

Our Commitment to Environmental Management



ICMM Principles:

Environmental Performance
Conservation of Biodiversity
Responsible Production

In line with the commitment to sustainability in environmental management to support Net Zero Emission (NZE) from scope 1 and scope 2 by 2050, PT Vale focuses on implementing new renewable energy (EBT) to reduce carbon emissions with a target of reducing carbon emissions by 33% by 2030. The entire development project has undergone a comprehensive risk management process in social and environmental aspects, including the preparation of an Environmental Impact Analysis (AMDAL) document. This process ensures that potential impacts are thoroughly assessed, and appropriate measures are implemented to mitigate adverse effects on the environment.

In 2023, the Company also initiated the construction of a nursery for the Indonesia Growth Project (IGP) in Pomalaa, Kolaka Regency, Southeast Sulawesi. The nursery facility spans five hectares and has a capacity to produce one million plant seedlings annually, including endemic plant species from Southeast Sulawesi. The nursery is designed to support post-mining reclamation in the Pomalaa Block and other reclamation needs in Kolaka.

Environmental Management Performance Highlights [POJK51-B.2]

Ministry of Environment and Forestry PROPER Achievement		
2023	2022	2021
Green	Green	Green

Emission Control Performance					
SO ₂ Emission Intensity Ton SO ₂ /Ton Ni		GHG Emission Intensity Ton CO ₂ eq/Ton Ni		Particulate Emission Intensity Particulate/Ton Ni	
2023	0.75	2023	28.7	2023	0.007
2022	0.72	2022	29.1*	2022	0.009
2021	0.77	2021	30.1	2021	0.020

Energy Usage Performance				
Description	Unit	2023	2022	2021
Energy Usage	GigaJoule	30,974,879	26,956,105	28,551,417
Energy Intensity	GigaJoule/ Ton Ni	437.9	448.6	436.6
HSFO Usage Intensity	Barrel/Ton Ni	23.6	23.8	19.9
Coal Usage Intensity	Ton/Ton Ni	4.92	5.00	5.79
HSD Usage Intensity	Liter/Ton Ni	969.6	994.1	1,094.9
Power Usage Intensity (Hydroelectric and Thermal Power Plants)	MWh/Ton Ni	34.7	36.2	35.3

Waste Management Performance				
Description	Satuan	2023	2022	2021
Non-Industrial Domestic Waste Generated	Ton	875	670	1,001
Non-Industrial Domestic Waste Segregated	%	15.1	15.2	10.2
Industrial Non-Hazardous Waste	Ton	12,165.1	13,792.0	8,721.0

Land and Biodiversity Management Performance				
Description	Unit	2023	2022	2021
Rehabilitated Land Area	Ha	224.4	295.4	283.7
Accumulated Area of Rehabilitated and Reclaimed Land	Ha	3,703.6	3,500.2	3,249.1
Total Trees Planted	Trees	171,702	179,933	219,595
Total Local Trees	Trees	86,736	49,242	10,761
Total Endemic Trees	Trees	14,441	17,631	22,206

Renewable Energy Usage				
Description	Unit	2023	2022	2021
Hydroelectric Power Plants	Unit	3	3	3
	MW	365	365	365
Biodiesel B30*	Liter	4,572,231	17,579,105	20,884,893
Biodiesel B35**	Liter	18,485,791	N/A	N/A

*Data for 2021 through March 2023 using B30 Biodiesel

**April 2023 using B35 Biodiesel data

Our Commitment to Community Development (Social)



ICMM Principles:

Human Rights
Social Performances
Stakeholder Engagement
Health and Safety

We aim to continue our presence and contribute positively to the community, including creating more job opportunities. In 2023, PT Vale initiated the construction of a nickel processing plant or smelter in Bahodopi, Morowali Regency, Central Sulawesi, and an HPAL plant in Malili, East Luwu Regency, South Sulawesi. These projects are expected to generate employment for 12,000–15,000 workers. PT Vale is committed to maximizing local employment and enhancing competencies through workforce training.

Another benefit of PT Vale's existence is that it contributes to the state through tax payments and non-tax state revenue (NTSR). The value of the Company's payments for central tax obligations and NTSR managed by the Directorate General of Taxes, the Ministry of Energy and Mineral Resources as well as the Ministry of Environment and Forestry, and the Ministry of Transportation for the period 2011–2023 reached US\$1,614 million. Meanwhile, local tax payments to provincial and regency/city government treasuries at PT Vale's work locations for the 2011–2023 period reached US\$267 million, while the 2022–2023 period reached US\$58 million.

Social Sustainability Performance Highlights [POJK51-B.3]

Total and Percentage of Local Employees				
Description	Unit	2023	2022	2021
Total Employees	Person	3,023	2,934	2,966
Total Local Employees	Person	1,431	2,550	2,570
Percentage of Local Employees	%	47	97	98

Total Employees and Average Training Hours				
Description	Unit	2023	2022	2021
Total Employees	Person	3,023	2,934	2,966
Total Training Hours	Hours	87,639	117,360	121,781
Training Hours per Employee	Hours per Person	29	40	41

Occupational Health and Safety (OHS) and Environment				
Description	Unit	2023	2022	2021
OHS Training per Employee	Hours	98	71	64
Recordable Injury Frequency Rate	%	0.31	0.68	0.70
Safe Working Hours	Hours	8,737,825	14,182,199	5,006,592
Lost Work Days	Days	22	6,009	170
Total Environmental Training Hours	Hours	224	24	136



Integrated Community Empowerment and Development Program				
Description	Unit	2023	2022	2021
Total Programs/Activities	Unit	164	82	54
Total Funds	Million USD	3.7	4.9	2.6
Estimated Total Beneficiaries	Village(s)	38	38	38
	Individual(s)	61,598	15,540	43,205

Donations and Assistance				
Description	Unit	2023	2022	2021
Additional Donations Beyond the Integrated Community Empowerment and Development Program	Thousand USD	2,672**	938*	39

*Sorowako and Bahodopi Blocks

**Including the Jakarta area, Pomalaa Block, Bahodopi Block, and Sorowako Block

Our Commitment to Sustainability Governance



ICMM Principles:

Ethical Business
Decision Making
Risk Management

PT Vale operates an integrated mining operation, which involves not only mining but also processing. In compliance with regulations governing the extension of the Company's contract into a Special Mining Business License (IUPK), on November 17, 2023, PT Vale and PT Mineral Industri Indonesia (Persero) or MIND ID signed a Heads of Agreement (HOA) regarding PT Vale Indonesia Tbk's Divestment Commitment. Following this agreement, on February 26, 2024, the Company signed a sales and purchase agreement for 1,391,087,420 shares to MIND ID became the largest shareholder with a total shareholding of 34%.

The Company is committed to respecting and safeguarding human rights in all its operational and business activities. As part of this commitment, the Company organizes human rights training sessions for all employees. The purpose of these training sessions is to ensure that team members have a comprehensive understanding of human rights and their proper handling, particularly in interactions with the community. The training aims to empower the team to identify risks related to human rights violations and subsequently implement effective mitigation measures.

Sustainability Governance Performance Highlights

Description	Unit	2023	2022	2021
Nickel in Matte Production Performance and Nickel Ore Volume				
Nickel in Matte Production	Ton	70,728	60,090	65,388
Nickel Ore Volume (Limonite)	Proven Ore Reserves	81.1	N/A	N/A
	Probable Ore Reserves	132.2	N/A	N/A
Nickel Ore Volume (Saprolite)	Proven Ore Reserves	122	62.0	65.7
	Probable Ore Reserves	99.0	46.9	42.1
Economic Performance [POJK51-B.1]				
Nickel in Matte Sales	Ton	71,108	60,960	66,515
Revenue		1,232,263	1,179,452	953,174
Total Economic Value Distributed	Thousand	907.395	1,047.489	842.205
Total Economic Value Retained	USD	361,444	142,654	113,683
Net Profit		274,334	200,401	165,797
Involvement of Local Suppliers				
Total Local Suppliers	Business Entities	305	297*	251*
Eco-Friendly Products				
Power Generated from Hydroelectric Power Plants	MW	365	365	365

*Restatement of 2022 and 2021 data.



Violation Reporting Handled through the Vale Whistleblower Channel (VWC)				
Description	2023	2022	2021	
Number of Allegations Received	32	27	33	
Percentage of Valid Allegations	30	20	28	
Total Allegations Followed Up	94%	74%	85%	

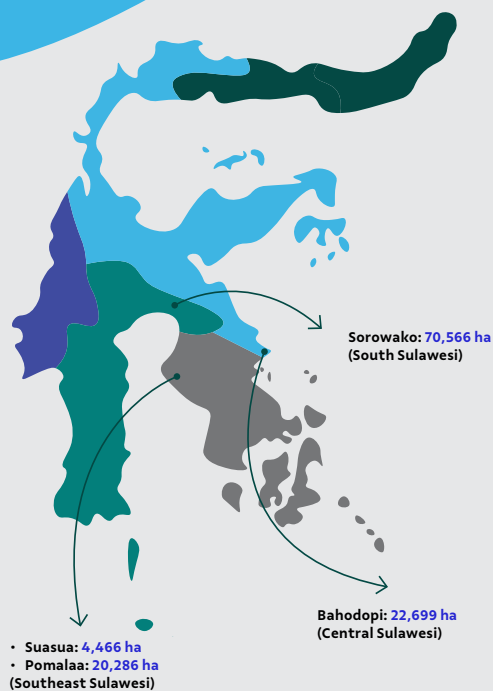
Operational Area

[2-1d]

Country of Operation:

Country of operation: Republic of Indonesia.
The Company does not operate in any other country.

Nickel ore mining and nickel in matte production activities are conducted in the Sorowako Block, East Luwu Regency, South Sulawesi. The nickel in matte produced is sold to Vale Canada Limited (VCL) and Sumitomo Metal Mining Co. Ltd (SMM). [2-6]



Employees



As of 2023, there were 3,023 employees, comprising 2,714 males and 309 females. All employees work full-time, with no contract workers.

99.9% of PT Vale employees are Indonesian citizens (WNI), while 0.1% are expatriates. The majority of employees are local workers from East Luwu Regency and other regions in South Sulawesi. Of the local workforce, 92 individuals, or 26.4%, hold managerial positions. [202-2]

Total PT Vale Indonesia Tbk Employees by Gender [2-7]

Year	Male		Female		Total	
	Total	%	Total	%	Total	%
2023	2,714	89.8	309	10.2	3,023	100
2022	2,678	91.3	256	8.7	2,934	100
2021	2,710	91.4	256	8.6	2,966	100

Total PT Vale Indonesia Tbk Employees by Employment Status and Gender [2-7]

Employment Status	2023			2022			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Permanent Employees	2,655	281	2,936	2,624	253	2,877	2,682	253	2,935
Contract Employees	59	28	87	54	3	57	28	3	31
Total	2,714	309	3,023	2,678	256	2,934	2,710	256	2,966

Total PT Vale Indonesia Tbk Employees by Age Group and Gender [2-7]

Age Group	2023			2022			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
>50 Years	541	24	565	557	17	574	484	15	499
31-50 Years	2,059	228	2,287	2,023	209	2,232	2,137	213	2,350
≤30 Years	114	57	171	98	30	128	89	28	117
Total	2,776	308	3,023	2,678	256	2,934	2,710	256	2,966



PT Vale has other workers who are not its employees, such as contractors and suppliers who work based on contractual agreements. This report does not include them due to their dynamics. [2-8]



Total PT Vale Indonesia Tbk Employees by Education and Gender [2-7][2-4]

Education Level	2023			2022			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Doctorate	1	-	1	1	0	1	1	0	1
Master's degree	58	22	80	53	16	66	50	13	63
Bachelor's degree	698	176	874	609	134	743	607	136	743
Diploma	274	56	330	284	58	342	287	59	346
High school	1,663	55	1,718	1,705	48	1,753	1,740	48	1,788
Junior high school	20	-	20	26	0	26	25	0	25
Elementary school	-	-	-	0	0	0	0	0	0
Total	2,714	309	3,023	2,678	256	2,934	2,710	256	2,966

Total PT Vale Indonesia Tbk Employees by Position and Gender [2-7]

Position	2023			2022			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Management	5	2	7	4	1	5	4	1	5
Senior General Management	23	3	26	17	2	19	16	1	17
General Management	104	11	115	83	10	93	74	9	83
Senior Staff	402	79	481	358	64	422	343	45	388
Staff	691	131	822	680	102	782	678	117	795
Non-Staff	1,489	83	1,572	1,536	77	1,613	1,595	83	1,678
Total	2,776	308	3,023	2,678	256	2,934	2,710	256	2,966

Total PT Vale Indonesia Tbk Employees by Placement Area and Gender

Placement Area	2023			2022			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Jakarta	47	27	74	47	24	71	41	21	62
Makassar	3	2	5	4	2	6	3	2	5
Sorowako	2,552	243	2,795	2,627	230	2,857	2,666	233	2,899
Bahodopi	0	0	0	0	0	0	0	0	0
Malili	0	0	0	0	0	0	0	0	0
Pomalaa	56	21	77	0	0	0	0	0	0
East Bungku	55	16	71	0	0	0	0	0	0
Total	2,714	309	3,023	2,678	256	2,934	2,710	256	2,966

Total PT Vale Indonesia Tbk Employees by Citizenship and Gender [2-7]

Citizenship	2023			2022			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Indonesian	2,710	309	3,019	2,673	256	2,929	2,705	256	2,991
Expatriate	4	0	4	5	0	5	5	0	5
Total	2,776	308	3,023	2,678	256	2,934	2,710	256	2,966

Business Activities, Products and Services, and Other Relevant Business Relationships [POJK51-C.4] [2-6d]

There were no significant changes in PT Vale's activities and products made in 2023 compared to the previous period.

[POJK51-C.6] 2-6d]

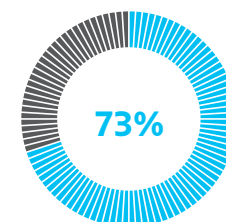
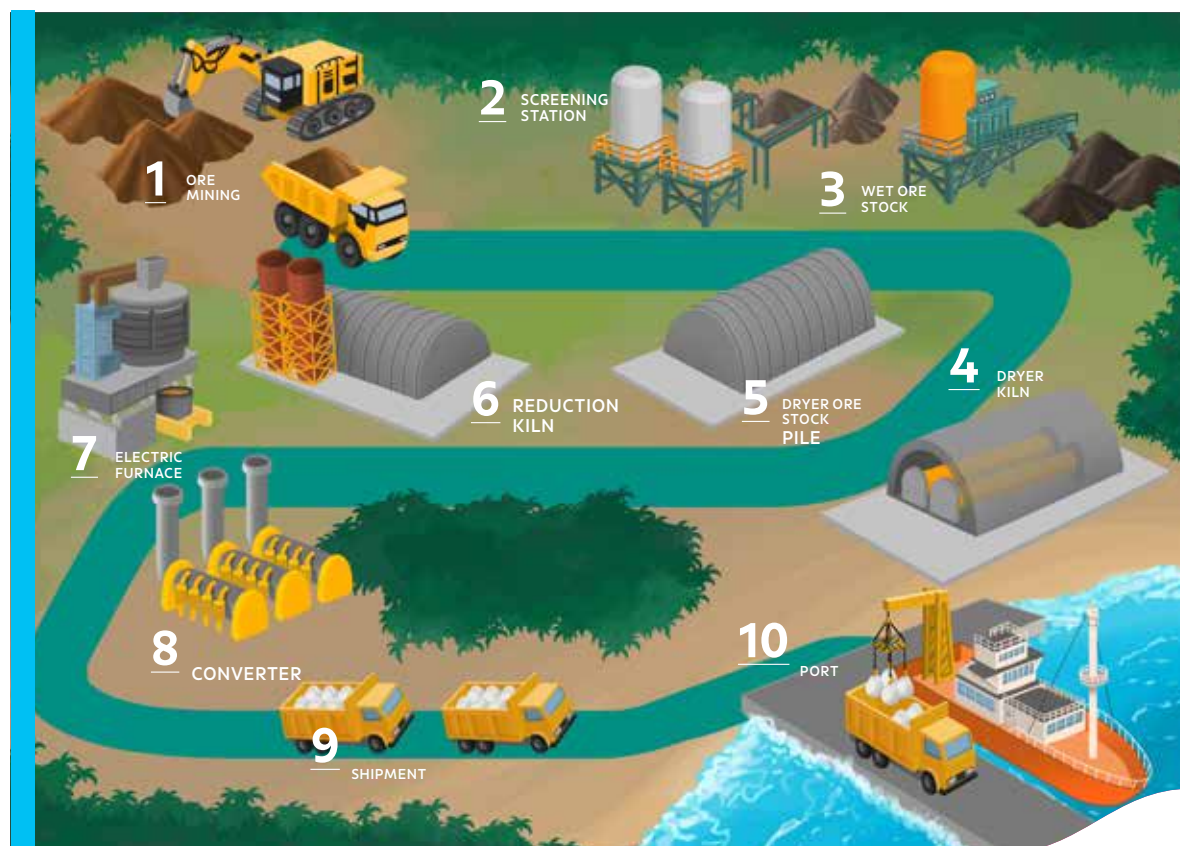
Scope of activities in the 2023 fiscal year: [2-6]

Mining operations for nickel ore, nickel in matte production, and nickel in matte sales. The total production of nickel in matte in 2023 reached 70,728 tons of nickel.

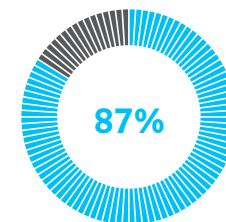
Scope of activities according to the Company's Articles of Association: [2-6]

Mining, wholesale trading, transportation, electricity supply, real estate, wastewater management, waste management and recycling, and remediation activities.

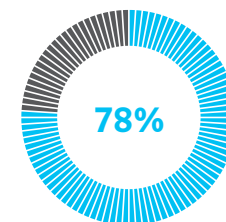
PT Vale's Business Process and Supply Chain [2-6]



2023



2022



2021

We include local and national suppliers in the supply chain, continually increasing the domestic component level (TKDN). The TKDN achievement in 2023 reached 73%, a decrease from 2022 of 87% due to changes in calculation and assessment methods compared to previous years.

Significant Changes in the Company

During the Annual General Meeting of Shareholders (AGMS) on May 5, 2023, held in a hybrid format, shareholders approved the appointment of Abu Ashar and Matt Cherevaty as Directors of the Company, effective from the closing of the AGMS until the closing of the 2026 AGMS. Shareholders also approved the reappointment of Rudiantara as an Independent Commissioner of the Company, effective from the closing of the AGMS until the closing of the 2026 AGMS.

During the Extraordinary General Meeting (EGM) on December 6, 2023, held in a hybrid format, shareholders accepted the resignation of Matt Cherevaty as a Director of the Company, effective September 8, 2023. Thus, as of December 31, 2023, the composition of the Company's Board of Directors consists of:

- President Director : Febriany Eddy
- Vice President Director: Adriansyah Chaniago
- Director : Bernardus Irmanto
- Director : Vinicius Mendes Ferreira
- Director : Abu Ashar

PT Vale divested a portion of its share ownership in its subsidiaries, PT Bahodopi Nickel Smelting Indonesia (BNSI) and PT Kolaka Nickel Indonesia (KNI), through a corporate action reported to the relevant authorities in Indonesia. As per the announcement made, the Company released a part of its share ownership in PT BNSI to Taixin (Singapore) Pte. Ltd. and PT KNI to Huaqi (Singapore) Pte. Ltd. Further details about this transaction can be found in the PT Vale Indonesia Tbk 2023 Annual Report.

Association Membership

[POJK51-C.5][2-28]



Member
Global Scope



Febriany Eddy
as a Vice Chairman
National Scope



Member
Global Scope



Member
Global Scope



Extraordinary
Member
National Scope



Member
National Scope



Member
National Scope



Member
National Scope



Member
National Scope



Member
National Scope



Member
National Scope

Certifications and External Awards



Certificate No. ID004085,
by Bureau Veritas
Validity:
October 2021 – October 2024
Scope: Mining, processing plant
of nickel, including its support
and services



ISO 17025
Laboratory Test and Calibration Standards
Certification No: LP-1729-DN,
by Komite Akreditasi Nasional
Validity:
28 December 2022 – 27 December 2027
Scope:
Competence of Testing Laboratories and
Calibration Laboratories



Certificate No. 01 407 2135341
ISO 50001 Energy Management System by
TÜV Rheinland
Validity:
November 2022 – November 2023
(in the process of certificate renewal)
Scope:
Mining and processing of Nickel
in Matte products

In addition to Green PROPER, PT Vale received a total of 13 external awards and appreciations from various parties throughout 2023, including

- Performance Recognition for the Community Empowerment and Development (PPM)/ Tambang Menyejahterakan Masyarakat (Tamasya) Award 2023 on December 8, 2023, awarded by the Ministry of Energy and Mineral Resources in the Planning and Implementation categories.
- Good Mining Practices (GMP) Award 2023, where PT Vale received the Aditama Certificate and Best Trophy – Mineral and Coal Mine Technical Management Aspects, Aditama Certificate and Best Trophy – Mineral and Coal Conservation Management Aspects, Aditama Certificate and Best Trophy – Environmental Management Aspects of Mineral and Coal Mining, as well as the Main Award for Standardization Management and Mining Services Business. The awards were presented by the Directorate General of Mineral and Coal of the Ministry of Energy and Mineral Resources on September 29, 2023.
- Environmental and Social Innovation Award (ENSIA) by PT Sucofindo on August 10, 2023. PT Vale received three 'Platinum' awards for Water Efficiency, Emission Reduction, and Non-Hazardous Waste Management, and two 'Silver' awards for Social Innovation and Biodiversity.
- Corporate Emission Transparency Awards in the Green Elite and Gold Plus categories at the Corporate Emission Transparency Awards 2023 organized by B Universe and Bumi Global Carbon Foundation (BGK Foundation) on June 27, 2023.
- Best Partner of the Ministry of Environment and Forestry (KLHK) 2023 in the Forest Area Utilization Permit (PPKH) category with the Best Sustainable Commitment to Watershed Rehabilitation and Reclamation, organized by the Ministry of Environment and Forestry of the Republic of Indonesia.
- Bisnis Indonesia Award 2023 in the Best Metal Mineral Corporation category, organized by Bisnis Indonesia Daily.
- Foundation for International Human Rights Reporting Standard (FIHRRST) award in The Best Sustainability Report (A+) category.
- Indonesia GPR Award (IGA) 2023 in the Best Public Relations Program category, Energy and Renewable Energy segment, organized by Humas IndonesiaPadmamitra award in the entrepreneurship category.
- Katadata Corporate Sustainability Award (KCSA) in the Mining sector for the Environment category, organized by katadata.co.id.
- DEN Award 2023 in the category of Private Companies Leading the Energy Transition in the Mining Sector, organized by the National Energy Council (DEN).
- Asia Sustainability Report Rating (ASRRAT) Gold Rank in the Accordance category.
- Sustainable Village Development Award 2023 from the Ministry of Village Development, Disadvantaged Regions, and Transmigration (PDTT).



