

SUSTAINED COMMITMENT



VALE

2017
Laporan Keberlanjutan
Sustainability Report

Catatan untuk Pembaca Laporan

Notes to the Readers of the Report

Tabel dan grafik pada laporan ini memaparkan data numerik dengan standar bahasa Inggris. Pemaparan numerik dalam teks menggunakan standar bahasa Inggris dan Indonesia, sesuai konteksnya. Semua satuan ukuran nikel dalam *matte* dan mineral lainnya dalam laporan ini adalah metrik ton. Satu metrik ton sama dengan 2.204,62 pon dan disajikan sebagai “ton”.

In all tables and graphs presenting numerical data, the English standard is used. Where numerical values are presented in text format, English and Indonesian standards are used respectively. All measurements of nickel in *matte* and other mined materials are reported in metric ton, with one metric ton being equal to 2,204.62 pounds, and represented as “ton”.

Peringatan atas Pernyataan-Pernyataan Mengenai Masa Depan

Caution Regarding Forward-looking Statements

Dalam dokumen ini mungkin terdapat rencana, proyeksi, strategi dan tujuan Perusahaan tertentu, yang bukan merupakan pernyataan fakta historis dan perlu dipahami sebagai pernyataan mengenai masa depan berdasarkan hukum yang berlaku. Pernyataan mengenai masa depan tergantung pada risiko dan ketidakpastian yang dapat menyebabkan keadaan dan hasil aktual Perusahaan di masa depan berbeda dari yang diharapkan atau diindikasikan. Tidak ada jaminan bahwa hasil-hasil yang diantisipasi oleh Perusahaan, atau diindikasikan oleh pernyataan-pernyataan mengenai masa depan, akan tercapai.

This document may contain certain plans, projections, strategies and objectives of the Company that are not statements of historical fact and would be treated as forward-looking statements under applicable law. Forward-looking statements are subject to risks and uncertainties that may cause actual events, and the Company's future results, to be different than expected or indicated by such statements. No assurance can be given that the results anticipated by the Company, or indicated by such forward-looking statements, will be achieved.



Sustained Commitment



Sustained Commitment Sustained Commitment, menjadi tema laporan keberlanjutan 2017, menyambung tema sebelumnya, yang menunjukkan Vale akan terus meningkatkan efisiensi dan tetap menjaga keberlanjutan di tengah keadaan apapun juga. Kini, Vale meneruskan komitmen untuk menjaga keberlanjutan melalui peningkatan efisiensi, pelestarian lingkungan, dan merangkul masyarakat yang berada di sekitar kami. Komitmen ini tergambar, salah satunya dalam upaya penghematan pemakaian energi dan emisi.

Sustained Commitment is the theme of the 2017 Sustainability Report, connecting the previous theme, which shows Vale's performance improvement in efficiency and maintain sustainability in the midst of any situation. Today, Vale continues its commitment to achieve sustainability through improving efficiency, preserving the environment, and engaging the communities around us. This commitment is shown among others in efforts to conserve energy and control emission.



Ikhtisar Kinerja Keberlanjutan & Pencapaian 2017

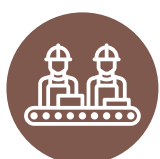
2017 Sustainability Performance Overview and Achievements



BISNIS & OPERASI BERKELANJUTAN

Sustainable Business & Operation

Uraian Description	Satuan Unit	2017	2016	2015
Kinerja Produksi Production Performance				
Produksi Nikel dalam <i>Matte</i> Nickel in <i>Matte</i> Production	Ton	76,807	77,581	81,177
Cadangan Bijih Nikel Terbukti Proven Nickel Ore Reserves	Juta Ton Million Tons	82.7	91.7	96.9
Kinerja Ekonomi Economic Performance				
Total Pendapatan Total Revenue		629,334	584,143	791,102
Total Distribusi Nilai Ekonomi Total Economic Value Distribution	Ribu USD Thousand USD	(647,319)	(585,413)	(744,606)
Total Nilai Ekonomi Ditahan Total Economic Value Retained		(15,222)	632	46,496
Laba Bersih Net Profit		(15,271)	1,906	50,500
Pelibatan Pemasok Lokal Involvement of Local Suppliers				
Pelibatan Perusahaan Lokal Involvement of Local Companies	Unit	295	295	253



