at a minimum for those criteria with an *</i>
1. Legal Compliance	Fully meets	<p>JX NMM has developed the Group Compliance Regulation, including activities such as education, guidance and inspection, establishment of internal structures and whistle-blowing systems. JX NMM is responsible for legal requirements, and the responsible department monitors updates of laws and regulations and shares them with the operating sites as necessary. Relevant updates are communicated through the intranet after revision of internal rules/regulations. If the case is critical, additional training is implemented.</p> <p>This was confirmed through interviews with management, interviews with workers who confirmed relevant training, site observations and a review of documents including the compliance regulation, notification email on amendments to laws, compliance education plan, and meeting notes.</p>
2. Business Integrity	Fully meets	JX NMM has the Anti-Bribery Rules to prevent any bribery, corruption, and anti-competitive behaviour as well as a Checklist for Giving Gifts to

		<p>Government Officials. These rules are applied to all the sites including Hitachi Refinery.</p> <p>This is supported by external surveys, internal audits, compliance training, and a compliance guidebook. There is an internal hotline available that receives 10 or so cases per year. At the time of the assessment, none of the cases raised through the hotline were related to business integrity.</p> <p>This was confirmed through interviews with management, interviews with workers, site observations revealing the “pocket card” that introduces the communication methods and procedure to respond to whistleblowing, and a review of documents including compliance regulation, anti-bribery rules, training materials, forms, and self-check sheets.</p>
<p>3. Stakeholder Engagement*</p>	<p>Partially meets</p>	<p>JX NMM has a stakeholder map and procurement policy that is applied at the site. At the Hitachi Refinery, the General Affairs Department is in charge of public affairs and acts as a point of contact for local residents. Local suppliers are selected/contracted by each department.</p> <p>Relationship with local communities is also established through the Environmental Liaison Council, and if any problems arise, they are informed through the council. In recent years, there have been complaints related to the noise of the construction work, but they were delivered to the company and have been resolved through close communication. Currently there are no unresolved issues. There is a grievance mechanism via the Customer Contact Point.</p> <p>There are two gaps identified:</p> <ul style="list-style-type: none"> • Hitachi Refinery does not have a site-level stakeholder map and process to regularly update it

		<ul style="list-style-type: none"> There is no formal grievance policy or mechanism available for external stakeholders. Such mechanism shall be aligned with the UN Guiding Principles' Effectiveness Criteria. <p>This was confirmed through interviews with management, interviews with workers, interviews with community, and a review of documents including the materiality analysis, the ESG handbook, and the CSR procurement questionnaire.</p>
4. Business Relationships	Fully meets	<p>At the corporate level, there is a Basic Policy on Procurement and approach to sustainable procurement activities based on the policy as part of the environmental, social, and corporate governance (ESG) initiatives. At the site, each department in charge selects suppliers.</p> <p>Significant suppliers are determined based on transaction amounts. Hitachi Refinery requires these suppliers to respond to a CSR procurement questionnaire that includes all elements of the Basic Policy on Procurement. This includes, for example, questions around child labor, forced labor, and discrimination, among others.</p> <p>Hitachi Refinery has a process to review and respond to issues identified in the questionnaires. No issues were identified in 2019. The last version was sent in 2022.</p> <p>This was confirmed through interviews with management, interviews with a contractor, and a review of documents including the basic policy on procurement, the policy for selecting procurement partners, and the sustainability report.</p>
5. Child Labor	Fully meets	<p>Child labor is prohibited via the JX NMM Compliance Regulation, Compliance Guidebook and Regulation, training on human rights and SDGs, Basic Procurement Policy and CSR</p>

		<p>survey. It is checked through due diligence efforts for procurement of recycled products and copper concentrates. Job postings state that applicants must be 'high school graduates' (i.e. 18 years old or higher). Ages are confirmed upon hiring.</p> <p>No children were observed on site.</p> <p>This was confirmed through interviews with management, interview with a worker who had not witnessed child labor and confirmed the required age of employment, site observations, and a review of documents including training materials, group compliance information, and a sample job posting.</p>
6. Forced Labor	Fully meets	<p>Forced labor is prohibited via the JX NMM Compliance Regulation, Compliance Guidebook and Regulation, training on human rights and SDGs, Basic Procurement Policy and CSR survey. This is in line with national regulation prohibiting forced labor. It is checked through due diligence efforts for procurement of recycled products and copper concentrates.</p> <p>Site visits and interviews revealed no cases of suspected forced labor. There was no evidence of foreign technical intern trainee was observed on site.</p> <p>This was confirmed through interviews with management, interview with a worker who had not observed forced labor, site observations, and a review of documents including training materials, group compliance information, and the procurement questionnaire.</p>
7. Freedom of Association and Collective Bargaining	Fully meets	<p>Hitachi Refinery has adopted a union shop system, in which all non-managerial employees are, in principle, members. The labor union at the Hitachi Refinery is a branch of the JX NMM labor union. JX NMM deals appropriately with the workers' rights based on Japanese labor laws and regulations.</p>