About the Sustainability Report

Basis and Reference for Issuing Sustainability Reports

- Law No. 40 of 2007 concerning Limited Liability Companies;
- Financial Services Authority Regulation (POJK) No. 51/ POJK.03/2017 concerning the Implementation of Sustainable Finance in Financial Services Institutions, Issuers, and Public Companies;
- Global Reporting Initiative (GRI) 2021 standards, in accordance to the GRI Standards;
- Sustainability Reporting Guidelines & Mining and Metals Sector Supplement (MMSS) GRI-4.
- Sustainability Accounting Standards Board (SASB) Metals and Mining 2021;

Reporting Principles and Consistency with Other Reports

This report has been compiled under the principles of accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness, and verification. The information provided is accurate, encompassing positive and negative impacts and their management strategies. The narrative is presented in an easily understandable manner, and data is showcased across different periods for performance comparison, effectively illustrating the sustainability of environmental, social, and governance management. The report is structured in a well-timed manner, utilizing a tested and verified process. It serves as a complement to the 2023 Annual Report of PT Vale Indonesia Tbk.

Reporting Entity, Period, and Frequency

The Company's Financial Statements are presented in consolidated form for the fiscal year ending on December 31, 2023, and has been audited by a Public Accounting Firm. The sustainability performance information is obtained exclusively from PT Vale, covering operational areas in Sorowako, Bahodopi, Pomalaa, the Representative Office in Makassar, and the Head Office in Jakarta. The reporting period spans from January 1, 2023, to December 31, 2023. The Company publishes its Sustainability Report annually, with the previous report issued on April 23, 2023. [\[2-2\]](#)[\[2-3\]](#)



Contact Person [\[2-3\]](#)

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Feedback Form and Company Response

[POJK51-G.2][POJK51-G.3]

The report is supplemented by a Feedback Form at the end. In 2023, we received no input in the feedback sheet related to the 2022 Sustainability Report.

External Assurance and Restatement

[POJK51-G.1]

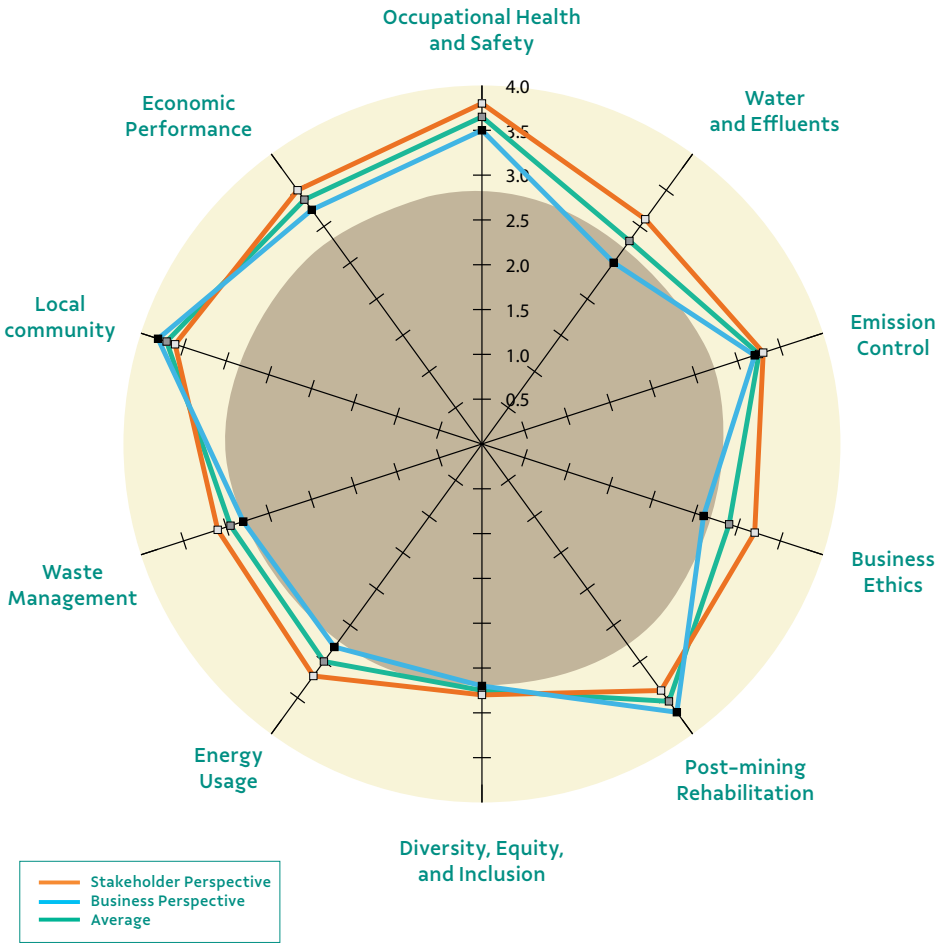
There is a restatement of information from previous reporting, including energy use data and local suppliers due to a change in the basis of calculation. All disclosed information has been approved by the President Director as the highest official in the Company's sustainability governance. This Sustainability Report has undergone external assurance processes by an independent party, SR Asia Indonesia, based on the approval of the Board of Directors, There were no conflicts of interest during the verification process conducted on April 3–5, 2024. [2-4][2-5][2-14]

Stakeholders in the Determination of Material Topics

There have been no changes in material topics from the previous reporting period. Determination of material topics using surveys through dialog, discussions, and surveys involving internal and external stakeholders. Independent parties facilitated the discussions, acting as an expert team. The results of the discussions identified 10 material topics aligned with the context of sustainability and supports the achievement of the SDGs. [3-1][3-2]

List of Stakeholders in the Determination of Material Topics	
Internal	Eksternal
<ul style="list-style-type: none">• Management – from a FGD• Employees – from an employee survey	<ul style="list-style-type: none">• The Public – from a public survey• The Media – using sprinklr media monitoring• Local stakeholders – from discussion and survey sample

Material Topics Matrix



Material Topics, Impact Coverage, and Management ^[3-3]

Material Topic	Main Topic	Impact Coverage	Material Topic Importance and Management
Environment			
Post-mining rehabilitation	<ul style="list-style-type: none"> The restoration of post-mining land. Biodiversity conservation. 	<ul style="list-style-type: none"> Operational area: Sorowako 	Post-mining land restoration will restore the environmental setting and bring sustainable benefits. Restoration activities should involve the community and are evaluated by the Board of Directors and relevant authorities according to their designation through periodic reporting. PT Vale has identified the impacts as contained in the AMDAL and the policies implemented in the RPT.
Emission Control	<ul style="list-style-type: none"> Greenhouse gas (GHG) emission measurement and reduction. Net zero emissions by 2050. 	<ul style="list-style-type: none"> Head Office Operational areas: <ul style="list-style-type: none"> Sorowako, Bahodopi, Pomalaa. 	GHG emission control will help limit climate change by involving all stakeholders. Evaluation is carried out through regular reporting to the Board of Directors and relevant parties. Progress is measured against the targets of 33% absolute GHG emission reduction by 2030 and carbon neutrality by 2050 (in line with the Paris Agreement and 10 years earlier than national targets).
Energy Usage	<ul style="list-style-type: none"> Energy efficiency and New and renewable energy (NRE) usage Reducing fossil fuel dependance 	<ul style="list-style-type: none"> Head Office Operational areas: <ul style="list-style-type: none"> Sorowako, Bahodopi, Pomalaa. 	Energy efficiency and NRE usage affect the competitiveness of the production cost and involve all stakeholders. Evaluation is carried out by the Board of Directors and relevant authorities through periodic reporting and the achievement of key performance indicators (KPI) for the implementing functions.
Waste Management	<ul style="list-style-type: none"> Reducing pollution load and preventing environmental pollution. 	<ul style="list-style-type: none"> Head Office Operational areas: <ul style="list-style-type: none"> Sorowako, Bahodopi, Pomalaa. 	Waste management involves workers, contractors/ work partners/vendors, and the community. It is carried out through recycling, reusing, and reducing (3Rs) waste. Evaluation is conducted by the Board of Directors and relevant authorities through periodic reporting and the achievement of key performance indicators for the implementing functions.
Water and Effluent	<ul style="list-style-type: none"> Reducing water usage, and managing effluents. Reducing the usage intensity of new water by 10% by 2030. 	<ul style="list-style-type: none"> Head Office Operational areas: <ul style="list-style-type: none"> Sorowako, Bahodopi, Pomalaa 	PT Vale controls the impacts of water usage by reducing the use of water newly extracted from nature and managing effluents to meet quality standards. The activity is implemented by involving workers, contractors/work partners/vendors, the community, and the government. Evaluation is carried out by the Board of Directors and relevant authorities through periodic reporting and the achievement of key performance indicators for the implementing functions.

Material Topics, Impact Coverage, and Management ^[3-3]

Material Topic	Main Topic	Impact Coverage	Material Topic Importance and Management
Human (Social Aspects)			
Occupational Health and Safety (OHS)	<ul style="list-style-type: none"> A safe, comfortable, and healthy workplace. Zero incidents 	<ul style="list-style-type: none"> Head Office Operational areas: <ul style="list-style-type: none"> Sorowako, Bahodopi, Pomalaa. 	OHS management affects production, operational, and supply chain performance. OHS is managed by implementing the 10 New Golden Rules, obtaining a safe work permit, and standardizing OHS. OHS management involves workers, contractors/ work partners/ vendors, and the government. Evaluation is carried out by the Board of Directors and relevant parties through periodic reporting and the achievement of key performance indicators for the implementing functions.
Local Community	Managing negative impacts and improving positive impacts on the community.	<ul style="list-style-type: none"> Operational areas: Sorowako. 	Community development and empowerment will generate sustainable support for PT Vale. The Integrated Community Empowerment and Development Program is planned, implemented, and evaluated through community and local government involvement. It is reported periodically to the Board of Directors.
Diversity, Equity, and Inclusion	<ul style="list-style-type: none"> Discrimination prevention at work, particularly against women. Doubling women's representation by 2030. Human rights management. 	<ul style="list-style-type: none"> Head Office Operational areas: <ul style="list-style-type: none"> Sorowako, Bahodopi, Pomalaa. 	Diversity and inclusion are two among several foundations of the Company's sustainability, ensured through an equality approach involving workers, contractors, and suppliers/vendors. Evaluation is carried out by the Board of Directors and relevant authorities through periodic reporting and the achievement of key performance indicators for the implementing functions.
Governance			
Business Ethics	<ul style="list-style-type: none"> Internalizing compliance and anticorruption. Acting with integrity and transparency. 	<ul style="list-style-type: none"> Head Office Operational areas: <ul style="list-style-type: none"> Sorowako, Bahodopi, Pomalaa 	PT Vale always complies with regulations and has zero tolerance for corruption. Every year, the Company conducts socialization and training of employees, contractors/work partners/vendors, and other stakeholders on anticorruption. Evaluation is carried out by the Board of Directors through periodic reporting, a reporting channel, and the achievement of key performance indicators for the implementing functions.
Economic Performance	<ul style="list-style-type: none"> Economic value generated and distributed Risk management 	<ul style="list-style-type: none"> Head Office Operational areas: <ul style="list-style-type: none"> Sorowako, Bahodopi, Pomalaa. 	Economic performance is a basis for the Company's activities and, therefore, every risk must be managed by involving all stakeholders. Evaluation is carried out by the Board of Directors and relevant parties through periodic reporting and the achievement of key performance indicators for the implementing functions.

Sustainability Policy and Strategy

[POJK51-A.1]

PT Vale is committed to building strong and enduring relationships with stakeholders, investing in minimizing the impact of its activities, adhering to high ethical standards, maintaining transparent management, and actively contributing to progress related to the environment, biodiversity, and sustainable development. We express this commitment through various forums, both within the Company and externally.





Internalizing Sustainability

[POJK51-F.1] [2-24]

We build and implement a new culture reflected in the phrase 'Learning Together' as a shared compass for sustainable transformation. We continue to internalize this new culture.

Why do we exist?

Our Purpose

We exist to improve life and transform the future. Together.

What do we believe?

Values

Life matters most.
Act with integrity.
Value the people who build our company.
Make it happen.
Respect our planet and communities.

How do we act?

Key Behaviors

Obsession with safety and risk management.
Open and transparent dialogue.
Empowerment with accountability.
Sense of ownership.
Active listening and engagement with society.

Our Levers

Safety
Vale Production System (VPS)
People
Innovation
Sustainability

What do we look for?

Our Ambition

A great Company recognized by society for being:
Benchmark in safety.
Best in class reliable operator.
Talent driven organization.
Leader in sustainable mining.
Reference in creating and sharing value.

Learning Together

Sustainability Strategy Priority

We set sustainability priorities according to our Sustainability Strategy outlined until 2025. PT Vale is committed to addressing climate change, improving energy and water efficiency, forest conservation, and improving social contributions as part of the transition toward carbon-neutral mining.

1 Contribution to Carbon-Neutral Socio-Economy

- Develop a roadmap and phased-implementation toward carbon neutrality (33% GHG emissions reduction by 2030 from the 2017 baseline, completion of limited-scale field biomass trials, and certification of ISO 50001: Energy Management System). The target refers to the Paris Agreement and is earlier than Indonesia's NDC.
- Finalize the social agenda: Dongi relocation and land encroachment.
- Completion of gap assessment and preparation of ESG roadmap.

2 High Performance Culture

- Complete succession planning and implement IMPACT & role-modeling training.
- Implement the Supervisor Training Program.
- Carry out Superior Employee Training.
- Prepare for diversity and inclusion and implement programs to overcome performance problems.
- Improve the quality of Vale Production System (VPS) implementation.
- Conduct local talent development programs.

3 Environmental Protection & Management

- Implement the Green PROPER environmental compliance agenda, compliance audit, emission targets, and monitoring system.
- Reclaim 70% of post-mining land progressively by 2025.
- Carry out rehabilitation outside the contract area of work.
- Implement biodiversity conservation programs.
- Implement waste reduction and utilization.
- Implement water efficiency and reduce pollution load.
- Implement an environmental management system consistently, one of which is the completion of routine internal and external ISO 14001: 2015 audits in 2023.

4 Obsessed with Risk and Safety Zero N1 and N2

- Completion of the HIRA follow-up and implement critical controls.
- Reproduce N3 & Hi-Po non-energy release reports.
- Promote the Golden Rules, INS003, and RAC/MHS.
- Set up Integrated Operations Control (COI).
- Complete the health program and facilities repair.
- Implement the Leadership in the Field (LIF) program.

5 60kT HPAL Sorowako 90kT Sorowako 120kT Pomalaa 73kT Bahodopi

- Improve ore quality by reducing dilution and moisture content.
- Reduce operating variability – kiln standby and stability of the power supply.
- Complete the Continuous Improvement (CI) process plant and mass-balance synchronization programs.
- Implement a de bottlenecking program.
- Conserving minerals by utilizing low-grade ore (limonite).

6 Asset Integrity and Maintenance Adherence

- Zero-Based Maintenance Implementation.
- Completion of the Asset Integrity program from the 2012 assessment.
- Implementation of immersion to improve supply chain & maintenance synergy.



PT Vale ESG Roadmap



Sustainability Strategy

Support sustainable development in the region and enhance Vale's reputation with the community.

Guiding Principles

- Low carbon chain induction.
- Shared-value generation.
- Territorial development.
- Trust and credibility.
 - » Transparency and listening.
 - » Response agility.
 - » Participatory process.
 - » Embodiment of different view.
 - » Converging paths discovery.
- Clear and measurable KPIs

Vale 2023 Commitments

Climate Change

Reduce greenhouse gas emissions by 33% in line with the Paris Agreement and achieve net zero GHG emissions by 2050, ahead of Indonesia's NDC target.

Energy

Increase clean energy usage.

Water

Reduce surface water usage by 10%.

Forests

Reclamation of ex-mining land, rehabilitation of land outside the contract of work and protection of biodiversity.

Socio-economic Contribution

Healthcare, education, and income generation.

ESG Gaps

Eliminate main ESG gaps in relation to best practices.

Vale Global's Sustainability Strategies and Commitments

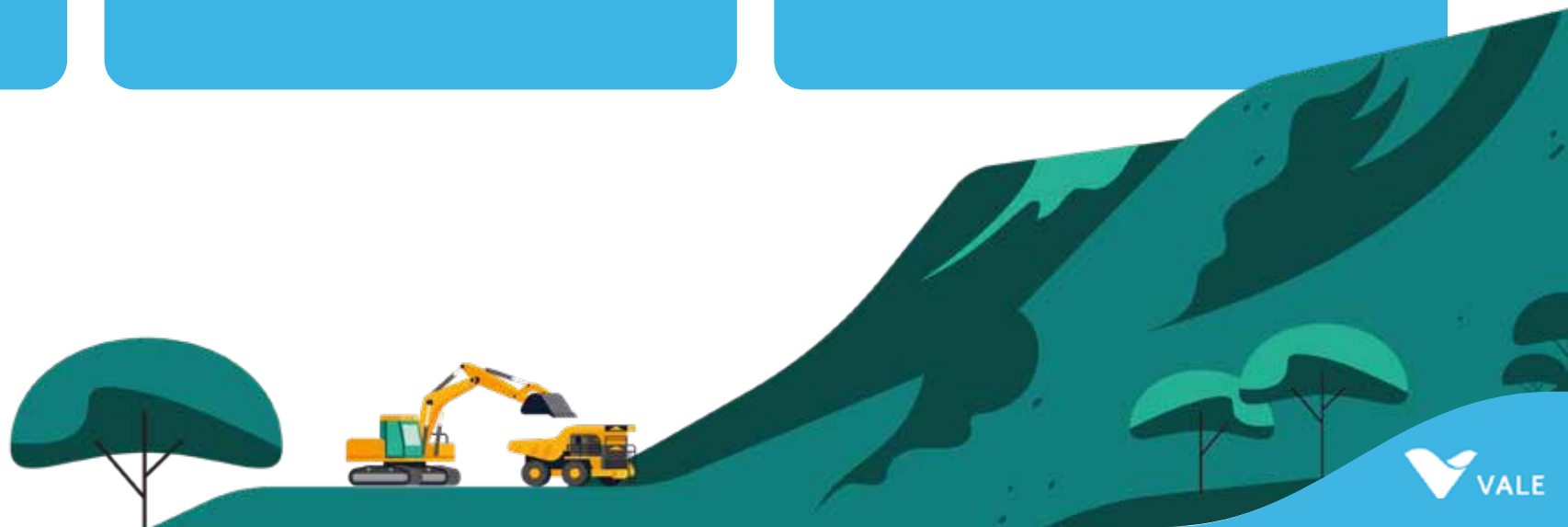
1 We need to have a greater responsibility for everyone involved in our operations, the society, and the earth. We are required to perfect ways to improve the quality of life.

2 We have instigated a sustainability strategy to improve the quality of life and change the future. Together.

3 For us, the future is the process of constantly evolving, creating and reinventing.

4 For this future, PT Vale welcomes ideas by listening and working together, and creating an unbroken cycle that brings prosperity to everyone.

5 We want PT Vale's future resources to be used to create value for everyone.



Pillar Goals and Focus for the Future [POJK51-C.1]

Serving the communities by contributing to all.

From the beginning, PT Vale has served the communities, turning natural resources into self-sufficient areas, contributing to the development of the country. PT Vale is expected to serve the communities by providing them with what they need and want, including mining materials and other resources to improve their quality of life, while preserving the earth and creating prosperity for all.

Doing together.

Doing together means willingness to listen. Everyone must listen: society, governments, customers, and especially the people who are involved in PT Vale's operations. After all, we are the communities. Communities are PT Vale. Doing together means creating a collective capacity to think, design, and realize possible futures for everyone. Doing together means acting with responsibility, transparency, and consistency; walking the talk, a system to enable PT Vale to always transform for the better.

Using Vale's mobility to do something extraordinary.

All mining companies are required to preserve the nature, protect the community and those involved in the Company's operations.

Transforming the future by taking care of the present.

We are generating development for communities, well-being for society and permanent environmental preservation mechanisms. Creating a better world than before PT Vale establishment. Putting the benefits intrinsic to mining at the service of society as a whole.

In addition, we use the knowledge, human resources, and technical, financial and catalytic capacity that PT Vale has developed over the years to rebuild a virtuous cycle of prosperity that points to an inclusive and comprehensive future, in which everyone benefits and PT Vale's horizons expand to meet the needs of a world in constant transformation.



SAFETY

This is one of the key aspects to increase and regain public trust. Ensuring safety of life and operations is Vale's priority.



VPS

A strong management model is essential to increase the level of operational excellence. Having standards is our way of becoming a unified with Vale organization wherever we operate, as well as contributing to building a more reliable company.



PEOPLE

Our Company is built by human hands—they are the key elements to achieving the future we want.



INNOVATION

Investing in innovations and leaving the comfort Zone are the main factors that make our Company more competitive and profitable.



SUSTAINABILITY

Contributing to improving environmental conditions, focusing on three dimensions: environmental, social, and governance. This is our new mindset: investing with a purpose.

The progress and achievements of the implementation of Commitment 2023 until the end of 2023 are presented in the description of sustainability performance in other sections of this Report, as well as a full description of the Approach to Sustainability, accessible through the Company's website: <https://vale.com/indonesia/annual-and-sustainability-reports>. [2-23]

Environmental Management Sustainability Performance

PT Vale is committed to managing and protecting the environment by implementing an Environmental Management System in accordance with ISO 14001:2015 standards, as well as the Principles of Sustainable Mining Management based on the International Council on Mining and Metals (ICMM) Sustainable Development Framework. Environmental policies on energy efficiency, emission reduction, waste management, water efficiency, pollution reduction, and biodiversity conservation further support the Company's commitment. EMS implementation ensures consistency in environmental management through resource allocation, responsibility assignment, and ongoing evaluation integrated with the Company's business processes. Additionally, the commitment to environmental management is supported by policies to consult stakeholders, including public consultations for the preparation of AMDAL documents, Environmental Monitoring Plans (RPL), and Environmental Management Plans (RKL) related to the implementation of several IGP projects. [2-25]

We continually enhance environmental regulatory compliance by implementing the Regulation Compliance System application and address environmental improvements through the implementation of PRO-027476-Preliminary Risk Analysis and Aspects Assessment and SP10 Change Management. These efforts are integral to the Company's strategy to mitigate the impacts of mining operations on the environment in accordance with the stages of activities conducted in each operational area, namely the Sorowako, and Bahodopi blocks. Operational activities include various stages such as land clearing, ore excavation, transportation, stockpiling, screening, and land rehabilitation. The environmental impacts of these operations include risks such as Greenhouse Gas (GHG) emissions, waste disposal, and energy consumption which can disrupt ecosystem balance and environmental sustainability.

We routinely monitor and measure our environmental management performance and communicate any constraints or challenges in environmental management to find the best solutions. PT Vale has mechanisms to transparently address and communicate any environmental management issues and report environmental management performance through ESG-related publications on the Company's website, as well as periodic reporting to relevant authorities.

Sustainable Mine Management Principles Based on the ICMC Sustainable Development Framework

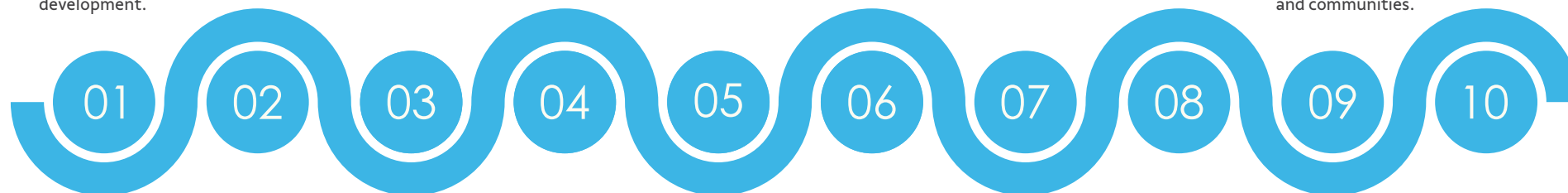
Adopt ethical business practices, good corporate governance, and transparency to support sustainable development.