TATA KELOLA BERKELANJUTAN

Sustainable Governance

Uraian Description	Satuan Unit	2017	2016	2015
Jumlah Karyawan dan K3 Total Employees and OHS				
Total Karyawan Total Employees	Unit	3,165	3,101	3,103
Tingkat Kekerapan Cidera yang Tercatat Recordable Injury Frequency Rate	%	0.79	0.95	0.67



PEMBERDAYAAN BERKELANJUTAN

Sustainable Empowerment

Uraian Description	Satuan Unit	2017	2016	2015
Program Terpadu Pengembangan Masyarakat (PTPM) Integrated Community Development Program (PTPM)				
Jumlah Program/Kegiatan Number of Programs/Activities	Unit	285	292	667
Jumlah Dana Total Funds	Juta USD Million USD	2.2	3.4	4.2
Jumlah Penerima Manfaat Number of Beneficiaries	Desa Villages	38	38	38
	Individu Individuals	12,386	35,517	40,295
Donasi dan Pemberian Bantuan Tambahan Donation and Additional Assistance				
Anggaran Donasi Tambahan diluar Program PTPM Additional Donation Budget outside the PTPM Program	Ribu USD Thousand USD	97.9	440	510
Keselamatan dan Kesehatan Kerja Occupational Health and Safety				
Kehilangan Hari Kerja Lost Work Days	Hari Day	80	64	6,011



PELESTARIAN LINGKUNGAN BERKELANJUTAN

Sustainable Environmental Conservation

Uraian Description	Satuan Unit	2017	2016	2015
Pengendalian Emisi Emission Control				
Kadar SO ₂ SO ₂ Content	Baku Mutu 0.86 kg/kg Ni Quality Standard 0.86 kg/kg Ni	0.75	0.72	0.79
Total Emisi GRK Total GHG Emissions	Ton CO ₂ eq	382,071	939,109	859,406
Pemanfaatan Energi Energy Utilization				
Pemakaian Energi Energy Usage	GJ	26,409,890	26,525,186	28,552,293
Intensitas Energi Energy Intensity	GJ/ton Nikel	343.8	341.9	351.7
Intensitas Penggunaan HSFO HSFO Usage Intensity	Barrel/ton Nikel	21.22	20.72	21.34
Pengelolaan Lahan Land Management				
Luasan Lahan Yang Direhabilitasi Rehabilitated Land Area	Ha	53	51	74



764/ hektar

Pohon ditanam 2017
Number of trees planted in 2017



3 PLTA

PT Vale mengoperasikan tiga PLTA yang memenuhi 94% kebutuhan listrik dan memasok 10,7 MW kepada PLN yang hasil jualnya dihibahkan kepada pemerintah daerah. PLTA adalah salah satu manifestasi dari *roadmap* efisiensi energi dan pengendalian emisi yang dilakukan secara bertahap sejak 2010.

PT Vale operates three hydroelectric power plant that meet 94% of their electricity requirements, and supplies 10.7 MW to PLN, with the proceeds being granted to the local government. Hydroelectric power plants are one of the manifestations of the energy efficiency and emission control roadmap, which has been conducted in stages since 2010.



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Board of Directors' Message



"PT Vale berkomitmen kuat untuk menerapkan operasi tambang berkelanjutan dan memastikan keberadaan Perusahaan mendatangkan manfaat bagi masyarakat sekitar, serta dapat mendukung setiap upaya bersama untuk menjaga kelestarian lingkungan"

"PT Vale is strongly committed to implement sustainable mining operations and ensures the Company's presence benefits the surrounding communities, and support every joint effort to preserve the environment."