		<p>Freedom of association is mentioned in the human rights and SDG training provided at the site.</p> <p>There is an agreement in place based on Labor Basic Act article 36 that defines overtime working hours as determined between the company and the labor union.</p> <p>This was confirmed through interviews with management, interviews with workers, and a review of documents including training, results of labor-management consultations, and the agreement on overtime.</p>
8. Discrimination	Fully meets	<p>At the corporate level, non-discrimination is included in the JX Metals Group Compliance Regulation and relayed at Hitachi through Human rights and SDGs training. Non-discrimination is included in the due diligence processes for suppliers.</p> <p>In addition to the hotline, there is an external harassment consultation desk.</p> <p>Workers stated that they had received training, understood what to do in the case of discrimination, and had not witnessed discrimination.</p> <p>This was confirmed through interviews with management, interviews with workers, and a review of documents including compliance information, training materials, and training records.</p>
9. Gender Equality	Fully meets	<p>At the corporate level, gender equality is included in the JX Metals Group Compliance Regulation and compliance guidebook. Position-specific trainings (new employees, new managers, executives) covers gender equality according to the JX Metals Group Compliance Basic Plan. The activity plan for gender advancement is posted on the intranet, and the result is disclosed on the website of the Ministry of Health, Labor and Welfare.</p> <p>Training on human rights and SDGs including gender equality was provided</p>

		<p>to new managers at Hitachi Refinery. Site-level progress toward the advancement plan is shared at JX NMM manager meetings.</p> <p>At JX NMM, there is a target of 30% female newly hired graduate employment in 2020. The company discloses some data regarding women’s participation, such as the ratio of female workers among the workers hired, the ratio of female workers among workers, the ratio of female workers in managerial and executive positions, etc. on the database of the Ministry of Health, Labor and Welfare. This data is disclosed and monitored on an annual basis. More information is available here.</p> <p>This was confirmed through interviews with management, interviews with workers and in particular female workers who stated, “they have not been treated unfairly as a woman or treated unfairly in promotions and promotions,” and a review of documents including the database of women participation training materials, and sample job posting.</p>
10. Working Hours	Fully meets	<p>At the corporate level, the JX Metals Group Compliance Regulation and compliance guidebook that covers fair working hours and their management in line with legal obligations to keep working hours at 40 hours per week and no more than 45 hours of overtime per month / 360 hours of overtime per year. Overtime working hours management is conducted based on agreement between the labor union and the company.</p> <p>Entry/exit times to the site are recorded by having employees themselves touch their admission cards to card reading equipment at gates when entering and leaving. Based on the time, employees apply their working hours to the time management system. Workers work</p>

		<p>in a day shift or 3-shift schedules with voluntary and tracked overtime.</p> <p>This was confirmed through interviews with management, interviews with workers, and a review of documents including a sampling of working hour records, records of shift change discussions with trade unions, and booklet of the collective bargaining agreement.</p>
11. Remuneration	Fully meets	<p>Salaries, benefits, premium payment for overtime and work in holidays/nighttime are regulated. The minimum salary is higher than the Statutory Regional Minimum Wages in Ibaraki prefecture, which is 879 yen per hour. Living wage is considered in the salary regulation.</p> <p>This was confirmed through interviews with management, interviews with workers, and a review of documents including minimum wage data, salary slip examples, and pay regulations.</p>
12. Occupational Health and Safety	Fully meets	<p>Criterion confirmed as met through equivalency with ISO 45001:2018.</p>
13. Grievance Mechanism	Fully meets	<p>JX NMM has policies, practices and procedures that allow a grievance mechanism to be accessible to all workers. This process can be carried out anonymously. The JX NMM Hotline is managed first through an external organization before following internal procedures. Information on changes to the hotline is disseminated to all workers.</p> <p>This was confirmed through interviews with management, interviews with workers who confirmed knowledge of the hotline, and a review of documents including the Whistleblowing Management Rules, Procedure for Employee Grievance Mechanism, and notifications on changes.</p>
14. Environmental Risk Management	Fully meets	<p>Criterion confirmed as met through equivalency with ISO 14001:2015.</p>