Respect the human rights, cultures, customs, and values of employees and communities affected by our activities.

Pursue continual improvement in health and safety performance with the ultimate goal of zero harm.

Contribute to biodiversity conservation and integrated approaches to land-use planning.

Pursue continual improvement in social performance and contribute to the social, economic, and institutional development of host countries and communities.



Integrate sustainable development in corporate strategy and decision-making processes.

Implement effective risk management strategies and systems based on sound science and taking into account stakeholders' risk perceptions.

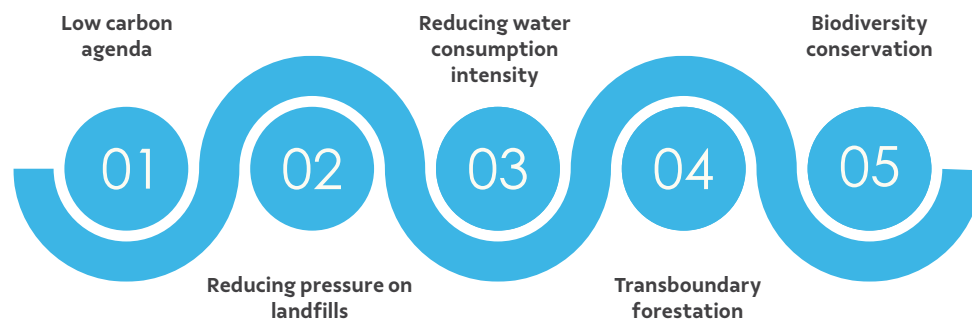
Pursue continual improvement in environmental performance, including water stewardship, energy use, and climate change.

Facilitate and support the knowledge base and systems for responsible design, use, reuse, recycle, and disposal of products containing metals and minerals.

Proactively engage key stakeholders in sustainable development challenges and opportunities in an open and transparent manner.



Five Environmental Commitments 2023



Through the application of principles within the ICMC Sustainable Development Framework, PT Vale oversees and ensures that the mineral product (nickel), which is 'primary nickel' from nickel ore, has undergone responsible production processes. These principles are integrated into the Company's strategy and investment decision-making processes, as well as in the design, operation, and closure of facilities. By prioritizing sustainability in every business process, we not only meet the demand for sustainable nickel but also contribute to global economic decarbonization and the achievement of the Sustainable Development Goals (SDGs). As for the active environmental management plan, PT Vale has implemented Life Cycle Assessment (LCA). The policy for areas with protected conservation status is contained in the Environmental Management Plan (RKL) and Environmental Monitoring Plan (RPL) reported to the authorities. This policy is also in line with the International Finance Corporation (IFC) and International Organization of Standardization (ISO) performance standards. [\[EM-MM-160a.1\]](#)

Materials Used and Material Stewardship



The material used as raw material for nickel in matte production is nickel ore, classified as a non-renewable material obtained from mining activities in Sorowako, with a 70,728 MT total volume utilized in 2023. There are no materials sourced from recycling. PT Vale generates no tailings, but nickel slag which is categorized as non-B3 waste. The transportation process of nickel in matte utilizes special packaging, and the buyer collects all packaging back. [EM-MM-540a.1][EM-MM-540a.2][EM-MM-540a.3][301-1][301-2][301-3]

To ensure the continuity of operations and business, the Company conducts material stewardship through exploration activities to discover new mineral resources. In 2023, PT Vale allocated a capital expenditure of US\$9,719,725 for exploration activities. As of December 31, 2023, the Company had a total Sapolite Ore Reserve of 156.4 million tons, consisting of Proven Reserves of 87.2 million tons and Probable Reserves of 69.2 million tons. This amount increased by 35% from 2022 with a total Sapolite Ore Reserve of 111.6 million tons, consisting of Proven Reserves of 65.8 million tons and Estimated Reserves of 45.7 million tons.

Nickel in Matte Production Performance and Nickel Ore Volume				
Description	Unit	2023	2022	2021
Nickel in Matte Production	Ton	70,728	60,090	65,388
Nickel Ore Volume				
Limonite				
Proven Ore Reserves	Million Tons	81.1	N/A	N/A
Probable Ore Reserves	(DKP)	132.2	N/A	N/A
Saprolite				
Proven Ore Reserves	Million Tons	122.3	62.0	65.7
Probable Ore Reserves	(DKP)	99.0	46.9	42.1

*Reserves include Sorowako Operations, Bahodopi Block 2-3, and Pomalaa

As of 31 December 2023, the Company has total mineral reserves of 437.7 million dry tons, consisting of:

- Mineral reserves in limonite of 213.3 million dry tons which are new reserves from the Pomalaa project.
- Mineral reserves in saprolite of 221.3 million dry tons, an increase of 92% from 2022 of 111.6 million tons. The additional reserves come from new reserves in the Bahodopi 2-3 Block project and the Pomalaa project.





Low Carbon Agenda

PT Vale is committed to maintaining nickel mining operations with low carbon intensity, aiming for Net Zero Emissions (NZE) by 2050, with a medium-term target of reducing absolute carbon emissions by 33% by 2030.

PT Vale's Global Contribution

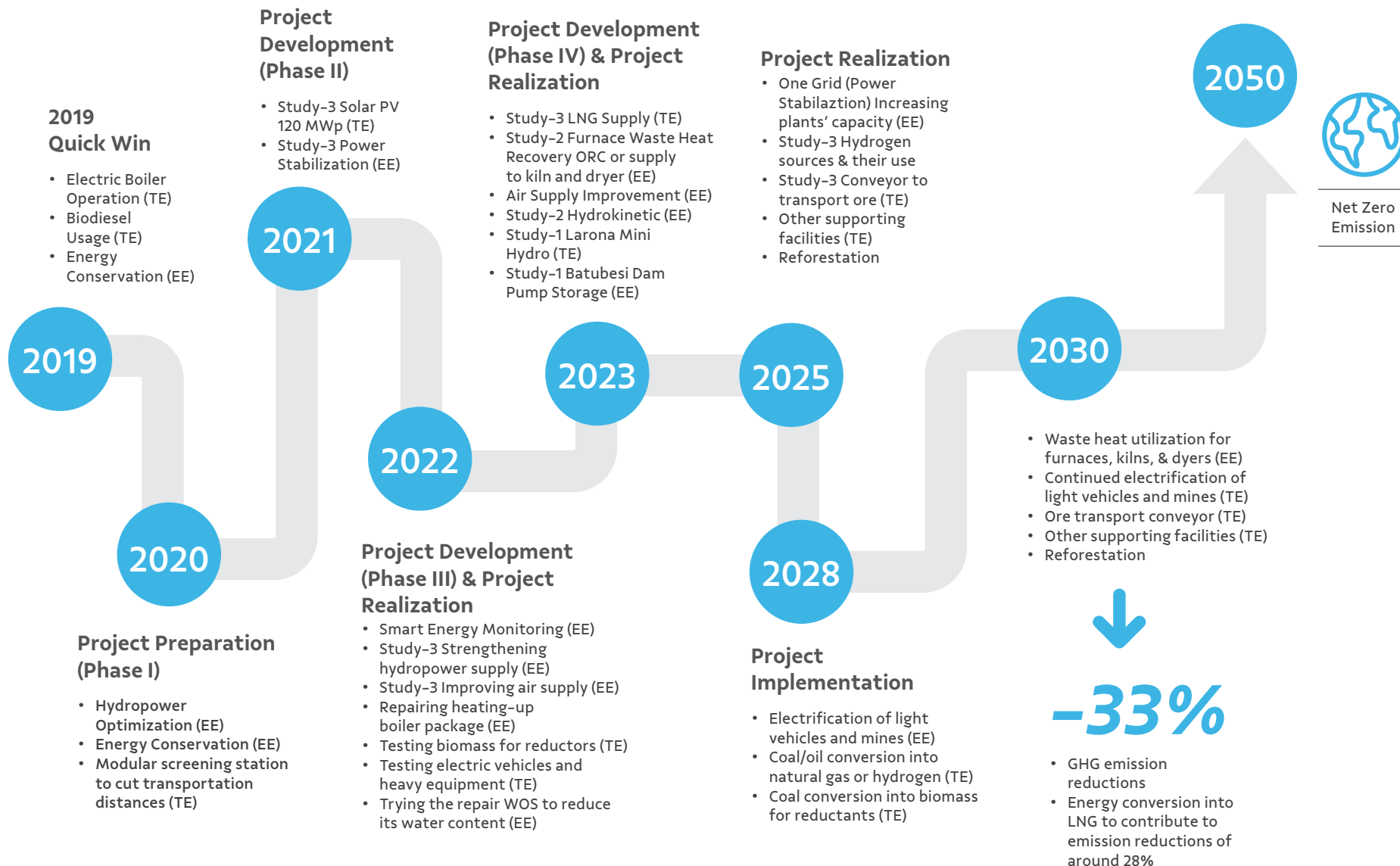
We believe that energy transition is key to successfully mitigating climate change and preventing a temperature increase of 2°C as per the Paris Agreement. Nickel, a product of PT Vale, will play a crucial role in the energy transition by contributing to the construction of renewable infrastructure and supporting electrification through electric vehicles. The increasing demand for nickel commodities is expected to positively impact the Company's financial performance in the coming years.

Reducing Emissions Together

Climate change risk management is one of PT Vale's sustainability focuses, aligning with the Paris Agreement. As further detailed in Presidential Regulation No. 98 of 2021. The Company contributes to ensuring that global temperature rises remain below 2°C. To achieve this, PT Vale has established a Roadmap to Net Zero Carbon by 2050. The Company's strategic focus revolves around energy efficiency solutions and energy transition, maximizing the use of renewable energy sources and conserve energy. The mid-term target for 2030 is a 33% absolute reduction in emissions for Scopes 1 and 2, with the long-term goal of achieving carbon neutrality (NZE) by 2050. PT Vale's efforts are in line with the Indonesian government's commitment to reducing greenhouse gas emissions in the updated Nationally Determined Contribution (NDC), unconditionally to 29% and conditionally (with international support) to 41% compared to business-as-usual (BAU) scenarios, amounting to 834 MT CO₂eq and 1,185 MT CO₂eq, respectively, by 2030.

[EM-MM-110a.2]

PT Vale's Road Towards Carbon Neutrality



GHG Emissions Calculation and Reduction

[POJK51-F.11] [POJK51-F.12]

GHG emissions are calculated at Sorowako operations, covering scope 1 emissions from production activities and fuel consumption, as well as scope 2 emissions from electricity usage. PT Vale has not yet calculated scope 3 emissions, however we have plans to do so in the near future. The calculation results are expressed as total GHG emissions in metric tons of CO₂eq, including the conversion of non-CO₂ GHG emissions (CH₄, N₂O, and HFC). Biogenic CO₂ emissions are not included in the calculation. The calculation is based on the energy consumption balance method from fossil fuels and greenhouse gas-causing gases with a baseline year of 2017, a Global Warming Potential (GWP) index of 1, and the guidelines of the Intergovernmental Panel on Climate Change (IPCC) with GWP index referring to the assessment of the fifth report in 2014 (AR-5). [305-1][305-2][305-3]

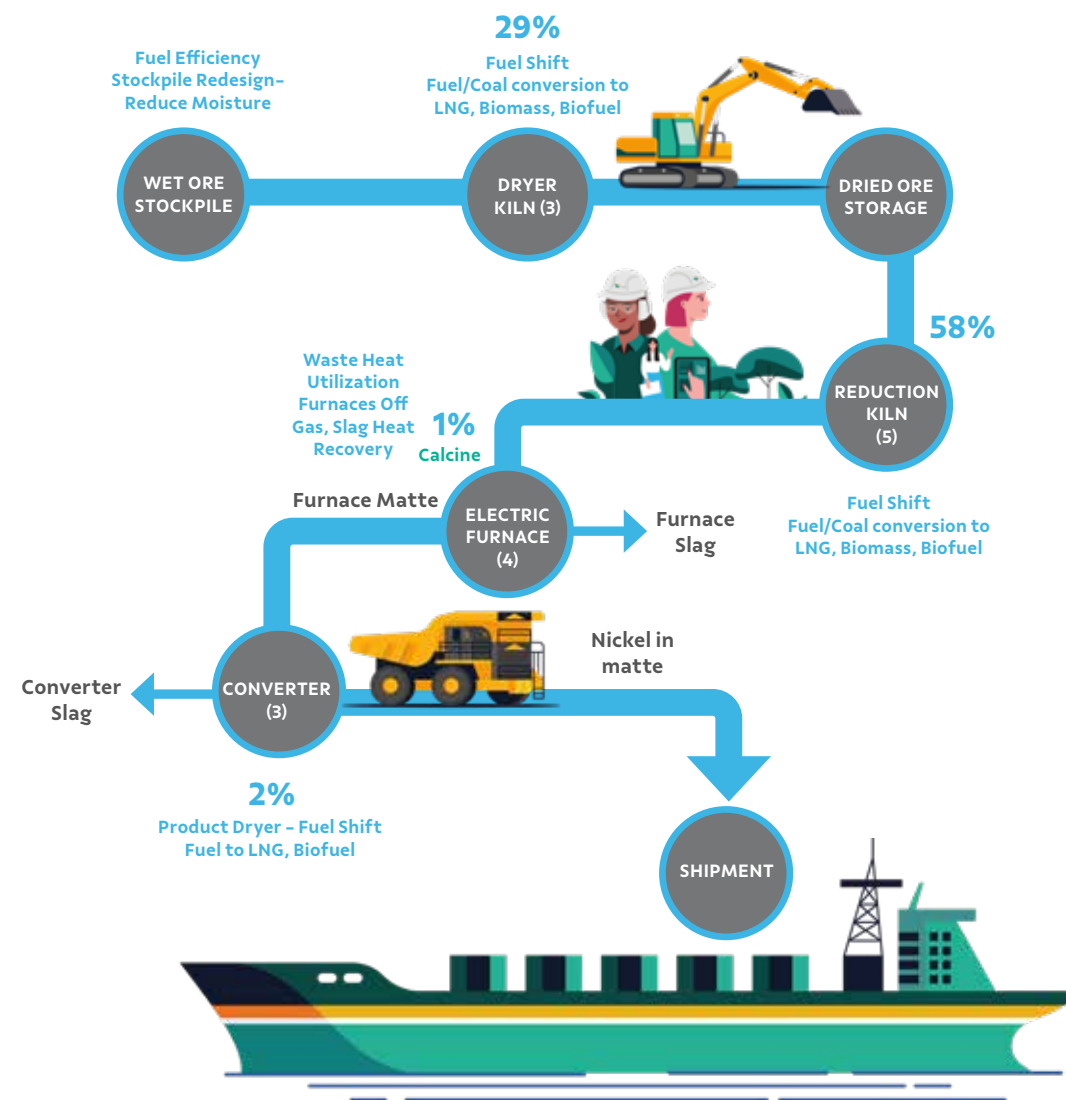
GHG emissions in 2023 are 2,032,313 ton CO₂eq. This value has increased from the 2017 baseline, in line with the 17.7% increase in nickel in matte production volume. However, based on emission intensity, we experienced a decrease in 2023 by 1.1% compared to 2022. Going forward, the Company continues to seek breakthroughs to meet its commitment to reduce scope one and two absolute greenhouse gas (GHG) emissions by 33% by 2030, and towards NZE by 2050.

GHG Emissions Calculation Compared to 2017 Baseline

Description	Unit	2023	2022	2021	2017 Baseline
Total GHG Emissions	Tons of CO ₂ eq	2,032,313	1,748,552*	1,971,075	2,013,950
• Scope 1	Tons of CO ₂ eq	2,029,486	1,745,817	1,968,544	2,010,963
• Scope 2	Tons of CO ₂ eq	2,827	2,735	2,530	2,987

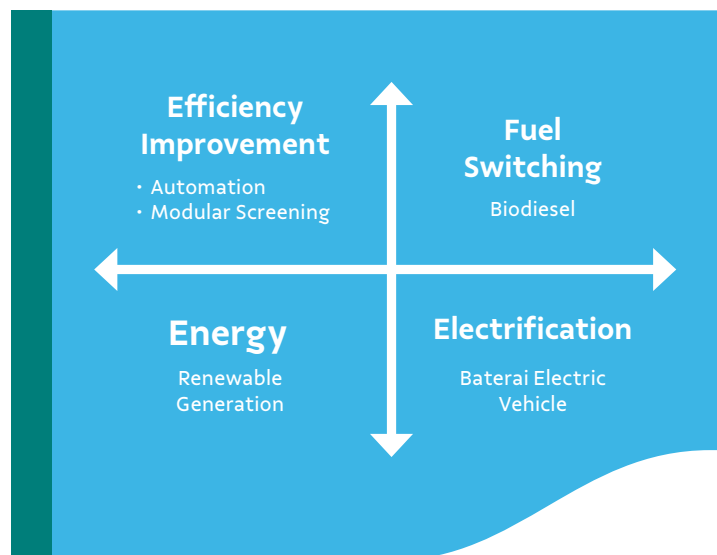
*Restatement of 2022 Data: Addition of AFOLU/New Open Area


The low intensity of GHG emissions by PT Vale is supported by three hydropower plants, capable of avoiding additional scope 1 carbon emissions equivalent to 1,118,231 tons of CO₂eq per year if calculated based on the volume of diesel fuel usage for diesel power plants; and equivalent to 2,292,375 tons of CO₂eq per year using coal for steam power plants. We continue to develop opportunities to reduce GHG emissions from production processes with a potential of 1,800 kilotons of CO₂eq, or 90% of total GHG emissions. Other opportunities arise from mining areas with a potential GHG emissions reduction of 200 kilotons of CO₂eq. [305-5]



200 kt CO₂eq

(10% of Total GHG Emission)



Opportunities in Operational Areas		
Form of Opportunity		Realization in 2023
Efficiency Development	Automation	PT Vale implements efficiency measures using a model-based controller to maintain gas temperature stability in the Reduction Kiln. This controller automatically adjusts the addition and/or reduction of Marine Fuel Oil (MFO) based on the actual gas temperature compared to the operational target. Operators only need to set the desired gas temperature, and the system efficiently regulates the rate of MFO addition and/or reduction.
	Modular Screening Station	Two Modular Screening Station (MSS) units, namely MSS 12 and MSS 13, are currently undergoing trials before regular operation. The potential reduction in Greenhouse Gas emissions from regular operation is estimated at 5,000 tons of CO ₂ eq per year.
Fuel Diversion	Biodiesel	Until March 2023, PT Vale utilized B30 fuel. Starting from April 2023, the Company shifted to B35 fuel.
Energy	Renewable Generation	In 2023, biomass usage amounted to 2,234 tons from palm shell and wood charcoal. During this trial phase, PT Vale combined coal with biomass as a reducer in the Reduction Furnace unit and as fuel in the Coal Mill unit. The use of biomass as a substitute for coal has the potential to reduce GHG emissions by 311,000 tons of CO ₂ eq per year.
Electrification	Battery-based Electric Vehicles	<p>The Company launched an electric bus on December 14, 2023, in the Sorowako Block. This electric bus, with a capacity of 48 passengers, will serve employee transportation. The bus operates on a battery with a capacity of 315 kWh, equivalent to a range of 250 kilometers. The operation of one electric bus has the potential to prevent GHG emissions by 48.11 tons of CO₂eq per year, based on calculations equivalent to the use of oil fuel in conventional buses.</p> 

GHG Emission Intensity [POJK51-F.11]

The GHG emission intensity calculates the equivalent carbon emissions (CO₂eq), including CH₄, N₂O, HFCs, and others, based on the total GHG emissions of scopes 1 and 2 for every ton of nickel in matte produced. The result is expressed in tons of CO₂eq per ton of Ni, using calculation methods based on IPCC guidelines. The GHG emission intensity value in 2023 is 2,032,313 tons of CO₂eq per ton of Ni, with a decrease in intensity of 1.3% from the 2022 value of 29.1 tons of CO₂eq per ton of Ni. [305-4]

GHG Emission Intensity Calculation Results <small>[305-4]</small>				
Description	Unit	2023	2022	2021
Total GHG Emissions	Tons of CO ₂ eq	2,032,313	1,748,552*	1,971,075
Scope 1	Tons of CO ₂ eq	2,029,486	1,745,817	1,968,544
Scope 2	Tons of CO ₂ eq	2,827	2,735	2,530
Total Nickel Production	Ton	70,728	60,090	65,388
GHG Emission Intensity	Tons of CO ₂ eq/Tons	28.7	29.1*	30.1

*Restatement of 2022 Data: Addition of AFOLU/New Open Area

Emissions Containing Ozone-Depleting Substances (ODS)

PT Vale does not utilize HCF-22 freon (CHF₂Cl), opting instead for environmentally-friendly alternatives. The majority of our freons are R32 known which has ozone depletion potential (ODP) of 0. We consistently factor freon usage into our greenhouse gas calculations. [305-6]

Non-GHG (SO₂ and Particulate) Emission Control [EM-MM-120a.1]

SO₂ emissions originate from sulfur usage in the sulfidation process during nickel ore processing, as well as the use of High Sulphur Fuel Oil (HSFO) and coal. We manage SO₂ emissions through monitoring and calculation to comply with the quality standards outlined in Minister of Environment Regulation No. 4 of 2014 concerning Emission Quality Standards for Non-Moving Sources in Mining Activities. Calculations employ a mass balance method, determining emission intensity by comparing the weight of emitted SO₂ with the weight of the resulting products, expressed in tons of SO₂ per ton of Ni. The results for 2023 show that the SO₂ Emission Intensity value remains below the quality standard threshold of 0.80 tons SO₂eq/Ton Ni. [305-7]

SO ₂ Emission Intensity Measurement and Calculation				
Description	Unit	2023	2022	2021
Total Nickel Production	Ton	70,728	60,090	65,388
Total SO ₂ Emissions	Ton SO ₂ eq	53,188	43,377	50,666
Emission Intensity	Ton SO ₂ eq/Ton Ni	0.75	0.72	0.77
SO ₂ Quality Standard	Ton Ni	0.80	0.80	0.80

Particulate emissions control is conducted through monitoring and measurements at the dryer kiln chimney, reduction kiln, electric furnace, and product dryer. The measurement of particulate intensity is expressed in tons of Particulate/ton of Ni. The results of the particulate concentrate measurement for the year 2023 indicate 0.007 tons of Particulate/ton Ni. [305-7]

In 2023, several breakthroughs were implemented as efforts to reduce particulate emissions, including the implementation of Dust Net. The Dust Net is aimed at reducing particulate emissions generated from the ore placement process in the Dry Ore Storage.