Nicolas D. Kanter

Presiden Direktur
President Director

Para pemangku kepentingan yang terhormat,

Tahun 2017 merupakan tahun yang penuh dinamika di saat harga nikel dunia merambat naik, perekonomian Indonesia menunjukkan pertumbuhan yang positif, namun di sisi lain persaingan semakin tinggi. Pulihnya ekonomi telah mendorong peningkatan investasi, terutama di bidang teknologi. Kecepatan perkembangan teknologi ini juga memicu permintaan peralatan digital yang berbahan dasar nikel. Diperkirakan, teknologi terus akan meningkat dan oleh karenanya diharapkan, penggunaan nikel untuk menopang kehidupan sehari-hari, termasuk teknologi, akan meningkat pesat.

Prospek usaha di bisnis nikel yang menjanjikan pada masa yang akan datang menjadikan munculnya banyak perusahaan-perusahaan baru. Keadaan ini menjadikan persaingan di industri nikel semakin besar, terlebih adanya Peraturan Menteri Energi dan Sumber Daya Mineral (ESDM) No.5 Tahun 2017 Tentang Peningkatan Nilai Tambah Mineral Melalui Kegiatan Pengolahan dan Pemurnian Di Dalam Negeri, yang kemudian direvisi melalui Peraturan Menteri ESDM No. 28 Tahun 2017.

Peraturan tersebut memungkinkan ekspor bijih nikel dengan kadar di bawah 1,7 persen atau bijih nikel berkadar rendah, yang menjadikan pasokan bijih nikel dunia berlebih. Sebagian dari pasokan bijih nikel tersebut berasal dari pelaku penambangan nikel yang cenderung memanfaatkan situasi pasar untuk menambang bijih nikel, dan mengabaikan prinsip-prinsip keberlanjutan.

Dampaknya, kegiatan penambangan nikel menjadi penyebab turunnya kualitas lingkungan, meski tidak semua perusahaan pertambangan nikel melakukan hal tersebut. PT Vale adalah salah satu perusahaan penambangan dan pengolahan bijih nikel, yang tetap berkomitmen mematuhi semua kepatuhan, serta pelaksanaan prinsip-prinsip keberlanjutan.

Selama 49 tahun beroperasi di Indonesia, PT Vale telah menjadi bagian dari rantai pasokan nikel dunia. Produksi nikel dalam matte Perseroan memasok 5% dari kebutuhan

Dear stakeholders,

2017 was a year full of dynamics as world nickel prices increased, the Indonesian economy showed signs of a positive growth, but on the other side competition was getting higher. The economic recovery encouraged increased investment, especially in technology. The speed of this technological development also triggered demand for nickel-based digital equipment. It is expected that with technology continuing to increase, the use of nickel to support everyday life, including technology, will increase rapidly.

The promising future prospect of the nickel business has resulted in many new companies. This situation has increased competition in the nickel industry, more so with the Ministry of Energy and Mineral Resources (ESDM) 2017 Regulation No. 5 concerning Increasing Mineral Added Value through Domestic Processing and Purification Activities, which was revised through the Ministry of Energy and Mineral Resources 2017 Regulation No. 28.

These regulations allow for the export of nickel ore below 1.7 percent, or low-grade nickel ore, which has led to an excess world supply of nickel ore. A portion of the nickel ore supply comes from nickel mining players who have used the market situation to mine nickel ore, and ignore the principles of sustainability.

As a result, nickel mining activities have caused a decline in environmental quality, although not all nickel mining companies are guilty. PT Vale is one of the nickel ore mining and processing companies that remains committed to complying with, as well as practicing sustainability principles.

During its 49 years of operations in Indonesia, PT Vale has become part of the world's nickel supply chain. The Company's production of nickel in matte supplies 5% of

nikel dunia. Kami juga berkontribusi pada upaya bersama untuk meningkatkan kesejahteraan masyarakat Indonesia.