<p>15. Greenhouse Gas (GHG) Emissions*</p>	<p>Fully meets</p>	<p>At JX NMM, there is a Group Basic Environmental Policy, which states that they will contribute to achieving a decarbonized society by promoting technological innovation and energy transition and aiming for zero greenhouse gas emissions. JX NMM has a 2050 net zero target and the intermediate target of JX NMM is 50% reduction in 2030 from the 2018 baseline. Goals are set through an internal company-wide project called Carbon-free Project. JX NMM targets are for scopes 1 and 2.</p> <p>The goals are set at the JX NMM level. Hitachi Refinery production technology section reports their GHG emission values to corporate. Hitachi conducts monitoring and grasps the effects of their reduction efforts. GHG emission itemization on each division and reduction activities were carried out under environmental management system.</p> <p>This was confirmed through interviews with management, interviews with workers, and a review of documents including the JX Nippon Mining & Metals Group Basic Environmental Policy, Carbon-free projects, and the annual sustainability report.</p> <p>More information is available here.</p>
<p>16. Energy Consumption</p>	<p>Fully meets</p>	<p>Criterion confirmed as met through equivalency with ISO 14001:2015.</p>
<p>17. Freshwater Management and Conservation</p>	<p>Partially meets</p>	<p>Hitachi has implemented efforts for water management and conservation, such as implementing a water risk analysis and reuse of treated water for furnace cooling.</p> <p>One gap was identified:</p> <ul style="list-style-type: none"> • Hitachi does not have a policy for freshwater management and conservation. There has not been a comprehensive assessment of water-use impacts and risks at the

		<p>site in relation to its internal and external stakeholders.</p> <p>This was confirmed through interviews with management, interviews with workers, and a review of documents including the water risk analysis result, measurement data on exhaust wastewater.</p>
18. Waste Management	Fully meets	Criterion confirmed as met through equivalency with ISO 14001:2015.
19. Tailings Management	Not applicable	This criterion does not apply to non-mining entities.
20. Pollution	Fully meets	Criterion confirmed as met through equivalency with ISO 14001:2015.
21. Biodiversity and Protected Areas	Partially meets	<p>Hitachi has taken measures to avoid, minimize, reduce and compensate for adverse impacts on biodiversity. Hitachi has undertaken an IBAT assessment. At the corporate level, discussion to work towards TNFD has initiated.</p> <p>One gap was identified:</p> <ul style="list-style-type: none"> • There is no management system to follow a mitigation hierarchy for the management of impacts on biodiversity. <p>This was confirmed through interviews with management, interviews with workers, and a review of documents including the environmental policy, code of conduct, and special article on conservation.</p>
22. Mine Closure and Reclamation	Not applicable	This criterion does not apply to non-mining entities.
23. Community Health and Safety	Fully meets	The JX Metals Code of Conduct explicitly states a commitment to maintaining and enhancing a harmonious relationship with a wide range of stakeholders, including customers and the communities in their operation, and are committed to contributing to the sustainable development of society on a global scale. A similar commitment is in the JX NMM environmental policy.

		<p>In support of this policy, Hitachi Refinery has implemented a number of initiatives to address community concerns for example as related to smoke pollution, treatment of wastewater from closed mines, and noise complaints regarding construction work.</p> <p>Hitachi has a regular communication route with the local residents through the Environmental Liaison Council once a year, and if any problems arise, they are informed through the council. Before starting construction or other work that generates noise, the company considers the risks and, if necessary, communicate with residents in advance.</p> <p>This was confirmed through interviews with management, interviews with a contractor, interviews with representatives from the community, and a review of documents including the pollution prevention agreement, exhaust gas and wastewater data, the contract with local fisherman cooperative, the code of conduct, and the environmental policy.</p>
24. Community Development	Partially meets	<p>There is a commitment to coexistence and co-prosperity with the community in the corporate philosophy. This is complemented by a number of development initiatives at the level of Hitachi, including activities to revitalize the region. Examples include building new factories, securing up to 500 jobs at the largest factory, multifaceted support for entertainment and leisure activities, and commissioning of a new public hospital, among other activities.</p> <p>In preparation for the new factories, Hitachi is gathering needs of the community through touch points such as the local gatherings and meetings held periodically.</p> <p>One gap is identified:</p>