SO ₂ Emission Intensity Measurement and Calculation				
Description	Unit	2023	2022	2021
Total Nickel Production	Ton	70,728	60,090	65,388
Total SO ₂ Emissions	Ton Particulate	600	681	1.613
Emission Intensity	Ton Particulate/Ton Ni	0.007	0.009	0.020

Description: Quality Standard Based on Permen LHK No.4.2014

Low-Emission Technologies for New Plants

On February 10, 2023, the Company conducted the groundbreaking for the Low Carbon Nickel Mining and Processing Project in Morowali Regency, Central Sulawesi. This project is developed by PT Vale and PT Bahodopi Nickel Smelting Indonesia (PT BNSI). The mining site is located in the East Bungku of East Bungku and Bahodopi, while the processing plant is situated in Sambalagi Village, Bungku Pesisir Sub-district. The nickel smelter construction in Morowali employs Rotary Kiln Electric Furnace (RKEF) technology. Gradually, the energy needs for the smelter will be supplied by liquefied natural gas (LNG).

Collaborative Energy Management to Support a Low Carbon Economy

About Vale Power Shift (VPS)

We implement Vale Global's internal program, VPS, to support future low-carbon economic transition policies. VPS aims to improve the Company's energy matrix by focusing on renewable energy and alternative fuels, as well as efficiency through new technology usage. The initiatives related to VPS in 2023 contributed to a 1.8% reduction in energy usage intensity compared to 2022. Efforts in 2023 included:

- Substituting coal with biomass as a reducer in the reduction furnace and as fuel in the coal mill, totaling 2,234 tons. This significantly reduced non-renewable energy usage. PT Vale also contributed to waste reduction by utilizing palm oil mill waste such as palm shells.
- The implementation of Electric Boilers in 2023 successfully reduced Marine Fuel Oil (MFO) and Biodiesel 35 consumption equivalent to 113,041 GJ. This success motivates the company to replicate Electric Boilers in the near future.
- Gradually replacing diesel-fueled trucks, buses, and light vehicles with electric vehicles, with one unit each in 2023. 2023 marks the beginning of PT Vale's vehicle electrification program, demonstrating the Company's commitment to increasing electricity usage, especially from its electricity generation through its 3 hydropower plants.
- Supporting government policies to reduce dependency on petroleum usage by utilizing 35% biodiesel as vehicle and plant fuel.
- PT Vale continues to innovate with new technologies, such as improving air pipe design in thermal & process plants to achieve an energy efficiency of 75,578 GJ. Additionally, in 2023, we reduced the intensity of Package Boiler#2 heating up while maintaining engineering calculations to decrease energy usage by 7,681 GJ.

Energy Consumption and Efficiency [POJK51-F.6]

Energy consumption calculation encompasses the volume of energy usage within the Company, including heavy equipment operation in nickel ore mining operations and nickel in matte production processes. We have not calculated energy consumption outside the Company. The energy consumed is sourced from hydropower plant electricity supply, which constitutes renewable energy, as well as thermal power plants and the use of fossil fuels, which are non-renewable energy sources. The total energy consumption calculation involves summing the volume of energy sources used, which is then converted to Gigajoules (GJ) using the International Energy Agency (IEA) conversion factor. [302-1][302-2]

Total energy consumption in 2023 amounted to 30,974,878 GJ, representing a 14.9% increase from 2022, which stood at 26,689,441 GJ. Renewable energy usage from hydropower plants accounted for 8,791,124 GJ or 28.4% of the total energy usage, while energy usage from B30 Biodiesel until March amounted to 500,552 GJ then starting April changed to Biodiesel B35 amounting to 1,741,583 GJ, from the total use of biodiesel B30 and B35 amounted to 2,244,136 GJ or 7.2% of the total energy requirements. The remaining 19,939,619 GJ, or 64.4%, came from non-renewable energy sources, with the largest volume coming from Marine Fuel Oil (MFO) usage totaling 10,295,322 GJ. [302-1][EM-MM-130a.1]

Energy Consumption Volume in the Company (GJ)				
Energy Source	Allotment	2023	2022	2021
Non-Renewable Energy				
Coal	Drying Kilns	4,477,155	3,221,576*	4,969,801
	Reduction Kilns – Reductant	3,399,804	3,226,794	3,002,054
	Reduction Kilns – Combustion	1,761,553	1,685,919*	1,973,050
	Total Firing Kilns	9,638,512	8,134,288	9,944,905
High Speed Diesel (HSD)	Thermal Generators	9,269	2,506	23,182
	Steam Boilers	7,740	6,804	14,268
	PP Dryer Furnaces & Others	335,981	314,318	332,241
	Reduction Kilns	40,555	47,087	34,943
	Refining – 78% Nickel	40,571	36,775	39,450
	Heavy Vehicles	1,593,558	1,409,259	1,676,109
	Light Vehicles, Trucks, and Others	216,462	119,638*	171,030
High Sulphur Fuel Oil (HSFO)	Total	2,244,136	1,936,386	2,291,223
	Steam Boilers	24,928	11,811*	22,984
	Drying Kilns	1,600,666	1,980,456*	640,555
	Reduction Kilns	8,669,728	7,088,557*	7,424,388
Gasoline	Light Vehicles	5,784	6,625	3,616
Renewable Energy				
Hydropower Plant		8,791,124	7,797,981	8,223,746
B30 Biodiesel**	Processing Plant	150,766	580,916	687,367
B30 Biodiesel**		609,554	N/A	N/A
Non-Renewable + Renewable Energies		30,974,879	26,956,105	28,551,417

*Restatement due to data recalculation

**Biodiesel Usage Data for B30 through March 2023 and B35 April – December 2023. Biodiesel B30 and B35 data is part of high speed diesel (HSD) data

PT Vale has a hydropower plant in the Sorowako area and has distributed electricity from hydropower of 10.7 MW or the equivalent of 337,435 GJ to the people in East Luwu, through PT PLN (Persero) in 2023. [POJK51-F.5][302-1]

Energy Intensity [POJK51-F.6]

Energy intensity is calculated as the total energy required from electricity consumption and fuel usage to produce one ton of nickel in matte. The calculation does not include energy usage outside the Company. The Energy Intensity value for 2023 reached 437.9 GJ/ton Ni, lower than the 2022 figure of 448.6 GJ/ton Ni. [302-3]

Energy Intensity Measurement Results [302-3]				
Description	Unit	2023	2022	2021
Total Nickel Production	Ton	70,728	60,090	65,388
Total Energy Used	GJ	30,974,879	26,956,105*	28,551,417
Energy Intensity	GJ/Ton Ni	437.9	448.6	436.6

* Restatement due to data recalculation

Energy Consumption Reduction [POJK51-F.7]

By comparing the volume of energy sources used, the company achieved a reduction in energy consumption of 437.9 GJ compared to the 2017 baseline. Energy usage in 2023 decreased from 448.6 GJ in 2022. This reduction was influenced by the increase in nickel production. [302-4]

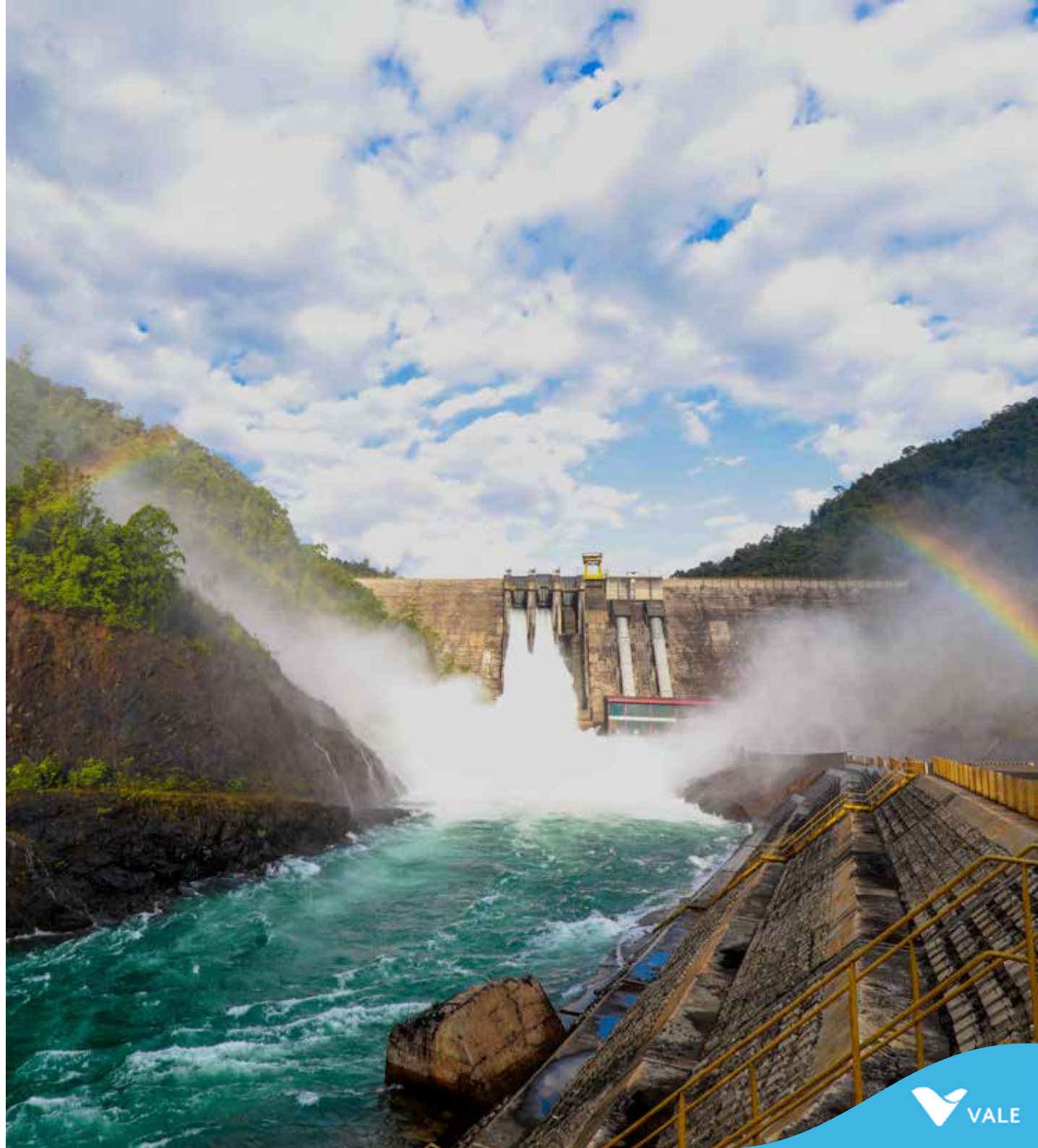
Energy Consumption by Source in 2023 and Comparison with 2022 [302-4]						
Energy Source	Unit	2023	2022	2021	2023:2022	
					Volume	%
HSFO	Barrel	1,654,992.7	1,467,780.5	1,291,026.7	187,212.1	12.8%
HSD	Liter	68,057,320.0	58,597,015.3	69,482,973.6	9,460,304.7	16.1%
Coal	Ton	347,362.00	292,341.0	374,918.1	55,021.0	18.8%

This report does not include the calculation of energy reduction/efficiency from products/services sold in 2023, nickel in matte is shipped out using vessels provided by the buyers. Therefore, PT Vale bears no responsibility for energy calculation based on fuel consumption volume conversion. [302-5]

Contribution to New and Renewable (NRE) Energy Development [POJK51-F.7]

PT Vale supports the EBT transition by developing NRE based on nickel products. The utilization of renewable energy for electricity and biodiesel is 30.84%(energy mixed).

To support the construction phase of the HPAL plant in Pomalaa, on June 7, 2023, PT Vale and PT PLN (Persero) signed a Memorandum of Understanding for a Power Purchase Agreement (PPA) of 1000 kVA or 1 Megawatt (MW). According to this agreement, the electricity supplied to PT Vale's needs in the Pomalaa Block is sourced from renewable energy. The electricity supply originates from the Kolaka Main Substation, which receives electricity from the Sabilambo Micro Hydropower Plant with a 2 MW capacity.



Implementing Mine Land Reclamation and Biodiversity Conservation Together

[POJK51-F.10]



PT Vale is committed to implementing reclamation as part of the Mine Closure Plan in accordance with Government Regulation No. 78 of 2010 concerning Reclamation and Post-Mining. The Company adheres to a policy of maintaining the total area of open-pit, with biodiversity management.

We conduct open-pit mining activities that have an impact on altering the natural landscape, thus affecting the ecosystem and biodiversity within it. The Company is committed to managing negative impacts by undertaking biodiversity conservation, progressive reclamation, and post-mining rehabilitation in accordance with applicable regulations and provisions. This activity also has a positive impact, such as planting plants that can be used, including in the reclamation program. In addition, planting tree species can also provide food for wildlife.

We are committed to restoring the land to its original condition through the following stages:

- Mining planning.

- Progressive reclamation and rehabilitation.

- Reporting and evaluation.

- Mine closure plan.

Environmental Costs [POJK51-F.4] [MM10][304-3]

We have a Mine Closure Plan document that has been updated in 2022 and communicated to all stakeholders. The Mine Closure Plan covers the entire (100%) operational area of the mine in Sorowako. PT Vale also includes guarantees for mine closure. The commitment to land reclamation and rehabilitation is supported by the allocation of financial provisions included in the environmental cost component in the Company's Financial Statements. The actual environmental management costs in 2023 amounted to US\$67,340,642 for the Sorowako, Pomalaa, and Bahodopi areas, representing an increase from US\$20,142,498 in 2022.

Year	Environmental Management Costs (US\$)
2023	67,340,642
2022	20,142,498
2021	21,349,994

2023 data covers Bahodopi area



Watershed Land Rehabilitation Outside the CoW [EM-MM-160a.2]

Reclamation of former mining lands aims to restore ecosystem balance and conserve and protect protected and endemic flora and fauna. PT Vale is committed to limit the open land area for mining operations and managing biodiversity in mining operation areas in accordance with Approval Letter No.188.4/66/II/BAPEDALDA. We also engage in land rehabilitation and reforestation beyond mining operation areas, particularly in critical lands and watersheds as mandated by Ministry of Environment and Forestry Regulation No. 59 of 2019 regarding Planting for Watershed Rehabilitation. Specifically, watershed rehabilitation is conducted in 13 regencies in South Sulawesi Province and 3 regencies in West Java Province.

Locations and Total Area of B#1 Watersheds Rehabilitated by PT Vale		
South Sulawesi		
Regency	Watershed	Area (Ha)
East Luwu	Labongko, Kalaena, and Pongkeru Watersheds	1,490
North Luwu	Rongkong Watershed	895
Luwu	Tomboe, Keppe, Larompong, and Lamasi Watersheds	1,101
Tana Toraja	Saddang Watershed	1,190
North Toraja	Saddang and Paremang Watersheds	329
Enrekang	Saddang Watershed	200
Pinrang	Saddang Watershed	450
Soppeng	Bila Walanae Watershed	400
Bone	Bila Walanae and Matuju Watersheds	1,735
Barro	Lisu Watershed	250
Maros	Bila Walanae Watershed	1,000
Gowa 1	Jeneberang Watershed	100
Gowa 2	Jeneberang, Kelara, and Tangka Watersheds	735
Takalar	Pamukkulu Watershed	125
Total		10,000
Locations and Total Area of B#2 Watersheds Rehabilitated by PT Vale		
West Java		
Regency	Watershed	Area (Ha)
Sumedang	Cipunagara Watershed	191
Pangandaran	Cikembulang and Cikeuleuweung Watersheds	35
Tasikmalaya	Cisaringi, Cipatujah II, Cikamunding, Cipanyerang, Cipalireman, Cilanglah, Cilanglah II, Ciwulang, Cimedang, Cipacor, Cipadabumi, and Cipadabumi II Watersheds	209
Total		435

In 2023, the rehabilitation conducted by PT Vale entered the second-year planting and maintenance phase (P2). To ensure the success of the program, the Company, together with stakeholders, conducted Gemba or field visits to Lappa Laona Village, one of the watershed rehabilitation sites in Barru Regency. During the Gemba activities, stakeholders provided suggestions for improving the implementation of second-year planting and maintenance, adjusting technical designs according to site conditions, and replacing seedling types. We are committed to enhancing the success of watershed rehabilitation before handing over the green land to the Government. The success criteria for watershed rehabilitation are agroforestry with the number of stands reaching 400 trees per hectare, intensive with the number of stands reaching 625 to 1,100 trees per hectare, and the level of growing plants and healthy plants is more than 75 percent of the number of initial plants.

The watershed rehabilitation program in West Java Province conducted by PT Vale will continue until 2025. As of the end of 2023, the planting realization covered an area of 435 Ha, including regions in West Java Province, comprising 191 Ha in Sumedang Regency, 209 Ha in Tasikmalaya Regency, and 35 Ha in Pangandaran Regency.

In addition to the planting realization by the end of 2023, there was also the implementation of second-year plant maintenance (P2) covering an area of 10,000 ha, spanning across 13 regencies in South Sulawesi Province. The watershed rehabilitation activities aim to restore, maintain, and enhance watershed functions, including environmental conservation, by planting various types of timber and non-timber forest products (NTFPs) according to site suitability. Furthermore, watershed rehabilitation activities can improve the welfare of communities living around the forest by promoting sustainable forest management practices.

The mining operations area of PT Vale is privately owned under a Contract of Work with the Government of Indonesia, which was amended in 2014. Some parts of the operational area are located within protection forest areas. We have obtained Borrow-to-Use Forest Permits (IPPKH) from the Ministry of Environment and Forestry regarding the use of protection forest areas. In addition, the area of operation is not in an active conflict area.

[304-1][EM-MM-210a.1][EM-MM-160a.3]



IPPKH, Total Areas, and Percentages of Protected Areas [304-1][EM-MM-210a.1][EM-MM-160a.3]					
Block	IPPKH Number	Protected Area (Ha)	Percentage	Proven Reserves (Ha)	Estimated Reserves (Ha)
Sorowako	SK No.645/MenLHK/SetJen/PLA.0/12/2018	8,199	41%	1,986	1,462
	SK No.866/MenLHK/SetJen/PLA.0/10/2021	3,730			
	SK No.850/MenLHK/SetJen/PLA.0/10/2021	17,239			
Bahodopi	SK No.341/MenLHK/SetJen/PLA.0/5/2019	2,143	68%	0	0
	SK No.5/MenLHK/SetJen/PLA.0/1/2022	13,362			
Pomalaa	SK No.238/1/KLHK/2021	11,439	46%	440	1,011
Total		56,108	48%	2,426	2,473

During the reporting period, the Company conducted a socialization event regarding the status and jurisdiction of forest areas within the IPPKH in the Pomalaa Block, Kolaka Regency. The objective of this activity was to enhance and broaden the understanding and awareness of the importance of understanding forest areas and related actions. The event was attended by community leaders, village heads, and representatives from the districts in the four empowerment zones of PT Vale in the Pomalaa group. This activity implementation

represents a further step following the completion of the permitting process for PT Vale's IPPKH in the extraction area in Pomalaa, as per the designation of the operational area through Decree Number SK. 1565/MENLHK-PKTL/REN/PLA.2/2/2022 dated February 25, 2022, covering an area of 11,432.57 hectares, consisting of Protection Forest (HL), Limited Production Forest (HPT), Permanent Production Forest (HP), Convertible Production Forest, and the Free Community Empowerment Zone of Forest Areas (PBPH).



Protecting Biodiversity [POJK51-F.10]



PT Vale operates open-pit mining activities, which can lead to changes in the natural landscape, ecosystems, and biodiversity within the area. To mitigate these impacts, we implemented a policy to limit the area opened for mining activities each year. The actual area opened for mining operations during the reporting period reached 230.16 Ha, bringing the cumulative area for mining operations by the end of 2023 to 5,667.73 Ha. [\[304-2\]](#)

Area of Disturbed and Rehabilitated Land (Ha) [\[304-3\]](#)

Year	Total Unrehabilitated Disturbed Area at the Beginning of the Year	Total Disturbed Area in the Current Year	Total Rehabilitated Area in the Current Year	Total Unrehabilitated Disturbed Area at the End of the Year
	1	2	3	1+2-3
2023	1,958.4	230.2	224.4	1,964.2
2022	2,054.1	199.8	295.4	1,958.4
2021	2,076.7	261.1	283.7	2,054.1

The implementation of post-mining rehabilitation involves local communities who have received training, non-governmental organizations (NGOs), government agencies, and other third parties. Periodically, the Ministry of Energy and Mineral Resources conducts monitoring and evaluation of success so that it is feasible to hand over to the Government. Success criteria include land stewardship standards, revegetation, and final completion, in accordance with Permen of ESDM No.26 of 2018 and Kepmen ESDM No.1827K/30/MEM/2018 concerning Guidelines for the Implementation of Good Mining Engineering Rules. [\[304-3\]](#)

We manage species affected by mining activities through identification and relocation to other locations, including post-mining rehabilitation areas. In 2023, the reclaimed mining land reached 224.4 Ha, achieving 86.3% of the targeted 260 Ha.

We aim to complete the reclamation and rehabilitation of land totaling over 10,000 hectares by the year 2024. Gradually, the rehabilitated land will be handed over to the Government for reforestation purposes. [\[304-2\]](#)[\[304-3\]](#)[\[MM1\]](#)



PT Vale is committed to conserving protected and endangered species of fauna and flora. A joint study conducted with Hasanuddin University in 2020 identified 43 protected species listed on the IUCN Red List within the mining operation area of Sorowako Block. The list of these species can be found in the Appendix. Until the end of 2023, these species are still found in the Sorowako Block. [\[304-4\]](#)[\[MM2\]](#)

As part of PT Vale's commitment to biodiversity conservation, the Company has established the Sawerigading Wallacea Biodiversity (Kehati) Park, serving as a conservation area for flora and fauna, an educational hub for biodiversity, a recreational space, and a jogging track. The park was inaugurated on March 30, 2023, by President Joko Widodo.

In addition to providing a new habitat for plant species, the Sawerigading Wallacea Biodiversity Park is home to 30 deer and serves as a breeding ground for endemic butterflies. The facilities of the Sawerigading Wallacea Biodiversity Park cover an area of 15 Ha and are integrated with a nursery center.

Reducing Landfill Loads Together

We are committed to comprehensive and sustainable environmental management. Following the framework of the International Council on Mining and Metals (ICMM), the Company focuses on reducing landfill burden as part of its environmental management efforts.

PT Vale is committed to achieving zero waste to landfill by 2025, five years ahead of the government's target. This goal will be achieved by optimizing waste management practices across mining operations, production processes, and support activities. Solid waste generation includes both hazardous (B3) and non-hazardous waste. Prior to disposal, waste management involves efforts to reduce, reuse, recycle, and recover materials (4R principles). The hazardous waste management is handed over to a third party that already has a KLHK license. As for medical waste, incineration is carried out using a generator and the ashes are handed over to a third party. Waste-related data collection is reported in Simple and SiRaja. During the reporting period, no hazardous waste was sent internationally and there were no spills of waste materials that endangered the environment. In addition, PT Vale uses Reduction Kiln Electric Furnace (RKEF) so that it does not generate tailings. [\[POJK51-F.13\]](#)[\[POJK51-F.14\]](#)[\[POJK51-F.15\]](#)[\[306-3\]](#)[\[306-4\]](#)[\[306-5\]](#)[\[EM-MM-150a.9\]](#)[\[EM-MM-150a.10\]](#)[\[EM-MM-150a.4\]](#)[\[EM-MM-150a.5\]](#)[\[MM3\]](#)

To achieve the zero waste to landfill target, PT Vale implemented several supporting activities during 2023:

PT Vale signed a Memorandum of Understanding (MoU) with the East Luwu Regency Government to Stop the Use of Plastic Bags. Through this agreement, PT Vale encourages its employees, their families, and contractor workers to reduce and eliminate the use of plastic bags.