Keberhasilan PT Vale menjadi salah satu perusahaan pertambangan yang unggul di Indonesia adalah buah dari komitmen kuat untuk menerapkan manajemen sumber daya nikel berkelanjutan dan memastikan keberadaan Perusahaan mendatangkan manfaat bagi masyarakat sekitar, serta dapat mendukung setiap upaya bersama untuk menjaga kelestarian lingkungan.

Salah satu upaya PT Vale dalam menerapkan prinsip keberlanjutan yaitu dengan mengendalikan beban pokok pendapatan untuk setiap metrik ton nikel dalam matte yang diproduksi. Kondisi ini tidak terlepas dari strategi Perseroan untuk mengatasi biaya dengan ketat dan menerapkan strategi efisiensi secara menyeluruh.

Komitmen pada manajemen sumber alam nikel, antara lain diwujudkan dengan meneruskan kebijakan efisiensi dan inovasi berkelanjutan, serta menerapkan praktik-praktik bisnis bersih dengan memberlakukan proses pengadaan secara elektronik (*e-procurement*). Perseroan juga mendorong pemasok, kontraktor maupun vendor untuk mematuhi Kode Etik Pemasok dan melakukan kegiatan bisnis dengan PT Vale sesuai standar-standar tertinggi dari perilaku etis, antikorupsi, serta patuh terhadap hukum yang berlaku.

Pada aspek sosial kemasyarakatan, PT Vale mengembangkan pelaksanaan Program Terpadu Pengembangan Masyarakat (PTPM) yang telah digagas sejak tahun 2013. Pada tahun 2017, Perusahaan telah menyelesaikan PTPM tahap pertama dengan lebih dari 36.000 penerima manfaat kurang mampu di Kabupaten Luwu Timur. Selanjutnya, PT Vale telah menyusun rencana pelaksanaan PTPM tahap kedua tahun 2018-2022, dengan mengacu pada Peraturan Menteri ESDM No 41 Tahun 2016 tentang Pengembangan dan Pemberdayaan Masyarakat.

PT Vale menyadari bahwa kegiatan pertambangan dan produksi nikel yang dilakukan memberikan dampak negatif terhadap lingkungan. Oleh karena itu, secara berkelanjutan Perseroan juga berkontribusi pada upaya bersama menjaga kelestarian lingkungan, sekaligus mematuhi regulasi yang berlaku.

the world's nickel demand. We also contribute to the joint efforts to improve the welfare of Indonesian society.

PT Vale's success in becoming one of the leading mining companies in Indonesia is the result of a strong commitment to implementing sustainable nickel resource management, and ensuring the Company's presence benefits the surrounding communities, and supports all joint efforts to preserve the environment.

One such effort in applying the principle of sustainability is PT Vale's control of the cost of revenue for each metric ton of nickel in matte produced. This is inseparable from the Company's strategy to tightly tackle costs, and to apply a comprehensive efficiency strategy.

Commitment to nickel resources management is realized by continuing efficiency and sustainable innovation policies, and applying clean business practices through e-procurement enforcement. The Company encourages suppliers, contractors and vendors to comply with the Supplier Code of Ethics, and to conduct their business activities with PT Vale according to the highest ethical and anti-corruption standards, and in compliance with applicable legislation.

From the social aspect, PT Vale has developed its Integrated Community Development Program (PTPM), first initiated in 2013. In 2017, the Company completed the first PTPM phase for over 36,000 poor beneficiaries in East Luwu Regency. Furthermore, PT Vale has prepared the PTPM second phase for implementation in 2018-2022, with reference to the Minister of Energy and Mineral Resources 2016 Regulation No. 41 concerning Community Development and Empowerment.

PT Vale realizes that mining activities and nickel production can have a negative impact on the environment. Therefore, on an on-going basis the Company is contributing to joint efforts to preserve the environment, while complying with applicable regulations.