		<ul style="list-style-type: none"> Hitachi has not completed a formal needs assessment, in collaboration with internal and external stakeholders, to make their community development activities more effective and systematic. <p>This was confirmed through interviews with management, interviews with community representatives, and a review of documents.</p>
25. Artisanal and Small-Scale Mining	Not applicable	This criterion was confirmed to not apply. There are no ASM in the area of influence.
26. Human Rights	Fully meets	<p>The parent company of JX NMM, ENEOS holdings, has a human rights policy in line with the UN Guiding Principles, and has completed a human rights assessment through an international human rights NGO based in Tokyo.</p> <p>At JX NMM, ESG issues including social and human rights are examined twice per year. Compliance trainings including training for human rights were conducted for all workers at the site. Workers were familiar with the human rights policy.</p> <p>This was confirmed through interviews with management, interviews with workers, interviews with contractors, and a review of documents including the human rights policy of ENEOS, the due diligence report, and the training plan and records.</p>
27. Security and Human Rights	Not applicable	This criterion does not apply to non-mining entities.
28. Indigenous Peoples' Rights	Not applicable	This criterion was confirmed to not apply. There are no indigenous peoples in the area of influence.
29. Land Acquisition and Resettlement	Not applicable	This criterion was confirmed to not apply. The site has no plan to expand its area if operation thus it is understood that land acquisition and resettlement are not applicable at the site.

30. Cultural Heritage	Partially meets	<p>Hitachi has taken actions to maintain and preserve the identified cultural heritage site within the area of influence.</p> <p>Two gaps were identified:</p> <ul style="list-style-type: none"> • There is no formal policy regarding cultural heritage • There are no procedures to identify and protect cultural heritage. <p>This was confirmed through interviews with management, interviews with community representatives, a visit to cultural heritage site, and a review of documents.</p>	
31. Due Diligence in Mineral Supply Chains	Partially meets	<p>This criterion was partially covered by equivalence with the LBMA Responsible Gold Guidance. The assessment focused on the application of the joint due diligence standard for copper.</p> <p>Inputs at Hitachi Refinery come directly from the Saganoseki site and recycled materials. Procurement is managed at Pan Pacific Copper Co., Ltd.(A subsidiary of JX NMM, a sister company of JX Metals Smelting Co., Ltd.).</p>	
	31.a. Management System	Fully meets	<p>JX NMM has a Supply Chain Due Diligence Regulation that sets out the policy and procedures for the due diligence management system including the responsible persons, management, the grievance mechanism, and document control.</p> <p>This is confirmed through interviews with relevant personnel and a review of documents, including the copper supply chain due diligence rules, implementation guidelines, training, and communication records.</p>
	31.b. Red Flag Identification Process	Fully meets	<p>JX NMM has a process to identify red flags, including implementing a procedure to identifying conflict-affected and high-risk areas. The red flags identification process is appropriate for</p>

			the effective identification and confirmation of potential red flags. No red flags were identified.
	31.c. Risk Assessment Process	Not applicable	No red flags were identified for the assessment period.
	31.d. Risk Management Process	Not applicable	No red flags were identified for the assessment period.
	31.e. Public Reporting*	Partially meets	JX NMM has published its LBMA report and will issue its first Step 5 report that includes copper in June 2023.
32. Transparency and Disclosure*		Fully meets	JX NMM discloses annual on ESG-related topics in accordance with GRI standard, including site-level data. JX Group supports and endorses of EITI. More information is available here .

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 23 March 2024.	<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 of the Joint Due Diligence Standard. The site has committed to continuous improvement to fully meet all applicable Copper Mark Criteria by 23 March 2024.	<input type="checkbox"/>
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	<input type="checkbox"/>

Joint Due Diligence Standard. The Site has not committed to continuous improvement.	
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)	15 December 2022
Expiry Date of the Copper Mark (dd/mm/yyyy)	14 December 2025