PT Vale utilized organic waste as feed for maggots and organic compost, reducing organic waste by 57.8 tons. The resulting compost is reused by PT Vale as a planting medium for seedling development in the nursery.

PT Vale applied the principles of a circular economy by donating recyclable waste to the East Luwu waste bank.

Additionally, PT Vale empowered communities by providing guidance on waste bank management. Currently, there are 16 waste banks distributed across the Nuha and Towuti sub-districts, reducing waste to landfills by 18.4 tons per year.

PT Vale actively participated in raising awareness about the importance of waste management through events such as National Waste Care Day, Lake Clean Up Day, Healthy Alley Contest, Waste Bank Creativity Contest, and knowledge-sharing sessions with the community.



Types of Hazardous Solid Waste and Their Management

[306-1][306-2][EM-MM-150.a.6]



Types of Hazardous Solid Waste and Their Management [306-1][306-2][EM-MM-150.a.6]		
Activity	Type of Waste	Management Method
Production	Used oil and grease.	Utilized as fuel substitution. The amount of used oil that is reused compared to the total used oil waste is 100%.
	<ul style="list-style-type: none"> • Used lubricants and grease • Used batteries • Heavy metal contaminated waste • Asbestos waste • Healthcare waste (incinerator ash) • Waste contaminated with lubricants and waste • Special waste 	Dispatched to a third party.
	Medical waste.	Internally processed in a licensed incinerator (RS INCO). The incinerator ash is subsequently dispatched to a third party.

Types of Hazardous Solid Waste and Their Management [POJK51-F.13][306-1][306-2][MM3][EM-MM-150.a.6]				
Type of Waste	Unit	2023	2022	2021
Production Activity				
Used oil and grease	Ton	1.094,5	1.079,7	1.102,0
Used batteries and batteries		56,2	53,6	54,6
Waste containing heavy metals		488,4	356,8	2,5
Asbestos waste		5,8	3,8	3,5
Healthcare waste (incinerator ash)		3,6	4,1	4,3
Waste contaminated with oil and grase		295,9	292,1	360,1
Special waste		62,5	45,4	47,4
Medical waste		34,1	29,8	29,8
Total		2.041,0	1.865,3	1.604,2

Types of Non-Hazardous Solid Waste and Their Management

[306-1][306-2][EM-MM-150.a.6]



Types of Non-Hazardous Solid Waste and Their Management [306-1][306-2][EM-MM-150.a.6]		
Activity	Type of Waste	Management
Mining Activities	<ul style="list-style-type: none"> • Topsoil • Overburden 	Reuse of rock waste used for mining road pavement reached 31,336 tons. Top soil and overburden are used for landfill material in areas of former mining operations, land rehabilitation and post-mining rehabilitation.
Production Activities	<ul style="list-style-type: none"> • Furnace Slag • Converter Slag 	Nickel slag is used as a construction material for the top layer of special mining road surface layers, able to reduce nickel slag generation by 4,406,877 tons. This utilization has been approved by the government based on the Hazardous Waste Utilization Permit from the Ministry of Environment and Forestry with Permit Number SK 121/Menlhk/Setjen/PLB.3/2/2018.
Supporting Activities	<ul style="list-style-type: none"> • Non-industrial domestic waste generated • Industrial domestic waste generated • Metal waste generated 	Reused and recycled, either internally or by third-party entities.

Types and Volumes of Non-Hazardous Solid Waste and Their Management [POJK51-F.13][306-1][306-2][EM-MM-150.a.6]					
Type of Waste		Unit	2023	2022	2021
Mining Activities					
Topsoil	WMT	1,239,215	1,506,693	1,447,074	
Overburden		33,134,388	30,103,483	36,438,882	
Production Activities					
Furnace Slag	Ton	4,131,817	3,533,347	3,739,088	
Converter Slag		409,568	377,804	417,906	
Total		4,541,385	3,911,151	4,156,994	
Supporting Activities					
Non-industrial domestic waste generated	Ton	875	670	1,001	
Non-industrial domestic waste segregated	%	15.1	15.2	10.2	
Industrial domestic waste generated	Ton	6,378	6,295	3,492	
Scrap metal waste generated	Ton	5,786	7,497	5,229	

Reducing Water Consumption Intensity Together

[POJK51-F.8]

Aligned with mining practices in accordance with the International Council on Mining and Metals (ICMM) Sustainable Development Framework, PT Vale is committed to reducing water consumption intensity. This commitment is realized through the implementation of the Water Efficiency and Wastewater Pollution Load Reduction Policy. The policy can be viewed at <https://vale.com/our-policy>.

Water Consumption Intensity Reduction

The largest water requirement is for the operation of the Larona Hydropower Plant on the Larona River, with water sources from Lakes Matano, Mahalona, and Towuti. Water from the lakes is directed to reservoirs at dams and then channeled to turbines. The amount of water consumed equals the water taken from the lakes, and no water is withdrawn from areas of water stress [303-3]

Lakes Matano, Mahalona, and Towuti also serve as local residents' sources for domestic needs, livelihoods such as fishing and farming, and transportation activities. PT Vale regulates the volume and flow of water for hydropower plant purposes to ensure the lakes' preservation,

thus maintaining their usability by the community. Commitment to preserving these lakes also supports their status as Conservation Areas of Nature Tourism Parks, based on Minister of Agriculture Decree No.274/Kpts/Um/4/1979 dated April 24, 1979. [303-1][303-2][EM-MM-210b.1]

Total annual water usage during 2023 reached 7,561,108 m³ which is equivalent to 7,561.1 Megaliters, a decrease of 11% from 2022 which reached 8,519,762 m³ which is equivalent to 8,519.8 Megaliters. The Water Consumption Intensity value in 2023 was 106.9 m³/ton Ni (0.1069 Megaliters/ton Ni), lower than 2022's 141.77 m³/ton Ni, or 0.14 Megaliters/ton Ni. We report the Water Consumption Intensity value to relevant authorities and the public through our website at <https://vale.com/our-policy>.

[303-5][EM-MM-140a.1]

Water Consumption Intensity Value [303-5][EM-MM-140a.1]				
Description	Unit	2023	2022	2021
Nickel in Matte Production Volume	Ton	70,728	60,090	65,388
Water Consumption Volume	m ³	7,561,108	8,519,762	8,681,643
	Megaliter	7,561.1	8,519.8	8,681.6
Water Consumption Intensity	m ³ /Ton Ni	106.9	141.8	132.8
	Megaliter/Ton Ni	0.107	0.142	0.133

Through the Water Efficiency and Reduction of Wastewater Pollution Policy, PT Vale continues its efforts to efficiently utilize water resources. We are committed to achieving a 1% annual efficiency improvement in water usage across our plant areas, mining operations, office spaces, and other supporting facilities. Our initiatives include:

- Monitoring water consumption by installing flow meters on water distribution lines from reservoirs to factory areas.
- Implementing water recycling in Lamella Gravity Settlers to produce a ferrous sulphate solution of 2,000 cubic meters.
- Utilizing recycled water from production processes for slag cooling, totaling 385,000 cubic meters.
- Implementing the SWAP (Steam, Water, Air, and Power) online monitoring system to monitor water consumption and promptly identify pipe leakage locations on the water distribution network.

Wastewater Impact and Management [POJK51-F.9][POJK51-F.14]

PT Vale is deeply committed to preventing water pollution near our operations, including Lake Matano. We regularly analyze treated effluent that will be discharged into tributaries leading to Lake Matano. These analyses aim to ensure compliance with water quality standards as stipulated in Minister of Environment Regulation No. 9 of 2006 regarding Wastewater Quality Standards for Nickel Ore Mining Activities. These analyses are carried out by accredited independent laboratories using the SNI 6989.59:2008 Water and Wastewater method and American Public Health Association (APHA) standard methods. Based on the examinations conducted in 2023, it was found that the quality of treated effluent met the required standards. [303-4][EM-MM-140a.2]

Studies conducted in PT Vale's mining area in Sorowako have concluded that there is no potential for the formation of acid mine drainage by the end of 2023 due to the absence of rocks capable of generating acid mine drainage within the mining site. Acid mine drainage represents a notable environmental concern in mining activities, including nickel ore mining, as it can lead to adverse effects on the environment. Of particular concern is its potential to contaminate water bodies such as rivers, lakes, and groundwater.

Effluent Quality Measurement Results in 2023						
Location	Processed Volume (m³)	Parameter, Quality Standard, and Measurement Result				
		TSS	Cr Total	Cr6+	Fe	Ni
		<200 ppm	0,5 ppm	0,1 ppm	5 ppm	0,5 ppm
Petea Timur	6,123,490	9.700	0.065	0.020	0.083	0.012
Petea Barat	10,116,750	18.000	0.074	0.028	0.114	0.010
Petea Timur Jauh	15,349,032	13.000	0.078	0.035	0.097	0.010
Lorraine	1,394,894	5.714	0.084	0.028	0.027	0.010
Kathryn	3,438,068	6.250	0.052	0.014	0.027	0.010
Lamoare Creek A	2,354,351	8.111	0.077	0.029	0.027	0.010
Lamangka 1	3,148,843	3.667	0.085	0.027	0.027	0.010
Lamangka 2	2,510,029	9.000	0.075	0.031	0.095	0.010
Lamangka 3	5,730,032	9.100	0.101	0.038	0.053	0.010
Petea Car Wash	73,440	10.900	0.080	0.033	0.318	0.020

We are continuously striving to reduce the effluent pollution load for TSS parameters by 30 tons per year and Cr6+ by 0.05 tons per year generated from the company's operations and community activities around the company through the following efforts:

- Increasing the sedimentation pond capacity in the runoff water system originating from MEM Petea Shop and Petea D3 towards monitoring or treatment points;
- Redesigning and reconstructing compartments to improve sediment settling performance in the Lamella Gravity Settler (LGS) unit;
- Implementing runoff water treatment through conventional sedimentation pond methodology, LGS, and semi-LGS;
- Adding Chromium Treatment Plant facilities at Petea and Konde locations and conducting enhancements at Fiona, Lorraine, and Kathryn locations;
- Installing trash-catching nets at Sorowako Market near Danau Matano dock;
- Conducting studies to explore alternative chemicals for Cr6+ treatment; and
- Innovating to reduce the pollution load of wastewater.

In 2023, there was no waste-related environmental incident. [EM-MM-140a.2]

Compliance, Complaint Handling, and Supplier/Work Partner Evaluation [POJK51-F.16]

In managing the environment, PT Vale adheres to all applicable regulations. We utilize the Regulation Compliance System (RCS) application and implement global standards related to regulation compliance, enabling the Company to access and identify compliance levels. Environmental management performance is also evaluated by the Environment Committee composed of Senior Managers and the Board of Directors. The Company collaborates with independent parties such as Bureau Veritas, as external auditors to evaluate environmental performance, with a compliance rate of 100% for 2023. We ensure that there are no suspicions of environmental mismanagement, thereby mitigating any risk of fines or other legal sanctions for PT Vale. [\[2-27\]](#)

As part of the Company's environmental management compliance, PT Vale conducts Focus Group Discussions (FGDs) to launch



and socialize the complaint mechanism regarding PT Vale's activities in the Tanamalia Block. FGD participants include local government officials, representatives from the Ministry of Environment and Forestry (KLHK) and the Ministry of Energy and Mineral Resources (ESDM), Commissioners of the National Commission on Human Rights (Komnas HAM), environmental activists, and representatives from youth and women's groups. Through the FGDs, PT Vale and all stakeholders agree to seek solutions to common concerns arising from exploration activities in the Tanamalia Block.



Environmental Management Performance Evaluation Towards Suppliers/Partners

PT Vale periodically evaluates the environmental management performance of its suppliers/partners. In 2023, evaluations were carried out for all (100%) new suppliers/partners. Based on the evaluations, no contracts were terminated with suppliers/partners due to failure to manage the environment according to PT Vale's regulations and standards. [\[308-1\]](#)[\[308-2\]](#)

Social Sustainability Management Performance

Social sustainability performance management disclosure serves as an effort to mitigate the impacts of PT Vale's activities, prioritizing the fulfillment of the needs of employees and communities as directly affected stakeholders. During the reporting period, social sustainability performance, aligned with material topics, comprised of support for raising awareness and practices of respecting human rights, including diversity and equal opportunity; occupational health and safety (OHS); and community empowerment. [2-23]

Commitment to Human Rights

Human rights are important for PT Vale in conducting sustainable business operations. As part of Vale Global, we have a Human Rights Policy formulated in compliance with international principles and standards, including the United Nations Guiding Principles on Business and Human Rights, Universal Declaration of Human Rights, United Nations Declaration on the Rights of Indigenous Peoples, Voluntary Principles on Security and Human Rights, International Council on Mining and Metals, and International Finance Corporation Performance Standards. Other global frameworks include the Sustainable Development Goals (SDGs), ISO 26000 Corporate Social Responsibility Guidelines, ISO 14001:2015 Environmental Management System, and United Nations Global Compact (UNGC) membership. [2-23][EM-MM-210a.3]

PT Vale upholds the principles of respecting, protecting, and remedying human rights within the Company by implementing a hierarchical mitigation approach to prevent human rights violations. Additionally, we provide mechanisms for complaint and violation reporting, listening and responding mechanisms, conducting human rights assessments, and imposing sanctions in case of human rights violations, including those involving suppliers. Throughout 2023, PT Vale encountered no reports regarding human rights violations. [2-23][EM-MM-210a.3]

Tanamalia Project Human Rights Training

In 2023, our commitment to human rights was manifested through a human rights training held on December 12-13, 2023, attended by all teams involved in the Tanamalia Project in the Tanamalia Block, Towuti Sub-district, East Luwu Regency. PT Vale organized the training session with AsM Law Office Team and human rights commissioners as speakers. Through this initiative, all Tanamalia Project teams received education to understand human rights and its handling. Security teams also attended the training, providing

them insights into community dynamics and how to handle situations, including protests. In line with our commitment to respecting and safeguarding human rights, the implementation of the Tanamalia Project has been subjected to comprehensive social and environmental studies. These studies have yielded multiple outcomes, including an assessment of the community's susceptibility to environmental impacts and social discord. Furthermore, there have been observations regarding the intricacies of land ownership among local communities in the project vicinity and the potential conflicts stemming from resource exploitation. The studies also encompass problem identification, risk evaluation, risk matrices, mitigation strategies, and pertinent stakeholder issues. All these insights serve as guiding factors for the company in executing each phase of the Tanamalia Project.

PT Vale also provides extensive opportunities for women to take on roles and maximize their capabilities within the operational areas, including the Tanamalia Project. Currently, the total workforce in Tanamalia amounts to 389 individuals, of which approximately 33 are women, accounting for around 8% of the total workforce.



Human Rights Training in Tanamalia

The Company also fosters communication with the community regarding the Tanamalia Project through the socialization of the Mining Exploration Activity and Legal Position of IPPKH in the Tanamalia Block. The socialization occurred at the Towuti Sub-District Office Hall and was attended by all stakeholders. During the session, the authority granted to PT Vale to conduct exploration in the forest area of Tanamalia was explained, as provided in Minister of Environment and Forestry Decree Number SK850MenLHK/Setjen/PLA.0/10/2021. This decree outlines PT Vale's rights and obligations in managing a forest area covering 17,239.28 Ha. According to the decree, there are nine obligations that PT Vale must adhere to. On the other hand, the Company faces dynamics in the area due to the presence of 2 million pepper plant stakes managed by local residents within an 800 Ha area. We continue to conduct awareness campaigns against deforestation and communicate with land cultivators to gain access to their gardens during the exploration activities.



Human Rights Training for Security Personnel

In addition to the Tanamalia Project, the Company also ensures that security personnel know and understand human rights through security guard certification training from the Indonesian National Police in line with Decree of the Chief of Police Number 4 of 2020 concerning Private Security. Legal and human rights topics are included in the training curriculum. During the reporting period, the number of security guard personnel amounted to 435 individuals, consisting of PT Vale employees, contractors, and outsourced workers provided by certified security service providers registered with the Indonesian Security Service Companies Association. All security personnel hold security guard certification from the Indonesian National Police, with qualifications of Gada Pratama and Gada Madya from the Indonesian National Police. [410-1]

Management of Social Impacts on Vulnerable Groups and Local Communities

Managing social impacts, particularly concerning the local community and vulnerable groups, remains a top priority for PT Vale. While we acknowledge that the approach taken with the local community until the end of 2023 may not have fully satisfied all parties, we are pleased that it has not resulted in disputes with the Company. PT Vale continues to enhance coordination and synergy with local governments to obtain input, guidance, and direction regarding shared expectations for improving employment and business opportunities for the local community. Throughout the reporting period, PT Vale continued to prioritize initiatives such as the Sustainable Environmentally Friendly Agriculture and Fisheries Development Program (P3SRLB). [413-1][EM-MM-210b.1]

In 2023, PT Vale conducted several programs and activities as part of its social impact management toward local communities, including:

- Technical assistance for organic vegetable cultivation (SORGA) and market access facilitation by community groups in Wasuponda Sub-district.
- Assistance and development of Medicinal Plant Cultivation (TOBAT), Training & Production of Local Micro-Organisms (MOL), Training in Independent Organic Compost Production, and Community Resource Health Business Training (UKBM) by community groups in Bahodopi and East Bungku Sub-district.
- Basic Herbal Training for Community Resource Health Efforts (UKBM), Assistance and Development of Organic SRI Rice and Organic Vegetable Cultivation, Training & Production of Local Micro-Organisms (MOL), and Training in Independent Organic Compost Production by community groups in Baula, Pomalaa, and Tanggetada Sub-district.

Empowerment of Persons with Disabilities

One of the vulnerable groups that PT Vale focuses on is people with disabilities. Throughout 2023, we continued and expanded programs supporting entrepreneurship among people with disabilities to achieve self-reliance. One such program is the Woliko Organic Chicken program, which involves 13 people with disabilities residing in Matompi village, Towuti sub-district. PT Vale provided training in Sustainable Environmentally Friendly Agriculture (P3SRLB), assistance in institutional management and business processes, and support for organic chicken farming and vegetable cultivation infrastructure. The total budget allocated for this program was approximately Rp150 million.



Support for Indigenous Communities



One of the three blocks, the Sorowako Block, where PT Vale operates, has local communities who are indigenous people recognized and recorded in an agreement. Throughout the reporting period, the Company did not face any disputes with them, nor were there any relocations resulting from mining operations. We continue to engage in communication with the local community to find the best solutions to address any remaining differences. All (100%) local communities live, work and farm within the active operational area. [MM5][MM6][MM9][411-1][EM-MM-210a.2][EM-MM-210b.2][EM-MM-310a.2]

In line with the implementation of PT Vale's Human Rights Policy, our commitment to supporting indigenous communities is manifested through:

- Building relationships based on trust and respect and advancing the rights of indigenous communities to their culture, heritage, and way of life.
- Recognizing the ownership rights over land and water and the intangible values of natural resources held by indigenous communities.
- Promoting and documenting the consultation and free, prior, and informed consent (FPIC) process regarding Vale's activities and the community's interests.
- Supporting ethno-development among these populations.
- Effectively managing the potential risks and impacts of PT Vale's activities on indigenous land.
- Respecting and encouraging governance mechanisms that accommodate the unique social organizations of each community and, as far as possible, ensuring gender and generational representation to enable effective participation from the population.
- Providing information to indigenous and traditional communities about PT Vale's feedback channels and responding to feedback received within the timeframe outlined in applicable regulations or agreements with the community.

Diversity, Equity and Inclusion

[POJK51-F.18] [EM-MM-210a.3]



PT Vale has a Diversity and Inclusion Charter outlining five commitments to diversity, equity and inclusion. We promote increased awareness among employees regarding gender equality and diversity through programs tailored for supervisory and above leaders. In 2023, PT Vale conducted diversity, equity and inclusion training attended by 1,094 participants.

Diversity and Inclusion Charter

Our commitments to diversity, equity and inclusion:

- | | |
|--|--|
| 1. Create an environment that respects everyone's uniqueness, in which everyone has an equal opportunity to develop their potential. | 2. Create a safe and healthy environment in which everyone has the freedom to express their ideas and opinions and to be themselves. |
| 3. Put a transparent, fair, and unbiased recruitment process in place, evaluate it, and create a diversity-promoting work environment. | |
| 4. Show no tolerance for all kinds of harassment, discrimination, and prejudice. | 5. Open dialogues on and raise awareness of diversity. |

At PT Vale, we are committed to providing equal opportunities for all individuals to work and advance their careers. Our recruitment processes are conducted without discrimination based on gender, ethnicity, religion, social status, political affiliation, physical limitations for persons with disabilities, or any other factors that may lead to discrimination. In 2023, we did not receive any complaints regarding alleged discrimination in the workplace. [406-1]

In 2023, PT Vale welcomed 265 new employees, with 203 males (76.6%) and 62 females (23.4%) joining the Company.

New Hires by Age Group and Gender [401-1]

Age Group	2023	
	Male	Female
<31 years old	75	38
31-50 years old	125	21
>50 years old	4	2
Total	204	61

Additionally, 29 employees left the Company during the year, resulting in a turnover rate of 0.96%. We provide allowances and other facilities by considering employees' employment status and placement locations. PT Vale grants maternity leave to female employees for 120 calendar days and 2 days (on-site) and 3 days (off-site) to male employees to accompany their wives during childbirth. All (100%) female employees who completed maternity leave returned to the same positions, and in 2023, none resigned from PT Vale. [401-1][401-2][401-3]

New Hires by Placement Area and Gender [401-1]

Placement Area	2023	
	Male	Female
East Bungku	27	11
Jakarta	7	5
Pomalaa	26	16
Sorowako	144	29
Total	204	61

Maternity Leave [401-3]

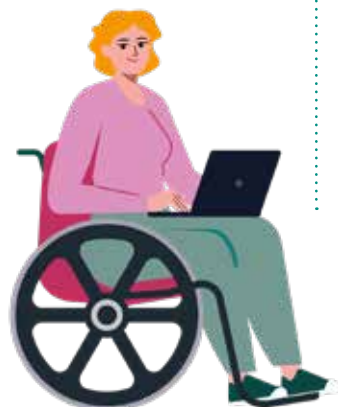
Gender	Entitlement to Maternity Leave / Maternity Leave	Total employees who took leave	Total Returning Employees	Return to Work Rate	Employee Retention Rate
Male	100%	88	88	100%	100%
Female	100%	5	5	100%	100%

PT Vale aims to achieve a 10% participation rate of women in extractive sector activities by 2023 and 18% by 2030. We acknowledge that this goal is challenging, considering the low involvement of women in the extractive sector. Our job application data for 2023 reveals that female applicants accounted for only 21% of the total 6,000 applicants. Additionally, we acknowledge that the extractive industry is still perceived as highly masculine, presenting another obstacle to increasing female participation.