Salah satu upaya menjaga kelestarian alam adalah dengan mengendalikan dampak emisi. PT Vale berupaya menjaga kadar emisi SO₂ selalu memenuhi baku mutu yang ditetapkan Pemerintah sebesar 0,86 kg/kgNi, sesuai Peraturan Menteri Lingkungan Hidup No.4 Tahun 2014 Tentang Baku Mutu Emisi Sumber Tidak Bergerak Bagi Usaha dan/atau Kegiatan Pertambangan.

PT Vale berkomitmen melaksanakan rehabilitasi lahan dan reklamasi pascatambang, sebagai bentuk kepatuhan terhadap Peraturan Menteri ESDM No.7 Tahun 2014 Tentang Reklamasi dan Pascatambang. Perseroan melakukan reklamasi progresif dengan merehabilitasi lahan pada lokasi yang telah selesai ditambang dan menjaga luasan tambang terbuka yang dioperasikan tidak melebihi luasan yang telah disetujui dalam RKAB Bersama ESDM. Dalam hal menjaga keanekaragaman hayati, PT Vale telah memiliki rencana manajemen keanekaragaman hayati yang mencakup seluruh wilayah operasi pertambangan dan tertuang dalam Persetujuan 188.4/66/II/BAPEDALDA.

Di akhir kata, perkenankan kami mengucapkan terima kasih atas dukungan yang selama ini telah diberikan sehingga PT Vale tetap dapat melanjutkan seluruh komitmen yang sudah direncanakan. Direksi berharap hubungan yang terbangun dengan semua pemangku kepentingan selama ini dapat terus berlanjut, seiring dengan komitmen PT Vale untuk tetap menjalankan usaha secara berkelanjutan berdasarkan kode etik dan tata kelola perusahaan yang baik.

One of the environmental preservation efforts is to control emissions. PT Vale tries to maintain its SO₂ emission levels to always meet the quality standards set by the Government of 0.86 kg / kgNi, in accordance with of the Ministry of the Environment 2014 Regulation No. 4 concerning Quality Standards for Emissions from Immovable Business Sources and / or Mining Activities.

PT Vale is committed to land rehabilitation and post-mining reclamation, as a form of compliance with the Ministry of Energy and Mineral Resources 2014 Regulation No.7 concerning Reclamation and Post-mining. The Company undergoes progressive reclamation by rehabilitating the land at the mine sites, and maintains the extent of the operating open pit mines, to not exceed the approved areas in the RKAB Bersama ESDM. In terms of maintaining biodiversity, PT Vale has a biodiversity management plan covering all mining operations areas as laid down in Agreement 188.4/66/II/BAPEDALDA.

Finally, please allow us to thank you for the support that you have given, allowing PT Vale to continue all of its planned commitments. The Board of Directors hopes that the relationships established with all stakeholders will continue, in line with PT Vale's commitment to continue its business based on good corporate ethics and corporate governance.

Sorowako, Maret 2018
Sorowako, March 2018

Nicolas D. Kanter
Presiden Direktur
President Director



Keberlanjutan PT Vale Indonesia Tbk

PT Vale Indonesia Tbk Sustainability



Strategi dan Kebijakan Pembangunan Berkelanjutan

Sustainable Development Strategy and Policy

Bagi PT Vale, pembangunan berkelanjutan dapat dicapai bila aktivitas utama operasi pengelolaan tambang dapat meningkatkan nilai tambah bagi pemegang saham dan semua pemangku kepentingan. Pembangunan berkelanjutan berkontribusi kepada penguatan aspek sosial, pembangunan kompetensi ekonomi lokal, konservasi pelestarian dan lingkungan. Perusahaan secara bertanggung jawab melakukan penguatan kerjasama dengan pemerintah, institusi publik, sektor swasta dan masyarakat luas.

PT Vale memiliki kebijakan dan pedoman dalam menjalankan pembangunan berkelanjutan sesuai dengan misi PT Vale, yaitu mengolah sumber mineral untuk kesejahteraan dan pembangunan berkelanjutan.