As of December 31, 2023, the number of female employees reached 309, comprising 10.2% of the total workforce, marking an increase from 256 employees, or 8.7% of the workforce, in 2022. Among all female employees, 35 hold managerial positions,

accounting for 10.1% of all managerial staff within the Company. Additionally, 14 of these female managerial staff members occupy top positions as General Managers and Management, representing 5% of the total female workforce. [405-1]

In 2023, PT Vale remained inclusive of people with disabilities who possess the necessary competencies and skills for available positions. The number of employees with disabilities in 2023 amounted to 3 individuals, a decrease from 4 individuals in 2022, representing 0.1% of the total workforce. These employees are engaged in non-staff and senior staff roles within the Company. [405-1]



Total of Employees in 2023 by Position, Gender and Age Group [405-1]

Position	Gender		Age Group		
	Male	Female	<31	31-50	>50
Management	4	2	0	3	3
Senior General Management	104	11	0	89	26
General Management	402	79	51	332	98
Senior Staff	691	131	93	566	163
Staff	1,489	83	66	1,244	262
Non-staff	104	11	0	89	26
Total	2,714	309	210	2,255	558
	3,023		3,023		

Total and Percentage of Employees by Gender, Persons with Disabilities, and Local Workers [405-1]

Description		2023		2022		2021	
		Total	%	Total	%	Total	%
Gender	Male	2,714	89,8	2,678	91,3	2,710	91,4
	Female	309	10,2	256	8,7	256	8,6
	Total	3,023	100,0	2,934	100,0	2,966	100,0
Persons with Disabilities		3	0,1	4	0,1	3	0,1
Local Workers		1,432	47,3	2,550	86,9	2,570	86,6

Total Female Employees in Management Positions [405-1]

Description	2023	2022	2021	Δ%	
	1	2	3	1:2	2:3
Director	1	1	1	0.0	0.0
Senior Manager	4	2	1	100.0	100.0
Middle Manager	11	10	9	10.0	11.1
Supervisor	79	64	45	23.4	42.2
Specialist	131	102	117	28.4	(12.8)
Technician	83	77	83	7.8	(7.2)
Total	309	256	256	20.7	0.0

PT Vale also supports activities and employee groups/organizations that strengthen our appreciation for diversity, including:

- Webinars and roadshows to students and fresh graduates regarding the implementation of diversity, equity, and inclusion (DEI) at PT Vale actively since 2021.
- Socialization and DEI workshops to teachers and students at Sorowako Education Foundation starting from elementary, junior high, high school, and university levels (ATS) in 2022 and 2023.
- Increase awareness related to DEI by providing Inclusive Leadership training to leaders and providing Unconscious Bias & Harassment at the Workplace training for all PT Vale employees in 2023.
- Periodically improving infrastructure to support the implementation of DEI at PT Vale, such as preparing portable toilets in the mining area, access roads and toilets for disabled employees, lactation rooms in the workplace, and canteens in several work areas.
- PT Vale's CEO, Febriany Eddy, actively promotes DEI at PTVI by becoming key speakers at national and international events.

Support for the Trade Union and Collective Labor Agreements

Throughout 2023, no obstacles hindered employees from unionizing or forming labor unions. Through representatives in the trade union, employees and management have drafted and agreed upon the 20th Collective Labor Agreement (PKB) for 2023–2025 period, per Law No. 13 of 2003 on Manpower. The CLA serves to safeguard the rights of all employees and workers. For foreign workers (expatriates), the CLA refers to their respective employment contracts. PT Vale routinely communicates with the trade union, including regarding the renewal of the Collective Labor Agreement (CLA), which is conducted every two years. The CLA also regulates notifying employees about operational changes within the Company. In support of human rights, PT Vale also supports periodic unionizing and gathering activities. [2-30][407-1][402-1]

Percentage of the Lowest Remuneration Against the Minimum Wage

PT Vale provides remuneration without differentiation between male and female employees, maintaining a 1:1 ratio for the same positions. The total remuneration package also considers allowances, bonuses, placement incentives, and housing facilities at Sorowako, Bahodopi, and Pomalaa mining operation sites. Generally, the lowest remuneration for PT Vale employees in 2023 was still 15.2% higher than the applicable minimum wage in the East Luwu Regency. The Company also grants leave entitlements to employees as regulated in the CLA. [POJK51-F.20] [202-1][405-2]



Employee Training and Development [POJK51-F.22]

PT Vale ensures equal opportunities for all employees to participate in training and provides specialized training for employees approaching retirement. In 2023, the total training hours for employees reached 87,639 hours, with 9,330 participants consisting of 8,491 (91%) males and 839 (9%) females, averaging 29 hours of training per employee. PT Vale organizes specialized training for retiring employees to assist them post-retirement, whether in entrepreneurship or other endeavors. During the reporting period, 89 employees participated in specialized training, covering topics such as: [404-1][404-2]

- Health;
- Psychology;
- Entrepreneurship;
- Guided visits to various businesses with guest speakers.

PT Vale provides extensive opportunities for every employee to advance their careers, taking into account performance evaluations conducted for all (100%) employees. In 2023, 597 employees were promoted, comprising 557 (93%) males and 40 (7%) females. [404-3]



Preventing Forced and Child Labor [POJK51-F.19]

During 2023, there were no reports concerning forced labor practices. PT Vale adheres to the provisions of Labor Law No. 13 of 2003 and compensates for any overtime work. We ensure that activities at PT Vale and our contractors/vendors pose no risk of child labor by setting the minimum age limit for employees at 18 years old in accordance with labor laws and International Labour Organization (ILO) standards. No employee strikes occurred during the reporting period.

[408-1][409-1][MM4][EM-MM-310a.1]

Prioritizing Dialogue to Find the Best Solutions

We understand the dynamics within society, where differences in perspectives can arise. The Company respects the decision of a group of Sorowako residents who visited the National Human Rights Commission office and reported alleged human rights violations by PT Vale regarding a summons issued to 39 residents concerning old camp land. In response, the Company remains committed to prioritizing dialogue to find the best solutions, facilitated by the Regional Leadership Forum of East Luwu Regency.

In line with the dialogue, it has been agreed to establish a Facilitation Team tasked with compiling an inventory of issues, including gathering accurate data, formulating problem statements and solution proposals, and coordinating the stages of issue resolution with relevant parties. The steps of the Facilitation Team refer to the Regent of North Luwu Decree No. 50 of 2002 and the Joint Agreement dated June 15, 2002, based on data of 62 individuals (or their heirs) as rightful beneficiaries. In principle, PT Vale is prepared to transfer 12 land certificates to the community; however, the transfer process will be carried out once all accompanying issues have been resolved by the stakeholders involved.



Maintaining a Decent and Safe Working Environment Together

[POJK51-F.21]

PT Vale is committed to promoting sustainable health and safety performance with the ultimate goal of achieving zero harm, in line with the Principles of Sustainable Mining Management Based on the ICMM Sustainable Development Framework. We adhere to the Mineral and Coal Mining Safety System (SMKP Minerba), as per Minister of Energy and Mineral Resources Decree No. 1827/K/30/MEM/2018 Regarding Guidelines for the Implementation of Good Mining Engineering Practices, and enforce Safe Work Permits (SWP). Currently, PT Vale is in the process of ISO 45001 certification on mining safety management system. PT Vale also implements industrial hygiene measures, including addressing dust, noise, and ergonomics, as outlined in KPIs and subject to regular review. The implementation of health and safety



measures covers all (100%) employees and contractor/vendor workers. There are no exceptions for them, including other stakeholders visiting/working in the PT Vale environment. [403-1][403-8]

Periodically, as needed, PT Vale collaborates with stakeholders who may be affected by potential emergency conditions threatening safety. Collaboration initiatives undertaken during 2023 include:



- Large-scale inspection of the Balambano Dam by the Dam Safety Commission Team of the Ministry of Public Works and Public Housing (PUPR). This inspection is part of the feasibility assessment process for extending the dam's operational permit every five years. During this activity, the team was accompanied by several leaders from PT Vale's Energy and Logistics Department.



- PT Vale showcased the Robotic Monitoring System (RMS) technology at the digital reality and geospatial event, HxGN LIVE Indonesia 2023, held for the first time in Southeast Asia. 519 participants from various professional backgrounds attended the event. The RMS technology innovation has been in use since late 2019 and was created to monitor the safety of three dams owned by the company: Balambano Dam, Batu Besi, and Karebbe.
- Emergency response simulation involving firefighting at the Mining Harapan Office, Sorowako, as part of PT Vale's participation in Disaster Preparedness Day in 2023. The simulation involved employees from the Mining Harapan Office, the Fire & Emergency Services team, and the Health, Safety, and Occupational Risk (HSOR) team.
- PT Vale and the East Luwu Regency Government, through the Regional Disaster Management Agency (BPBD), held a meeting to update the Emergency Action Plan (RTD) document for the Seri Sungai Larona Dam (PKM I). According to RTD document regulations, it must be updated every five years and contains systematic instructions, including identifying threats to dam safety, expediting effective responses to prevent dam damage, and preventing or minimizing casualties and environmental damage caused by dam failure.

Key Hazard Identification and OHS Training

The implementation of OHS starts with identifying key hazards. It is managed through embedded systems/devices in operational activities, namely Contractor Safety Management System (CSMS), General Induction Program (GIP), Site Specific Induction Program (SSIP), Risk Assessment (RA), Job Safety Analysis (JSA), Safety Talks, Critical Activity Requirements (CAR), Safe Work Permit (SWP), and audits/inspections. PT Vale has mechanisms for employees and workers to report unsafe working conditions and accidents. The reporting procedure for safety monitoring and workplace inspection activities is carried out through smartphone applications, web-based Critical Risk Management (CRM), and the IRIS smartphone application. During 2023 all conditions that endangered safety and health at work

were addressed, including investigations of the incidents that occurred. [\[403-2\]](#)

We have a policy to relocate employees or workers from hazardous situations affecting their safety and health. Employees have the right to refuse unsafe work and report it to their supervisors. The company will follow up on reported incidents, including conducting investigations if necessary. PT Vale has identified hazards, assessed risks, and implemented controls to mitigate potential risks, ensuring they remained manageable throughout the reporting year. [\[403-2\]](#)

The Mining Safety Committee supports the implementation of OHS. Through committee meetings, employee representatives can address various OHS-related issues. In 2023, the committee held 12 meetings, which PT Vale followed up. Employee and worker engagement in OHS implementation also includes training and certification to enhance competencies. In 2023, PT Vale conducted 3 OHS training sessions attended by 218 employees and 5 workers (contractors/vendors). [\[403-4\]](#) [\[403-5\]](#)

OHS Certification Training in 2023 and Total Participants

Training	2023	2022	2021
First Operational Supervisor (POP)	155	87	85
Intermediate Operational Supervisor (POM)	59	56	26
Principal Operational Supervisor (POU)	9	4	6



Employee Health

The occupational health implementation in 2023 focused on: [\[403-3\]](#)

Promotive Health Efforts Programs include:

- Peer Educator Program for contractors
- Prevention program for Substance Abuse in the workplace
- Mental health program
- Prevention and control program for HIV/AIDS and Tuberculosis
- Nutrition improvement program
- Prevention and control program for non-communicable diseases
- Implementation program for ergonomic work and musculoskeletal disorders

Preventive Health Efforts Programs include:

- Assessment of Health Risk Factors in the workplace
- Employee Health Examination (Medical Check-Up)
- Management of Food, Beverage, and Nutrition for mining workers
- Hygiene and Sanitation Management
- Ergonomic work implementation
- Vaccination program
- Surveillance and Analysis of Occupational Health and other common diseases
- First Aid in Accidents (P3K)
- Management of Work Fatigue

Operational Safety Management

Certain types of work in mining and nickel in matte production operations pose high risks that can endanger the safety and health of employees and workers. We have implemented mitigation measures to minimize potential hazards. In addition to our operational safety management standards, PT Vale also adheres to government regulations as part of our commitment to compliance. [\[403-7\]](#)

PT Vale includes all employees in the social health insurance program provided by BPJS Kesehatan. As participants, they have access to healthcare services for non-Occupational Diseases (PAK), at primary healthcare facilities to referral hospitals. We facilitate regular medical check-ups (MCU) for employees and workers to monitor their health. In 2023, 2,682 PT Vale employees and 14,131 contractor workers underwent MCU. [\[403-6\]](#)

We continue our voluntary HIV/AIDS workplace prevention activities, which have been ongoing since 2008 in collaboration with the East Luwu Health Office. The Company also conducts voluntary activities to address other serious diseases, such as Tuberculosis and Dengue Fever. [\[403-6\]](#)

High Risk Work Faced by Workers

Type of Work	Risk Faced by Employees and Workers	Mitigation Measure [403-9] [403-10]
Operating heavy equipment.	Serious injury/death.	<ul style="list-style-type: none"> Developing CAR/MHS-03 standards. Conducting vehicle operating training and audit.
Working at heights.	Serious injury/death.	<ul style="list-style-type: none"> Implementing CAR/MHS-01 standards. Conducting training on and audit of working at heights.
Blasting.	Serious injury/death.	<ul style="list-style-type: none"> Implementing CAR/MHS-09 standards. Certifying blasting operators. Auditing blasting jobs.
Working near hazardous gases.	Hazardous gas poisoning.	<ul style="list-style-type: none"> Conducting hygiene industrial risk assessment. Offline and online monitoring. Preparing safe work procedures. Wearing personal protective equipment (PPE).
Working in heat exposure areas.	Heat stress.	<ul style="list-style-type: none"> Conducting hygiene industrial risk assessment. Offline and online monitoring. Preparing safe work procedures. Wearing personal protective equipment (PPE).
Working in noisy areas.	Loss of hearing sensitivity.	<ul style="list-style-type: none"> Conducting hygiene industrial risk assessment. Offline and online monitoring. Preparing safe work procedures. Wearing personal protective equipment (PPE).
Other types of work identified from project job demand analyses: <ul style="list-style-type: none"> Working with mining equipment; Manually handling materials. 	Musculoskeletal disorder (low back pain, hernia nucleus pulposus, etc.)	<ul style="list-style-type: none"> Performing engineering control over mining equipment that has high ergonomic risk. Performing administrative control by raising the awareness of mining operators who work with equipment that has high ergonomic risk. Performing administrative control over all types of work requiring workers to handle materials manually.

Occupational Health and Safety Performance

PT Vale conducts an annual OHS compliance audit, following the Mineral and Coal Mining Safety Management System (SMKP Minerba) and the IMS–Environment Health and Safety Management System. The SMKP Minerba audit for 2023 was conducted internally by certified auditors. The audit results showed a compliance rate of 73.56%, higher than the 2022 rate of 70.24%. Safety performance is also monitored through statistical calculations, including Severity Rate (SR) and Frequency Rate (FR), calculated per 1,000,000 person-hours worked. The calculations do not include any exemptions for specific employees or workers and cover both mining operations and production processes.

OHS Performance Statistics [403-9]									
Indicator	2023			2022			2021		
	Sorowako	Bahodopi	Pomalaa	Sorowako	Bahodopi	Pomalaa	Sorowako	Bahodopi	Pomalaa
Number of Fatalities	0	0	0	1	0	0	0	0	0
Lost Time Injuries	3	0	0	2	0	0	4	0	0
First Aid Injuries	10	6	1	13	0	0	15	0	0
Near Miss Unsafe Action, Unsafe Condition	62	0	0	70	0	0	77	0	0
Days Lost due to Accident (Severity Rate)	0.51	0	0	254.14	0	0	0.20	0	0
Total Accident Rate (Frequency Rate)	0.31	0	0	0.68	0	0	0.70	0	0

Total Occupational Accidents and the Rates in 2023 [403-9]						
Occupational Accident Level	Sorowako		Bahodopi		Pomalaa	
	Total	Rate	Total	Rate	Total	Rate
2023						
Light	0	0	0	0	0	0
Medium and Heavy	3	0.25	0	0	0	0
Fatal	0	0	0	0	0	0
Total	0	0.25	0	0	0	0
2022						
Light	0	0.00	0	0.00	0	0.00
Medium and Heavy	6	0.25	0	0.00	0	0.00
Fatal	1	0.50	0	0.00	0	0.00
Total	7	0.30	0	0.00	0	0.00
2021						
Light	10	0.50	0	0.00	0	0.00
Medium and Heavy	4	0.20	0	0.00	0	0.00
Fatal	0	0.00	0	0.00	0	0.00
Total	14	0.70	0	0.00	0	0.00

In 2023, PT Vale implemented several measures to enhance workplace safety and security: [\[403-9\]](#)

- Monthly contractor forums, mandatory for operational responsables (PJO) and/or company owners.
- Prevention week, health week, Day of Reflection (DoR), Leadership in the Field (LIF), and Safety stand down events, where all operations are halted simultaneously to reflect on safety-related incidents in line with Vale's "Life Matters Most" values.
- CRM reporting competition aimed at improving the quality of inspection reports by prioritizing improvements based on any non-compliance findings.

There were no reported Occupational Diseases (PAK) in 2023 among both employees and workers. We conducted mitigation efforts for commonly diagnosed illnesses through health share initiatives. Through hazard identification and risk assessment (HIRA), PT Vale has identified risks related to the company's OHS risks. [\[403-3\]](#) [\[403-10\]](#)



Dam Safety and Security Management

PT Vale continues to enhance the safety and security of its dams. During the reporting period, the Dam Security Commission Team from the Ministry of Public Works and Public Housing (PUPR) conducted a major inspection at the Balambano Dam. This visit was part of the feasibility assessment process for the extension of operational permits conducted every five years. The inspection covered five aspects: construction safety, technological feasibility, social impact, environmental impact, and operational governance. Based on the findings, the Dam Security Commission Team assessed that the Balambano Dam is well-managed by PT Vale's management.

The Balambano Dam is one of the most advanced dams in Indonesia, utilizing Roller Compacted Concrete (RCC) technology with a capacity of 31.5 million cubic meters of water. In addition to visiting the Balambano Dam, the delegation also visited the Karebbe Dam. The Dam Security Commission Team also observed facilities such as the Upper Gallery, Power House, Control Room, and Top DAM at the dams.

The Company is committed to maintaining dam security by implementing the Robotic Monitoring System to monitor the conditions of the Balambano, Larona, and Karebbe dams 24 hours a day. Through this technology, in the event of any danger around the dams, early warnings will be issued connected to the control room, enabling management to take prompt action to respond to the warnings.

Social Impact Management

[POJK51-F.23] [403-9][EM-MM-320a.1]

We have conducted a social impact assessment of the company's activities across operations in the Sorowako, Bahodopi, and Pomalaa regions. PT Vale has also conducted a social return on investment (SROI) assessment in the Sorowako area. The assessment involved stakeholders in identifying community needs, mapping vulnerable stakeholder groups, exploring opportunities for collaboration with local governments, and establishing grievance mechanisms. The company manages social impacts through Community Development and Empowerment (CDE) activities. These activities cover areas within rings 1, 2, and 3, tailored to stakeholder mapping outcomes and local government development plans. [413-1][413-2][EM-MM-210b.2]

Empowering the Community Together

[POJK51-F.25]

Negative Impact Management in 2023 [413-2]			
Number of Villages Affected	Percentage of Villages in Operational Areas	Type of Impact	Impact Management and Type of Social Investment
Sorowako Block			
Nuha Sub-district	5	15	Air pollution, water pollution, soil pollution, employment opportunities, population growth, cultural changes.
Wasuponda Sub-district	6	16	Employment opportunities, population growth, local cultural changes.
Towuti Sub-district	18	47	Air pollution, water pollution, soil pollution, employment opportunities, population growth, cultural changes.
Malili Sub-district	9	23	Air pollution, water pollution, employment opportunities, population growth, local cultural changes.

Negative Impact Management in 2023 [413-2]			
Number of Villages Affected	Percentage of Villages in Operational Areas	Type of Impact	Impact Management and Type of Social Investment
Pomalaa Block			
Pomalaa Sub-district	12	55	<ul style="list-style-type: none"> Population increase, local cultural changes. Increase in dust particles due to operational vehicle activities. Impact of community plantation land acquisition vulnerability. <ul style="list-style-type: none"> Intervention programs for real income improvement, social and cultural sustainability. Regular watering. Preparation for the LRP program.
Baula Sub-district	10	45	<ul style="list-style-type: none"> Population increase, local cultural changes. Increase in dust particles due to operational vehicle activities. Impact of community plantation land acquisition vulnerability. <ul style="list-style-type: none"> Intervention programs for real income improvement, social and cultural sustainability. Regular watering. Preparation for the LRP program.
Bahodopi Block			
East Bungku Sub-district	10	77	<ul style="list-style-type: none"> Population increase, local cultural changes, landfill mining. Increase in dust particles due to operational vehicle activities. <ul style="list-style-type: none"> Intervention programs for real income improvement, social and cultural sustainability, household waste management. Regular watering.
Bahodopi Sub-district	3	23	<ul style="list-style-type: none"> Population increase, local cultural changes, landfill mining. Increase in dust particles due to operational vehicle activities. <ul style="list-style-type: none"> Intervention programs for real income improvement, social and cultural sustainability, household waste management. Regular watering.

In 2023, PT Vale's social programs contributed to achieving the Green PROPER, particularly in the aspect of community empowerment program performance, and received recognition from various relevant institutions. This includes the Integrated Community Empowerment and Development Program (PPM)/Mining Community Welfare (Tamasya) Award 2023, newly organized by the Ministry of Energy and Mineral Resources (ESDM). The Company received two out of three awards evaluated, namely in the Planning Category and Implementation Category. [413-1][413-2][EM-MM-210b.2]

PPM Master Plan Development 2023-2027

As a sustainable development effort, PT Vale has reported to the Ministry of Energy and Mineral Resources the renewal of the PPM Master Plan for the 2023-2027 period of the Sorowako Block. The second period of PPM program is integrated and supports the achievement of SDGs in villages, aligning with the development priorities in East Luwu Regency. These priorities include economic growth based on non-mining sectors such as agriculture, agribusiness, tourism, MSMEs, and other creative economic sectors. The second priority is to strengthen the quality of education and healthcare and achieve village self-reliance, thereby improving the quality of life and preparing for post-mining self-reliance in the future.

Based on the evaluation results of the first phase of the PPM program, during this second phase, the Company implemented data-based program implementation targeting poor or vulnerable groups. Consequently, the prepared programs will be managed synergistically with stakeholders, ensuring that planning refers to data to ensure targeting accuracy and avoid favoring specific groups.

The PPM program for the 2023-2027 period will focus on five priority areas and combine with the SDGs Village approach, which also supports regional economies in developing flagship products. In addition to collaboration with local governments, the PPM will also collaborate with the Ministry of Energy and Mineral Resources and the Ministry of Tourism and Creative Economy in developing Creative Villages that can support economic development and community welfare, including agriculture, livestock farming, fisheries, entrepreneurship development, tourism, creative economy, or MSMEs.

Building Synergy with the Government

We continue to build synergies with the government in implementing PPM programs and activities. In line with the implementation of the PPM program for the 2023–2027 period, PT Vale launched the Operational Technical Instructions (PTO) for the PPM Program to support Sustainable Development Goals (SDGs) in villages. The PTO launch event was attended by officials from the East Luwu Regency Government, marking the beginning of the implementation phase of the PPM–SDGs Village Support Program, which synthesizes several program models implemented over the past approximately 10 years.

The PTO for PPM–SDGs Village Support serves as the operational reference and guideline for all stakeholders in realizing programs with broad impacts through accountable and transparent governance. The completion of this PTO also provides budget certainty, timing certainty, assurance of the programs to be funded, and certainty of implementation mechanisms.



Synergy Between PT Vale and the Community

PT Vale collaborates with the community in implementing several empowerment programs, including:



- Training for heavy equipment operators of excavators and dump trucks for local talents in the Tanamalia Block, East Luwu Regency. The training was attended by 52 participants from five villages in Loeha Raya, namely Loeha, Rante Angin, Bantilang, Tokalimbo, and Masiku. The two-month training covered theoretical and practical aspects of heavy equipment operation. At the end of the training, those who passed the test received competency certificates.
- Training in electricity, welding, and basic computer skills attended by 64 participants, who were local residents from 13 empowerment villages of PT Vale in the Morowali mining operation area and two empowerment villages of PT Bahodopi Nickel Smelting Indonesia (BNSI) in Sambalagi Site. The training lasted for two months and aimed to address the biggest challenge in Morowali Regency regarding the availability of skilled and competitive local workforce, thus supporting PT Vale's commitment to prioritize local talent.

- Inauguration of an Organic Field School in Ululere Village, East Bungku, Morowali. This Organic Field School will be used as a meeting place and learning center for farmers from 13 empowerment villages of the company in Morowali Regency. Through the Organic Field School, farmers receive training and knowledge about organic farming, aiming to increase crop yields with efficient production costs because some needs, especially fertilizers, can be produced and fulfilled independently. At the same time, the selling price of agricultural products is higher than that of conventional farming production.
- PT Vale sponsors PSM Makassar, a football club from South Sulawesi, during the second round of the 2023/2024 Liga 1 competition. The collaboration is based on the consideration that PSM Makassar is from the same area as PT Vale's operations and is one of the deserving football clubs in Indonesia due to its achievement as the champion of Liga 1 last season. Through this collaboration, we hope to help develop local football talents around PT Vale's operational area and be part of PSM Makassar's football development. We also hope to collaborate extensively by involving PT Vale's fostered SMEs through football, including during PSM Makassar matches.

Green Open Space (RTH) – Batara Guru Roundabout

Collaboration in the development and management of Green Open Space (RTH) Bundaran Batara Guru (BBG) together with the Regional Government of East Luwu Regency, started in 2022. The construction of this RTH facility can be utilized by the community as a space for interaction, education, recreation, and support economic activities and ecological functions. The RTH development is targeted to be completed in 2024 and managed by the East Luwu Regency Government.



PPM Funding Support

In line with the PPM Master Plan for 2023–2027, the implementation of PPM activities includes not only four sub-districts in East Luwu Regency but also other empowerment areas in Pomalaa, Kolaka Regency, and Bahodopi, Morowali Regency. The Company's support in 2023 included US\$5,571,359 in program financing, covering Sorowako, Bahodopi, and Pomalaa Blocks. This amount represents a 4.3% increase from the US\$5,343,585 in 2022.

PPM Funding Support in 2023 (US\$)				
Program and Activity	Sorowako	Bahodopi	Pomalaa	Jumlah
Education	151,579	92,010	5,004	248,593
Health	408,288	143,181	73,070	624,539
Real Income	348,902	158,310	188,432	695,644
Economic Self-Reliance	963,793	–	12,780	976,573
Socio-Cultural	210,895	221,654	61,509	494,058
Socio-Environmental	106,903	112,946	–	219,849
Community Institution	169,821	74,053	–	243,874
PPM Infrastructure Support	1,321,323	233,437	513,469	2,068,229
Total	3,681,504	1,035,591	854,264	5,571,359

Several of the PPM activities carried out in 2023 include:

- Infrastructure development under PPM, such as the construction of green open spaces (RTH), development of water tourism facilities, construction of village irrigation networks, Rice Milling Units (RMU), the establishment of Village Health Posts, the establishment of cattle farming facilities, rehabilitation and arrangement of village culinary stalls, construction of village landmarks, construction of food courts, construction and development of waste management facilities (TPS3R) across villages, construction of warehouses and paddy drying floors, arrangement of underwater ecosystems through the creation of fish ecosystem units (fish apartments), construction of floating fishermen's houses, improvement of farm road quality, construction and renovation of fish feed warehouses, and renovation of fishermen's docks.
- Activities in the Bahodopi Block include the construction and development of waste management facilities (TPS3R), the development of organic Sri rice cultivation, the Healthy Community Movement, including Healthy Exercise and Healthy Eating Socialization and Health Checks, middle and high school equivalency education, the construction of community health center facilities, and the Socialization of Stunting Reduction and Mother and Child Care.
- Several capacity-building activities include training and study tours to enhance destination management capacities at Lake Toba, community-based waste management training, fish feed industry management training, and appropriate agricultural technology (TTG) application training. In the Bahodopi Block, there were training sessions on Proper Fish Cultivation for fishermen, Religion Guidance, Sports Coaching Clinics-Football for youth in empowerment areas, Organic Youth Camp Training, and Vocational Training in Welding & Electrical for the local workforce.
- PPM activities carried out in the Pomalaa Block include the construction of Early Childhood Education (PAUD), construction of clinic fences, procurement of ambulances, procurement of farmer shredding machines, construction of organic Sri rice farmer workshop, human resource development training, procurement of heavy equipment simulators, tourism development, construction of volleyball fields, construction of tourist access roads, establishment of art studios, rehabilitation of sub-district offices, construction of 70 street lights, construction of embankments, farmer road construction, campus development, and asphalt paving.

Building Infrastructure to Support the Integrated Community Empowerment and Development Program (PPM)

The implementation of PPM also includes supporting the development of infrastructure to support PPM, with a realization in 2023 reaching US\$1,321,323, down by 53% from US\$2,786,450 in 2022. For the Sorowako Block, the decrease in realization in 2023 is due to most of PT Vale's PPM programs in this period being in a transition phase from planning to implementation. Here's a breakdown:

- **Education Sector:** Budget absorption for community scholarships and foster children has not been realized due to coordination processes, socialization, and various dynamics with communities and local governments regarding governance and beneficiary selection. Therefore, the realization of scholarships is expected to commence in Q1 2024.
- **Health Sector:** The decrease in budget absorption in this sector is largely influenced by government policies regarding the obligation of every citizen to use the BPJS Health card, leading to a direct impact on the decrease in regular health service financing for the affected local communities in the Sorowako block.
- **Transition Phase:** The transition of program schemes from area-based schemes to SDGs Desa support schemes requires several stages of social preparation, cross-sectoral coordination, legal compliance processes, and governance framework development, which began in March 2023. Hence, the realization is expected to begin in Q1 2024.



PPM supporting infrastructure development includes Sorowako, Bahodopi, and Pomalaa Blocks, with realizations including:

- Subsidized Electricity Facilities for Local Communities, Lighting and Clean Water Facilities for the General Public (US\$1,040,778 Sorowako Block)
- Infrastructure Development and Economic Development of Dongi Ledu Ledu Villages (US\$120,647 Sorowako Block)
- Public Facilities and Infrastructure (Meeting Halls, Plazas, Road Repairs, Water Supply Networks, and Sports Facilities) (US\$159,899 Sorowako Block)
- Village Infrastructure Development (Fences, Gabions, Farm Road Pavements, Markets, Drainage), Procurement of Traditional Bamboo Musical Instruments, Tourism Development, and Educational Facilities Development (US \$466,874 Bahodopi Block)
- Lighting and Clean Water Facilities (US\$214,155 Pomalaa Block)
- Infrastructure Development (Rehabilitation of the Sub-district Office in Baula, Development of the PNUP Kolaka Campus, and Construction of Terminal Embankments in Pomalaa) (Total: US\$169,026)
- Public Facilities and Infrastructure Development (Road Asphaltting and Repairs, Terminal Embankment Construction) (US\$195,804 Pomalaa Block)



During 2023, PT Vale conducted various community care and social assistance activities for communities around its operations and in other areas across Indonesia, including:

- Formation and strengthening of community institutions (Village-Owned Enterprises and Subsidiaries, youth organizations, farmer organizations, women's groups, herbal enthusiasts) – Sorowako Block
- Engagement of local communities in sustainable environmental conservation activities, such as strengthening waste banks, tree planting and mangrove tracking, fish apartments, cleaning community drainage channels to preserve the Lake Matano ecosystem, assistance for natural disaster victims (earthquakes, fires, floods), and provision of facilities for community places of worship.

Grievance and Response Handling [POJK51-F.24] [413-1a][MM7]

PT Vale provides the community with access to submit complaints/reports directly during monthly coordination meetings with sub-districts. We also established a Stakeholder Demands and Issues (SDI) System as an application for handling each complaint and report.

The External Relations Department follows up on every complaint/report received, according to the type of interaction received, such as accusations, complaints, information, requests, and praises. These will be addressed using various approaches involving relevant functions. Throughout 2023, several reports were submitted to PT Vale:

- There were 698 reports in the operational area of Sorowako Block, with 130 accusations and complaints categorized into issues related to job opportunities, land acquisition conflicts, compensation payments, road access, and support for social projects.
- There were 268 reports in the operational area of Bahodopi Block, with 108 accusations and complaints categorized into issues related to job opportunities, business opportunities, land acquisition, road access, dust, safety in community residential areas, and support for social projects.
- There were 54 reports in the operational area of Pomalaa Block, all categorized as accusations and complaints related to labor issues, land acquisition, compensation payments, and safety in community residential areas.

Vale's grievance mechanism follows Principle 31 of the UN Guiding Principles on Business and Human Rights (UNGPs), as well as guidance from ICMM (International Council on Mining and Metals), implementing the principles of legitimacy, accessibility, predictability, equitability, transparency, rights-compatibility, and source of continuous learning. We respond to community-submitted reports using various approaches to find the best solutions. The following tabulation presents the follow-up to some complaints/grievances.

Complaints and Grievances by the Public in 2023 and Follow-Up <small>[POJK51-F.24]</small>		
Complaint/Grievance	Location	Follow-Up
Sorowako Block		
Issues related to dust pollution resulting from mining activities	Kuari, Asuli Village	Coordination has been conducted with the Mining department to carry out regular watering in the area. process within the four empowerment areas.
Issues related to disturbed clean water due to mining activities	Kuari, Asuli Village	Through External Relations, we assisted the community by constructing 2 clean water facilities benefiting 650 residents in the Kuari, Asuli Village and its vicinity.
Issues related to noise pollution from mining operations	Kuari, Asuli Village	Coordination with the Mining department resulted in agreeing upon several options to reduce the work shift intensity from 3 shifts (24 hours) to 2 shifts.
Issues related to land occupants within the contract area	Kuari, Asuli Village	Humanitarian Aid programs have been provided to communities/land occupants affected by activities in PT Vale projects, specifically in Lembo South 01 & 02.
Complaint regarding the 117 non-staff intake quota in 2023	East Luwu	Discussions have taken place with the East Luwu Manpower Office regarding the PT Vale recruitment process. It was agreed that there would be no specific quota for the community but rather refer to the ID card (KTP) as proof of residency in East Luwu, as an empowerment area. Additionally, PT Vale initiated preparatory activities such as logic and reasoning test preparation for candidates participating in the PT Vale workforce selection.

Complaints and Grievances by the Public in 2023 and Follow-Up [POJK51-F.24]

Complaint/Grievance	Location	Follow-Up
Bahodopi Block		
Transparency in PT Vale's Workforce Recruitment Results	Bahomoteffe Youth Organization (Representing several Empowerment Village Youth Organizations)	Discussions have been held to clarify the recruitment process at PT Vale. Information regarding job vacancies has been conveyed to the Youth Organization, and job postings have been displayed at each office in the 13 Empowerment Villages.
Community Land Complaints and Claims	Bahomoteffe Village	A dialogue has been initiated involving the Land Acquisition Team, PT Vale External Team, Onepute Jaya Village Government, and Bahomoteffe Village with the complainant. The Land and Village Government teams have provided explanations regarding the location and status of the land claimed by the community.
Complaints Regarding Alternative Road Access	Bahomoteffe Village, Onepute Jaya Village, Le-le Village and Dampala Village	Preliminary socialization has been conducted in several villages to explain the alternative road. PT Vale management coordinated with the relevant Village Government to follow up on the repair of the alternative road to ensure its suitability for use by farmers.
Pomalaa Block		
Portal Closure by the PTVI Local Community of Regarding Local Labor	Mekongga Earth Forum and Circle One Baula Community	A meeting and discussion were conducted between the local forum and PTVI management regarding local labor.
Some members of the local community claim that their land is being used by PTVI and demand compensation, leading to legal action.	Hakatutobo Village	The disputed land is situated within the forest area (IPPKH and PTVI CoW). The District Court's decision states that the plaintiff's lawsuit is deemed inadmissible.
Community protests at the intersection due to congestion during rush hours. They request traffic management to be provided at the site.	Pesouha Village	Traffic management has been provided at the mentioned intersection to regulate traffic flow.

Non-Company Land Use

There are no community mining activities in the operating area of PT Vale. However, we have observed the use of land for other activities conducted by the community within the contract of work area. This situation is addressed by: [MM8]

- Issuing verbal and non-verbal warnings (written warnings);
- Reporting to the police if warnings are ignored; and
- Conducting regular monitoring

Periodically, PT Vale also evaluates the performance of suppliers/working partners, which may potentially have social impacts on the local community, along with evaluating environmental management performance. Throughout 2023, we evaluated all (100%) new suppliers/working partners. Based on the evaluation conducted during 2023, there were no terminations of employment contracts with suppliers/work partners due to social and environmental impacts as stipulated in PT Vale's regulations and standards. [414-1][414-2]



Sustainability Governance



PT Vale Indonesia Tbk's sustainable operations are supported by a commitment to implementing sustainable governance guided by the principles of Good Corporate Governance (GCG). Consistent application of sustainable governance creates sustainable value for stakeholders, both in the short and long term. We require the Board of Commissioners, Board of Directors, company officials, employees, and related parties to prioritize legal compliance based on business ethics, ensuring that all actions are carried out with full responsibility, honesty, confidence, respect, loyalty, and integrity. The Company has never incurred fines or other legal sanctions from authorities related to compliance violations. [2-27]

Sustainability Governance Structure

The sustainability governance of PT Vale refers to governance in accordance with Law No. 40 of 2007 concerning Limited Liability Companies, consisting of the General Meeting of Shareholders (GMS) as the highest governance body, the Board of Directors as the Company's executives, and the Board of Commissioners as overseers assisted by committees. The nomination and appointment of the Board of Directors and Board of Commissioners are the authority of the Shareholders and are ratified in the GMS. We ensure there are no conflicts of interest among the Directors, Board of Commissioners, or Shareholders that could influence any decisions made. Information regarding these matters is disclosed in the 2023 Annual Report of PT Vale Indonesia Tbk. [\[2-9\]\[2-10\]\[2-15\]](#)

The Board of Directors implements sustainability governance guided by Vale's 2030 Commitment, and structured as Key Performance Indicators (KPIs) covering economic, environmental, social, and governance aspects. Achievement of KPIs is evaluated periodically and reported to shareholders. [\[POJK51-E.1\] \[2-11\]\[2-12\]](#)





The Board of Directors may delegate their authority in the implementation of sustainability governance to company officials according to their respective responsibilities. Regarding sustainability performance, it is managed by relevant Functions, such as External Relations, Energy & Logistics, Environment & Permit Management, People & Culture, Communications, Corporate Affairs, Health Safety & Risk, Compliance & Ethics, and ESG Departments. Periodically, appointed company officials provide reports to the Board of Directors. [2-13]

Remuneration and Performance Evaluation

Remuneration of the Board of Commissioners and Directors is determined by the Shareholders through the GMS, taking into account the Company's performance, including sustainability management. Shareholders are the sole stakeholders involved in the process of setting remuneration for the Board of Commissioners and Directors. Information disclosure regarding the remuneration of Directors and the Board of Commissioners, including the annual remuneration ratio, is provided in the 2023 Annual Report of PT Vale Indonesia Tbk. [2-19][2-20] [2-21]

Performance evaluation is conducted through the assessment of the Company's performance during the current period and the achievement of KPI targets. Evaluations are carried out in meetings of the Board of Commissioners and Directors. The final evaluation results are presented to the Shareholders at the GMS. PT Vale also evaluates the performance of sustainability governance conducted by third parties, one of them, PT Vale is included in the SRI KEHATI index. [2-18]

Sustainability Risk Management Evaluation [POJK51-E.3]

Risk management of sustainability performance is performed by implementing a risk management system using the ISO 31000:2018 and ISO 55001:2014 frameworks and COSO-ERM on Risk and Asset Management. The Board of Directors manages risk with support from operational functions in management, namely Risk Management, Line Management, and Internal Audit, it is overseen by the Board of Commissioners with assistance from the Risk Mitigation Committee. Evaluation of risk management implementation is conducted through meetings of the Board of Directors and the Board of Commissioners. Based on the evaluation results of 2022, it is known that the management of sustainability performance risks is effectively executed.

In implementing risk management, PT Vale always involves the community in the initial stages of all work activities. that PT Vale conducts all operational activities responsibly, taking into account community aspects. [\[EM-MM-210b.2\]](#)

IGP Morowali Environmental Impact Assessment Development

During the reporting period, PT Vale continued discussions on the Environmental Impact Analysis (AMDAL) Document for the Nickel Ore Production Operation Plan in Block 2 and Block 3 Bahodopi. The agenda of the discussions included meetings of the AMDAL Commission and the Environmental Management Plan (RKL), as well as the Environmental Monitoring Plan (RPL). The meeting was attended by the Central AMDAL Assessment Team from the Directorate General of Environmental Impact Prevention of Business and Activity of the Ministry of Environment and Forestry, local government agencies (OPD) of Central Sulawesi Province, and PT Vale management. During the meeting, the AMDAL Commission assessed that the AMDAL Document prepared by PT Vale is very comprehensive and addresses all aspects. [\[2-26\]](#)

Improving Sustainability Knowledge [POJK51-E.2] [2-17]

Throughout 2023, PT Vale included the Board of Directors in various activities to improve their knowledge regarding sustainability governance implementation. Some of the activities included participation in Sustainability Action for The Future Economy 2023 and The Climate Change Conference COP28. On several occasions, the Board of Directors also had the opportunity to be speakers at sustainability-themed events, namely:

- CNBC Indonesia Nickel Conference 2023: Nickel & Battery Supply Chain Sustainability
- Indika Energy Summit 2023: Corporate Sustainability, Indonesia Sustainability Forum (ISF) – Sustainable Mining of Critical Minerals to Bolster Decarbonization
- Sustainable Mining & The Energy Transition, Speaker on Indonesia Millennial and Gen Z Summit 2023: Symphony of Sustainability: Empowering Transformation with ESG Strategies

Code of Conduct Compliance and Whistleblowing Channels ^[2-17]

PT Vale has and implements a Code of Conduct (CoC) to support the implementation of sustainability governance. Every year, we held Code of Conduct socialization sessions for all parties internally and externally associated with PT Vale. Socialization activities carried out in 2023 include:

- Ethics & Compliance, Anti-bribery and corruption Training for all employees.
- Anti-bribery & corruption socialization for all employees and leaders.
- Whistleblowing channel socialization through posters, banners, and e-flyers for all employees.
- Online training on the code of conduct for all PT Vale employees.

To support the implementation of the Code of Conduct (CoC), the Company provides a reporting channel for CoC violations: the Vale Whistleblower Channel (VWC), accessible 24/7 by suppliers, consumers, and other third parties. The VWC is connected to Vale S.A.'s Ethics and Behavior Code Department and is independently managed by a whistleblowing service provider in Indonesia. Several channels are available for reporting corruption, conflicts of interest, discrimination, and other perceived violations of regulations or the Code of Conduct. ^[2-16]

We guarantee confidentiality, independence, neutrality, and immunity in handling, investigating, and storing information received through the VWC. PT Vale ensures that under any circumstances, there will be no breaches of confidentiality, intimidation, or retaliation against the reporter and no tolerance for retaliatory actions. Retaliatory actions are considered misconduct. All employees are encouraged to report any cases of retaliation. ^[2-16]

In 2023, the VWC received 32 reports of alleged violations submitted through the VWC. Issues that can be reported include fraud, conflicts of interest, interpersonal relationships, relationships with third parties, health and safety, and the environment. Of the 32 reports received by the VWC, 30 or 94% were categorized as valid and followed up with investigations while maintaining confidentiality and protecting the reporter. Violation reports included in the VWC are reported to the CEO of PT Vale Indonesia every three months through a meeting. The most investigated violations were related to interpersonal relationships and fraud. In addition to reports received by the VWC, several cases of employee violations were addressed by the Company as a whole by imposing sanctions for proven violations, namely: ^[2-16]

Violation Reporting Facilities Through VWC



Telephone
0 800 100 2233



Email
vwc@tipoffs.info



Website
<https://idn.deloitte-halo.com/valewhistleblowerchannel/?Pg=4>



Fax
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Violation Reporting Handled Through VWC ^[2-16]

Description	2023	2022	2021
Number of Allegations Received	32	27	33
Percentage of Valid Allegations	94	74	85

Percentage of Valid Allegations Confirmed After Investigation (%)

Description	2023	2022	2021
Not Proven	27	81	18
Not Determinable	36	5	7
Proven	37	14	75

- Written guidance for 33 employees.
- Written warnings for 63 employees.
- Termination of employment for one employee.

Supporting Anti-Corruption [EM-MM-510a.1] [EM-MM-510a.2]

PT Vale enforces zero tolerance towards corruption, bribery, and/or abuse of power for personal gain. We are fully committed to fostering transparent, accountable, and integrity-driven relationships with the government and other stakeholders. PT Vale has also conducted a risk assessment related to corruption and identified risks based on the Corruption Perceptions Index (CPI) which refers to the Vale Global Anti-Corruption Program.

Together with the law firm Hadiputranto, Hadinoto & Partners, the Company has conducted an assessment to identify corruption risks within PT Vale's environment, particularly related to procurement processes and activities. We implement e-procurement to minimize corruption risks and participate in contract management transparency, including incorporating anti-bribery and anti-corruption clauses into agreements or contracts with third parties. Another approach is to provide the Global Vale Anti-Corruption Guidelines on the intranet and offer various channels for stakeholders to report any violations or indications of corruption. [\[205-1\]](#)

Periodically, PT Vale conducts refresher training on anti-corruption for employees, as well as for communities and other stakeholders. Anti-corruption training programs prioritized for employees include those in Procurement, External Relations, Human Resources, and other employees whose work involves interactions with government agencies or officials. Throughout 2023, we communicated and disseminated anti-corruption messages via email blasts and banners to employees, while the dissemination of the PT Vale Supplier Code of Conduct Guidelines has been conducted for 950 suppliers. Additionally, we organized the following anti-corruption training: [\[205-2\]](#)

- Anti-bribery and corruption training for new employees.
- Anti-bribery & corruption socialization for all employees and leaders.

During the reporting period, PT Vale did not receive any complaints regarding alleged anti-corruption violations, either from employees or business partners. We have also never been involved in any public legal cases related to alleged corruption involving the Company. [\[205-3\]](#)

Respect for Property Rights

The Company also respects property rights in its nickel mining operations, including compliance with legal frameworks and regulations, as well as respecting rights and ownership of land. This commitment underscores PT Vale's dedication to ethical practices and compliance to ensure the protection of property rights in all our activities.



Constraints and Challenges in Implementing Sustainability

[POJK51-E.5]

Constraints and challenges faced by the Company in implementing sustainability during 2023 include various perceptions and interests among stakeholders, especially regarding environmental and social (human) management. Another challenge is that managing negative impacts requires extensive measurement and documentation. At the same time, we are limited in applying all calculation methods. The ongoing solution being pursued is to enhance communication and training, as well as monitor the recording of calculation data as the basis for performance evaluation.