Kebijakan Pembangunan Berkelanjutan [102-16]

Pelaku yang Berkelanjutan:

Sustainable Operator:

- V** Value added to stakeholders
Nilai tambah bagi pemangku kepentingan
- A** Anticipation and prevention
Antisipasi dan pencegahan
- L** Legislation as baseline: **continuous improvement**
Peraturan sebagai landasan: peningkatan berkesinambungan
- U** Uphold organization and discipline
Menjunjung organisasi dan disiplin
- E** Ethics and respect in businesses
Etika dan penghargaan dalam usaha

Katalisator Lokal Pembangunan Berkelanjutan:

Local Sustainable Development Catalyst:

- L** License to operate
Lisensi untuk beroperasi
- O** Order for development
Kerangka pembangunan
- C** Communication and engagement
Komunikasi dan pelibatan
- A** Alliances with key stakeholders
Kebersamaan dengan pemangku kepentingan utama
- L** Legacy for region
Warisan untuk daerah

For PT Vale, sustainable development can be achieved when the main mining management operations can increase added value for shareholders and all stakeholders. Sustainable development contributes to social reinforcement, local economic competence development, conservation, and environmental conservation aspects. The Company is in charge of strengthening cooperations with governments, public institutions, the private sector and the wider community.

PT Vale has policies and guidelines for carrying out sustainable development in accordance with PT Vale's mission to process mineral resources for welfare and sustainable development.

Sustainable Development Policy [102-16]

Agen Keberlanjutan Global:

Global Sustainability Agent:

- G** Guaranteed transparency
Jaminan transparansi
- L** Leadership
Kepemimpinan
- O** Observation of trends
Pengamatan tren
- B** Best practices
Praktik-praktik terbaik
- A** Act local, think global
Bertindak lokal, berpikir global
- L** Legacy for future generation
Warisan untuk generasi penerus

Strategi Bersinergi Dengan SDGs Synergy With SDGs Strategies

PT Vale berupaya agar penerapan Pembangunan Berkelanjutan PT Vale bersinergi dengan Tujuan Pembangunan Berkelanjutan atau Sustainable Development Goals (SDGs) yang telah diadopsi Pemerintah Indonesia. SDGs diinisiasi oleh Perserikatan Bangsa Bangsa untuk menjawab tuntutan kepemimpinan dunia dalam mengatasi kemiskinan, kesenjangan, dan perubahan iklim.

SDGs terdiri dari tujuh belas tujuan global dengan 169 target, yang akan dijadikan tuntunan kebijakan dan pendanaan untuk lima belas tahun ke depan dan diharapkan dapat tercapai pada tahun 2030. Tujuan dan target tersebut meliputi tiga dimensi pembangunan berkelanjutan, yaitu lingkungan, sosial, dan ekonomi.

Dukungan pada pencapaian pembangunan berkelanjutan dilakukan PT Vale melalui praktik tambang yang bertanggung jawab terhadap lingkungan hidup dan sosial.

PT Vale strives to make PT Vale's Sustainable Development synergize with the Sustainable Development Goals (SDGs), as adopted by the Government of Indonesia. SDGs were initiated by the United Nations to respond to world leadership demands in tackling poverty, inequality and climate change.

The SDGs include seventeen global objectives with 169 targets, which will serve as policy and funding guidance for the next fifteen years, and are expected to be achieved by 2030. These goals and targets cover three dimensions of sustainable development: environment, social and economic.

The support to the achievement of sustainable development by PT Vale is done through environmentally and socially responsible mining practices.

Pelaporan Keberlanjutan PT Vale PT Vale Sustainability Reporting

Komitmen PT Vale menjaga keberlanjutan diwujudkan melalui kinerja ekonomi, sosial, dan lingkungan yang unggul. Perusahaan melaporkan pelaksanaan kinerja keberlanjutan, salah satunya dengan menerbitkan Laporan Keberlanjutan setiap tahun. Laporan Keberlanjutan diterbitkan bersamaan dengan Laporan Tahunan. [102-52]

Laporan Keberlanjutan 2017 mencakup kurun waktu 1 Januari 2017-31 Desember 2017. Laporan sebelumnya diterbitkan pada Maret 2017. [102-50] [102-51]

Terdapat perubahan topik material, namun tidak ada perubahan signifikan dalam hal batasan dampak topik material terhadap Laporan Keberlanjutan 2016. Perubahan topik material ini dengan menambahkan satu topik, yaitu keanekaragaman hayati.

PT Vale's commitment to sustainability is realized through superior economic, social and environmental performance. The Company reports on its sustainability performance by issuing a Sustainability Report every year. The Sustainability Report is published simultaneously with the Annual Report. [102-52]

The 2017 Sustainability Report covers the period January 1, 2017 - December 31, 2017. The last report was published in March 2017. [102-50] [102-51]

There is a change in material topics, but no significant changes in terms of the boundaries of material topic impact to Sustainability Report 2016. The changes in this material topic is by adding a single topic, biodiversity.

PT Vale juga melakukan penyesuaian pemakaian standar pelaporan, yaitu dengan menambah Peraturan Otoritas Jasa Keuangan (POJK): POJK 51/POJK.03/2017, untuk melengkapi Standar GRI, termasuk suplemen pengungkapan metal dan tambang. Rujukan upaya dalam mendukung pencapaian pembangunan berkelanjutan juga kami sampaikan melalui laporan ini. Akan tetapi, terdapat beberapa pengungkapan dalam POJK 51 yang tidak relevan dengan Perusahaan, yaitu survei kepuasan pelanggan, penggunaan material ramah lingkungan, dan beberapa hal terkait penerapan Keuangan Berkelanjutan, antara lain permasalahan yang dihadapi, target pembiayaan, serta tanggung jawab pengembangan produk.

Selain itu, terdapat pernyataan kembali informasi terkait jumlah pemakaian energi yang dikurangi dengan penjualan energi, dana CSR yang disesuaikan perhitungannya berdasarkan tujuan pembangunan berkelanjutan, serta persiapan program PTPM periode 2018. Laporan ini telah disusun sesuai dengan GRI Standards: *Core option*. [102-54][102-49][102-48]

PT Vale also adjusts the use of reporting standards by adding a Financial Services Authority (POJK) Regulation: POJK 51 / POJK.03 / 2017, to complement the GRI Standard, including metal and mining disclosure supplements. Referral efforts in supporting the achievement of sustainable development are also conveyed through this report. However, there are some disclosures in POJK 51 that are irrelevant to the Company, which are, customer satisfaction survey, the use of environmentally friendly materials, and some matters related to the application of Sustainable Finance, among others are problems encountered, financing targets, and product development responsibilities.

In addition, there are restatement of information regarding the amount of energy consumption reduced by energy sales, CSR funds adjusted for calculation based on sustainable development objectives, and preparation of the PTPM program 2018. This report has been prepared in accordance with GRI Standards: *Core option*. [102-54][102-49][102-48]

Kontak terkait Laporan ini: [102-53]

Contact related to this Report:

Gunawardana Vinyaman
Director of Communications and External Affairs
The Energy Building, 31st Floor
Jl. Jenderal Sudirman Kav. 52-53, Jakarta 12190, Indonesia
Tel: +62 21 524 9000 Fax: +62 21 524 9020

Penentuan Isi dan Batasan Dampak Topik Material [102-46]

PT Vale melibatkan pemangku kepentingan internal dan eksternal, yaitu karyawan, pemerintah daerah, masyarakat, dan akademisi dalam menentukan prioritas dan isu topik keberlanjutan. Keterlibatan pemangku kepentingan ini dilakukan melalui survei pada Desember 2017. Setelah itu, laporan keberlanjutan disusun berdasarkan prinsip dan tahapan pelaporan.