Building the Nation Together



Throughout 2023, PT Vale recorded positive performance despite facing continued economic slowdowns in several countries that affected the demand and prices of nickel worldwide.

Economic Value Generated and Distributed

Information on the generated and distributed economic value is presented on a cash basis based on the audited Financial Statements. The disclosure of information follows the recommendations of the GRI Standards, so the figures presented may differ from the audited Financial Statements. Throughout 2023, we recorded a Generated Economic Value of US\$1.3 billion, marking an 6.6% growth from 2022, which reached US\$1.2 billion. Part of the Generated Economic Value has been distributed to stakeholders. [201-1]

One factor influencing the economic performance in 2023 was the production cost control, which amounted to US\$10,089 per ton of nickel in matte, lower than in 2022, which was US\$11,444 per ton of nickel in matte. The Company did not receive financial assistance from the Indonesian Government. However, following the share ownership structure, the Government indirectly holds shares in the Company through its ownership of MIND.ID, which has been one of PT Vale's shareholders since 2020. [201-1][201-4]

Nickel Production Cost (US\$ per Ton)		
2023	2022	2021
10,089	11,444	8,430

Economic Value Generated and Distributed (Thousand US\$)			
Description	2023	2022	2021
Economic Value Generated			
Operating Revenue	1,232,263	1,179,452	953,174
Other Income	36,576	10,691	2,714
Total Revenue	1,268,839	1,190,143	955,888
Economic Value Distributed			
Operating Costs	550,958	772,065	639,242
Employee Salaries and Allowances	87,436	91,819	84,881
Payments to Capital Providers	60,093	0	0
Payments to the Government	204,617	178,676	113,090
Community Investments	4,291	4,929	4,992
Total Economic Value Distributed	907,395	1,047,489	842,205
Economic Value Retained (Total Economic Value Generated – Total Economic Value Distributed)			
Total Economic Value Retained	361,444	142,654	113,683

Production and Sales Target and Realization [POJK51-F.2]

Throughout the reporting period, we encountered the effects of climate change in the form of irregular weather conditions, resulting in weather anomalies that impacted our nickel ore mining operations and the shipment of nickel in matte to our buyers. This, in turn, led to an increase in operational expenses for PT Vale. However, despite these challenges, the Company was able to achieve its production targets for both nickel ore and nickel in matte, as well as fulfill its sales commitments to customers. [201-2]

Nickel in Matte Production and Sales Targets and Realization in 2023 (Tons) [POJK51-F.2]

Description	Target	Realization	Percentage
Production	70,725	70,728	100.0%
Sales	71,403	71,108	99.6%

Nickel in Matte Production Realization

Description	2023	2022	2021	Δ%	
	1	2	3	1:2	2:3
Production	70.728	60.090	65.388	17,7	-8.1
Sales	71.108	60.960	66.615	16,7	-8,5

Realization of Nickel in Matte Sales to Buyers (Cobalt)

Buyer	2023		2022		2021	
	Ton	%	Ton	%	Ton	%
Vale Canada Limited (VCL)	56,887	80	49,670	81	53,265	80
Sumitomo Metal Mining Co.,Ltd	14,221	20	11,290	19	13,350	20
Total	71,108	100	60,960	100	66,615	100

Employee Pension Funds

We include employees in the Defined Contribution Pension Program (PPIP) managed by the Financial Institution Pension Fund (DPLK), the Old Age Guarantee Program, and the Pension Guarantee Program managed by BPJS Ketenagakerjaan. PPIP is mandatory for employees who have been working for more than three years. The DPLK portion covers 10% of PT Vale and 2% of employees. In 2023, the pension fund amounted to AS\$52,892,019 an increase from US\$51,625,227 in 2022. This amount is sufficient to meet the obligations to 118 retiring employees in 2023. [201-3]



State Revenue Contribution and and Tax-Related Policies

Economic value distributed in the form of tax payments and Non-Tax State Revenue (NTSR) to the Government to the Government is paid based on the prevailing tax regulations in Indonesia. The policy, management, and supervision of taxes and NTSR by the Company are the responsibility of the Finance Department and are overseen by the Finance Directorate. They are then reported to Vale Canada to the Vice President of Tax Base Metal and Vale Brazil. Reporting is conducted monthly and quarterly. We coordinate and consult with the local Tax Service Office to ensure compliance with tax obligations and taxpayers, both corporate and individual. PT Vale has a Taxation

SOP as an identification reference in monitoring tax risks. PT Vale also supports transparency and contributes to Indonesia's EITI reporting. During 2023, there were no incidents of tax violations. [207-1][207-2] [207-3]

This report only discloses the fulfillment of tax and NTSR obligations to the Indonesian government, including central and regional governments, considering that PT Vale operates only in Indonesia. In 2023, we paid taxes and NTSR to the Government of Indonesia, amounting to US\$204,617 thousand. This amount increased by 14.3% from 2022, reaching US\$179,020 thousand. [207-4]

The Government appreciates PT Vale's contribution to state revenue through taxes. Appreciation was given by the Regional Office (Kanwil) of the Directorate General of Taxes (DJP) for South, West, and Southeast Sulawesi for the category of corporate taxpayers with the highest VAT and income tax contributions throughout 2022. Over the past two years (2021-2022), PT Vale has paid local taxes amounting to US\$50 million or equivalent to Rp700 billion, assuming an exchange rate of around Rp14,000. If accumulated from 2011 to 2022, the Company's contribution to local taxes has reached US\$235 million or equivalent to Rp3.3 trillion. This figure includes water levy fees, which amounted to US\$18 million or approximately Rp278 billion in 2021-2022.

PT Vale's Obligatory Payments to the Central and Regional Governments (Thousand US\$) [207-4]			
Description	2023	2022	2021
Central Government	174,051	151,646	120,126
South Sulawesi Provincial Government	14,084	14,331	9,968
East Luwu Regency Government	15,995	13,031	13,623
Southeast Sulawesi Provincial Government	18	10	6
Kolaka Regency Government	1	0	0
Central Sulawesi Provincial Government	19	6	7
Morowali Regency Government	449	0	0
Total	204,617	179,024	143,730

PT Vale's Taxes and Non-Tax State Revenue (NTSR) Payments (Thousand US\$)			
Description	2023	2022	2021
Tax Payments	163,189	132,256	118,544
NTSR Payments	41,427	46,768	25,185
Total Tax and NTSR Payments	204,617	179,024	143,730

Tax Components Paid by PT Vale (Thousand US\$)			
Tax Component	2023	2022	2021
Value Added Tax	6,532	1,452	1,242
Land and Building Tax	3,121	2,401	2,340
Employee Income Tax	14,340	12,229	10,859
Corporate Income Tax	91,618	79,588	67,720
Regional Taxes, Levies, and Grants	30,565	27,378	23,604
Third Party Withholding Tax	12,409	5,452	8,086
Duties	4,603	3,756	4,695
Total	163,189	132,256	118,544

Non-Tax State Revenue (NTSR) Components Paid to the Government (Thousand US\$)			
NTSR Component	2023	2022	2021
Production Royalties	33,990	35,614	19,187
Land Rent for Contract of Work Areas	496	496	504
Other NTSR	6,941	10,658	5,494
Total	41,427	46,768	25,185

In line with our commitment to sustainable governance, the Company has a policy to prohibit any form of contribution to political activities, both directly and indirectly. We also do not allow the use of PT Vale's facilities or assets for political activities. [415-1]



Customer Equality [POJK51-F.17]

Based on a long-term contract that has been agreed upon, PT Vale sells its nickel in matte products to Vale Canada Limited (VCL) with a sales percentage of 80% and Sumitomo Metal Mining Co. Ltd (SMM) with 20%. This market certainty ensures that we are not faced with market competition from similar businesses. We provide equal services to buyers, among others, in setting the selling price of nickel with reference to the London Metal Exchange and cobalt with reference to Fastmarket. [\[206-1\]](#)



Influence Towards Communities

In 2023 PT Vale provides pro bono indirect benefits to local communities through the utilization of infrastructure built for the Company's operational purposes: [\[203-1\]](#)

- Road access improvement in Loeha Village
- Construction of bridges in several operational areas, including in Loeha Village, to support exploration and the needs of the surrounding community
- Provision of clean water facilities in Mahalona Village as part of the support for the Mahalona Block 1 Bridge

Another indirect benefit is the availability of job opportunities in local companies that act as contractors/suppliers in the Company's supply chain. Local companies are defined as businesses located and/or operating in PT Vale's operational areas, namely East Luwu Regency (Sorowako Block), Morowali Regency (Bahodopi Block), and Kolaka Regency (Pomalaa Block). The ongoing construction work is expected to



employ 12,000–15,000 workers. They will receive wages that can be spent to meet living needs, thus bringing about a ripple effect on the local economy.

As of December 31, 2023, there are 374 local companies involved in PT Vale's supply chain, accounting for 16.6% of the total number of vendors/suppliers. Some of them serve as vendors/suppliers for development projects in Bahodopi and Pomalaa. [\[203-2\]](#)[\[204-1\]](#)

In 2022, the Company conducted a community satisfaction index (SMI) study related to PT Vale's business to encourage the growth of other economic sectors. The study was published in 2023, with the following results: [\[203-2\]](#)[\[204-1\]](#)

- The SMI study (2022) on the MSME sector in 4 sub-districts within PT Vale's empowerment areas received a score of 2.8, equivalent to a conversion value of 70.83% satisfaction of respondents with programs that promote economic growth.
- For the agriculture and sustainable fisheries development program, the study received a score of 3.0, equivalent to a conversion value of 75% satisfaction of respondents with the program's achievement in improving the economic status of beneficiary communities.
- Overall, the CSR program received a score of 3.0, equivalent to a conversion value of 74% satisfaction of respondents with the company's business operations in promoting the economic growth of the local community.

Supplier Engagement Proportion [204-1]						
Description	2023		2022		2021	
	Total	%	Total	%	Total	%
Local Suppliers	158	17	301	11	295	28
National Suppliers	629	66	2,051	74	560	54
International Suppliers	163	17	432	64	183	18
Total	950	100	2,784	100	1,038	100

*Suppliers who passed the prequalification and have a contract with PT Vale

Procurement Contract Value by Supplier (US\$) [204-1]						
Description	2023		2022		2021	
	Total	%	Total	%	Total	%
Local Suppliers	64.235,5	20	59.461.222	16	39.185.111	10
National Suppliers	170.368,0	53	241.641.501	64	265.305.103	69
International Suppliers	86.796,4	27	78.339.538	21	77.377.305	20
Total	321.399,9	100	379.442.262	100	381.867.519	100

In 2023, there were 17% or 158 local suppliers. During the pre-qualification process, PT Vale conducted assessments to ensure that suppliers met the established ESG standards and criteria.



Stakeholder Engagement

Stakeholder engagement is based on fulfilling the needs of each stakeholder through various forums and mechanisms.

Stakeholder Engagement [POJK51-E.4][2-29]				
Stakeholder	Basis for Identification	Topic of Discussion	Approach and Response	Frequency
Internal				
<ul style="list-style-type: none"> • Employees • Company Leaders • Contractors 	Communication policy and social management system.	<ul style="list-style-type: none"> • Economic performance and business development. • Occupational health and safety (OHS) management, and COVID-19 pandemic handling. • Environmental management. • Strengthening local suppliers' capacity and increasing the share of local components. 	<ul style="list-style-type: none"> • Drafting the Company's long-term plan. • Streamlining and optimizing production and sales. • Putting health protocols in place. • Implementing the Vale Production System (VPS), the Contractor Safety Management System (CSMS), and getting certified in occupational health and safety and environmental management. • Adopting the Promote National Interest (PNI) and the Local Business Initiative (LBI). 	<ul style="list-style-type: none"> • Periodic (quarterly, semester, annual) performance reports • Periodic evaluation as needed.
External				
<ul style="list-style-type: none"> • Communities • Formal Leaders • Informal Leaders 	Communication policy and social management system.	<ul style="list-style-type: none"> • Recruitment of local workers • Community empowerment (local communities). 	<ul style="list-style-type: none"> • Recruitment by PT Vale or through a contractor. • Inter-Village Cooperation Forum (BKAD) to discuss, plan, and evaluate integrated community empowerment and development programs.. 	<ul style="list-style-type: none"> • Recruitment as needed. • The forum convenes at the beginning, in the middle, and at the end of the year, and as needed.
<ul style="list-style-type: none"> • Government and Private Sector • Central and Local Governments • Military and Police • Investors • Customers • Suppliers and Partners • Public Sector 	Communication policy and social management system.	<ul style="list-style-type: none"> • Regulatory compliance and licensing. • Contributions to the state and regions. • Asset protection. • Corporate Performance. 	<ul style="list-style-type: none"> • The Company plans to change its Work Contract, which will end on December 28, 2025, to a Mining Business Permit or Special Mining Business Permit. • Fulfilling the obligation of paying taxes and non-tax state revenue in a total amount of US\$178,676 thousand in 2022. • Security coordination and cooperation with the Military and Police. • Financial, environmental, social, and governance performance reporting. 	<ul style="list-style-type: none"> • Communication on and discussion of the Mining Business Permit or Special Mining Business Permit are done all the time with the authorities. Timely tax and non-tax state revenue payment. • PT Vale regularly coordinates with the provincial police of South Sulawesi, the provincial police of Southeast Sulawesi, and the Military Command XIV Hasanuddin in security cooperation. • Quarterly, semester, and annual performance reporting.
<ul style="list-style-type: none"> • The Media • Academicians • NGOs • Other Entities 	Communication policy and social management system.	<ul style="list-style-type: none"> • Transparency and easy access to information. • Consultations, research, and cooperation. 	<ul style="list-style-type: none"> • Publication and delivery of public information through press conferences, news release, and public exposés. • Research and Corporate Social Responsibility (CSR) cooperation 	As needed
Local Communities	Communication policy and social management system.	Respect for and fulfilment of customary rights, and local wisdom	Fostering dialogue and communications with local communities through various meetings and forums	As needed

Responsibility for Product/Service Development

Product Safety and Impact Management

[POJK51-F.27][POJK51-F.28]



PT Vale's production process and nickel in matte products have met the Restriction of Hazardous Substances (RoHS) and ISO 17025:2008 standards, which are European Union market standards. They have also undergone assessment for mining product hazards according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), adopted by the United Nations (UN) and implemented in Indonesia through Minister of Industry Regulation No. 23 of 2013, amending Minister of Industry Regulation No. 87/M-IND/PER/9/2009 on the Globally Harmonized System of Classification and Labelling of Chemicals. Nickel in matte is an intermediate product used as a raw material by buyers in subsequent processes. Thus, it does not directly impact buyers or the environment. There have been no complaints about the product's impact on the health and safety of employees, workers, or buyers during the reporting period. [416-1][416-2]

Product Recall and Customer Satisfaction [POJK51-F.29][POJK51-F.30]

Throughout 2023, there were no product recalls requested by buyers. Shipping of nickel in matte to customers was conducted using specialized packaging weighing 3.3 tons. The outer packaging was equipped with labels containing information about the origin and product specifications, as well as handling instructions. We assessed compliance with labeling procedures for all (100%) products, and no complaints were received from buyers regarding information discrepancies on the labels. During 2023, PT Vale did not incur fines or any other legal sanctions related to alleged non-compliance with marketing communication provisions. [417-1][417-2][417-3]

We remain committed to maintaining product quality and service for our customers. Since customers make product purchases under long-term contracts, we do not conduct customer satisfaction surveys. However, PT Vale and customers routinely hold monthly meetings to address and resolve any issues that may arise.



Data and Digital Information Security

PT Vale ensures that all digital data and information, including sensitive company data, are securely stored, both for buyers and employees. We implement buyer data security systems to protect against data damage, modification, and unauthorized dissemination. Data and digital information stored by the company can only be accessed by authorized parties designated by management. Throughout 2023, there were no reports of data damage, modification, or unauthorized dissemination (leakage) reported by either buyers or employees. [418-1]

The 6,969-meter Larena Canal, one of the supporting facilities of our Larena Hydropower Plant.




Product/Service Innovation and Development [POJK51-F.26]





During the reporting period, PT Vale worked to develop nickel in matte products. In the coming years we will develop high-quality nickel products that support the energy transition, namely:




- Mixed Hydroxide Precipitate (MHP) will be produced from the nickel limonite refining and processing plant at the Sorowako Limonite Project and from IGP Pomalaa. MHP production will commence in 2026, with a projected total capacity of 60 kilotons per year in Sorowako and 120,000 tons in Pomalaa.
- Nickel in ferronickel, produced from the nickel ore processing plant at IGP Morowali, which will commence production starting in 2025. The total production capacity is expected to reach 73–80 kilotons of ferronickel per year.

Support for the SDGs and Sustainable Mine Management

Through membership and sustainable initiatives with the Indonesia Business Council for Sustainable Development (IBCSD), PT Vale actively contributes to designing business documents to support the Sustainable Development Goals (SDGs). We focus on ten goals aligned with the SDG Indicator Metadata from the Ministry of National Development Planning.

SDG	Ministry of National Development Planning/Bappenas Metadata		PT Vale's Support		
	Target	Indicator	Target	Strategy	Achievements
 2 ZERO HUNGER	Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.	Proportion of agricultural area under productive and sustainable agriculture	Eco-friendly sustainable agriculture, which promotes good agricultural practices, maintains ecological balance, and avoids the use of pesticides or chemical fertilizers that can damage soil structure and fertility as well as the food chain.	Establishing an integrated farming zone in Towuti Sub-district.	In 2023, PT Vale's support in integrated farming areas included the construction and rehabilitation of village irrigation networks in 5 villages, totaling 1,088.3 meters, with a budget of Rp1,498,791,000.
 3 GOOD HEALTH AND WELL-BEING	Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all.	Coverage of essential health services.	Workers' participation in BPJS Kesehatan.	Making participation in BPJS Kesehatan compulsory for PT Vale's employees, and encouraging contractors, work partners, and vendors to register their workers with BPJS Kesehatan.	<ul style="list-style-type: none"> Achieved 100% participation in BPJS Kesehatan for PT Vale employees. Achieved 100% participation in BPJS Kesehatan for contractor workers, partners, and vendors.
 5 GENDER EQUALITY	End all forms of discrimination against all women and girls everywhere.	Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex.	An increase in the number of female employees and employees with disability.	<ul style="list-style-type: none"> Implementing the Diversity, Equity and Inclusion (DEI) Charter. Recruiting more female employees and employees with disability, taking into account the type of work to be undertaken. 	<ul style="list-style-type: none"> Conducted DEI Charter socialization for employees and other stakeholders. Increased the proportion of female employees to 10.2% in 2023. Increased the proportion of disabled employees to 0.1% in 2023.

SDG	Ministry of National Development Planning/Bappenas Metadata		PT Vale's Support		
	Target	Indicator	Target	Strategy	Achievements
 <p>7. ENERGI BERSIH DAN TERJANGKAU</p>	Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.	Installed renewable energy generating capacity in developing countries (in watts per capita).	Renewable energy for PT Vale's operations with 100% clean energy generation to achieve self-generated energy by 2030.	Optimizing clean energy, power stabilization, waste heat utilization, solar power utilization, and fuel conversion.	Utilized renewable energy from three hydropower plants to meet 36% of operational electricity needs.
 <p>10. BERKURANGNYA KESERANGAN</p>	Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.	Proportion of human rights allegations handled.	Raised awareness of human rights, including gender diversity and inclusiveness among leaders (supervisors and above) and employees.	<ul style="list-style-type: none"> • Conducting awareness-raising campaigns and training on human rights for employees. • Empowering indigenous people through the integrated community empowerment and development program. 	Preserved local culture through collaboration with the Mekongga local communities, including the construction of a pavilion in the Mekongga king's tomb area to support traditional activities.
 <p>11. KOTA DAN PEMUKIMAN YANG BERKELANJUTAN</p>	Significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population.	To be part of an effort to accelerate the recovery of disaster-affected areas.	Sending an emergency response team to disaster areas, and distributing aid to disaster-affected areas.	Provided humanitarian assistance, including building materials, for post-fire market rehabilitation in Mahalona Village, Towuti Sub-district.
 <p>12. KONSUMSI DAN PRODUKSI YANG BERTANGGUNG JAWAB</p>	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.	<ul style="list-style-type: none"> • Number of companies publishing sustainability reports • Number of companies having ISO 14001 certification. 	<ul style="list-style-type: none"> • Sustainability reports are published regularly. • ISO 14001:2015 certification on the Environmental Management System 	<ul style="list-style-type: none"> • Standardizing reporting according to GRI and POJK No.51/POJK.03/2017. • Assessing ISO 14001:2015 periodically 	<ul style="list-style-type: none"> • Published Sustainability Reports annually since 2011. • Conducted ISO 14001:2015 assessments last in 2021, valid until 2024.
	Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production	Installed renewable energy generating capacity in developing countries (in watts per capita)	Renewable energy for PT Vale's operations with 100% clean energy generation to achieve self-generated energy by 2030.	Optimizing clean energy, power stabilization, waste heat utilization, solar power utilization, and fuel conversion.	Coordinated with SKK Migas for liquefied natural gas (LNG) supply to meet smelter needs in Bahodopi, Central Sulawesi.

SDG	Ministry of National Development Planning/Bappenas Metadata		PT Vale's Support		
	Target	Indicator	Target	Strategy	Achievements
 13 PENANGANAN PERUBAHAN IKLIM	Integrate climate change measures into national policies, strategies and planning.	<ul style="list-style-type: none"> Inventoried greenhouse gas (GHG), and GHG emission monitoring, reporting and verification are reported in the Biennial Update Report (BUR) and National Communications. Total GHG emission per year, potential GHG emission reductions, and potentially reduced GHG emission intensity. 	<ul style="list-style-type: none"> Toward low-carbon and carbon-neutral operations by 2050. 33% GHG emission reductions by 2030. 100% clean energy production to achieve self-generated energy by 2030. 	<ul style="list-style-type: none"> Optimizing energy consumption in the supply chain, replacing fuel with lower carbon fuel, electrifying heavy mining and supporting equipment. Converting fossil fuels into renewable energy sources, rehabilitating premined areas, and conducting transboundary reforestation. 	<ul style="list-style-type: none"> Reduced greenhouse gas emission intensity by 1.09% Ton CO₂eq / Ton Ni from the previous year.
 16 PERDAMAIAN, KEADILAN DAN KELEMBAGAAN YANG TANGGUH	Substantially reduce corruption and bribery in all their forms.	Anti-corruption Behavior Index	Raised ethical awareness and continuous improvement	<ul style="list-style-type: none"> Campaigning for and conducting training on anti-corruption and ethics & conduct. Providing the Vale Whistleblowing Channel for voicing allegations and complaints on bribery, blackmail, and nepotism. 	<p>Conducted the following activities:</p> <ul style="list-style-type: none"> Ethics & Compliance, Anti-bribery and corruption training for new employees. Anti-bribery & corruption socialization for all employees and leaders. Whistleblowing channel awareness through posters, banners, and e-flyers. Online code of conduct training for all PT Vale employees.
 17 KEMITRAAN UNTUK MENCAPAI TUJUAN	Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.	Proportion of domestic budget funded by domestic taxes.	Direct and indirect contributions to local governments.	Taxes and non-state tax revenues paid to the regency government of East Luwu include locally-generated revenues, transfer revenues, and other legitimate regional revenues.	Total tax and NTSR payments to the East Luwu Regency Government in 2023 amounted to US\$15,995 thousand.