Report Content Defining Process and Boundaries [102-46]

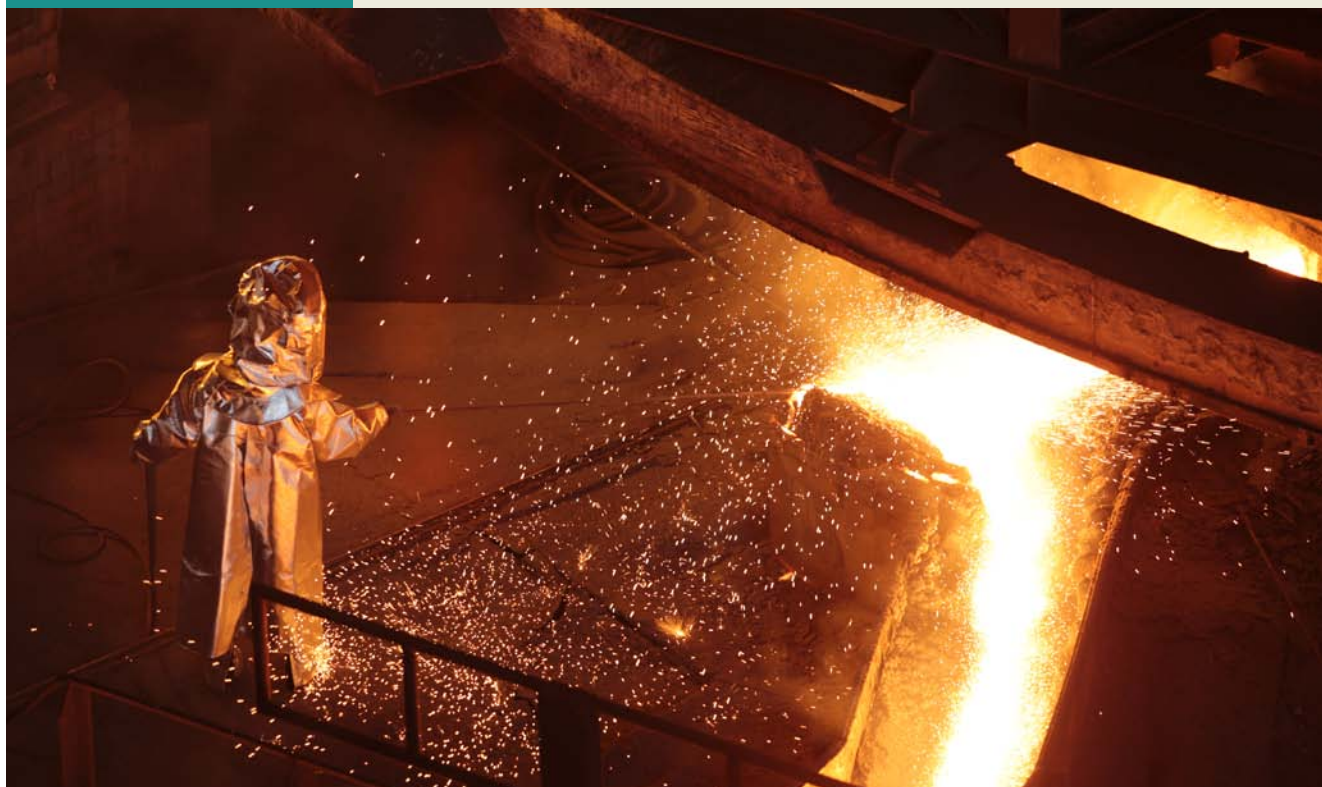
PT Vale involves internal and external stakeholders, they are employees, local government, community, and academicians in determining priorities and issues sustainability topics. The involvement of these stakeholders were conducted through a survey in December 2017. Thereafter, the sustainability report was prepared based on the principles and stages of reporting.

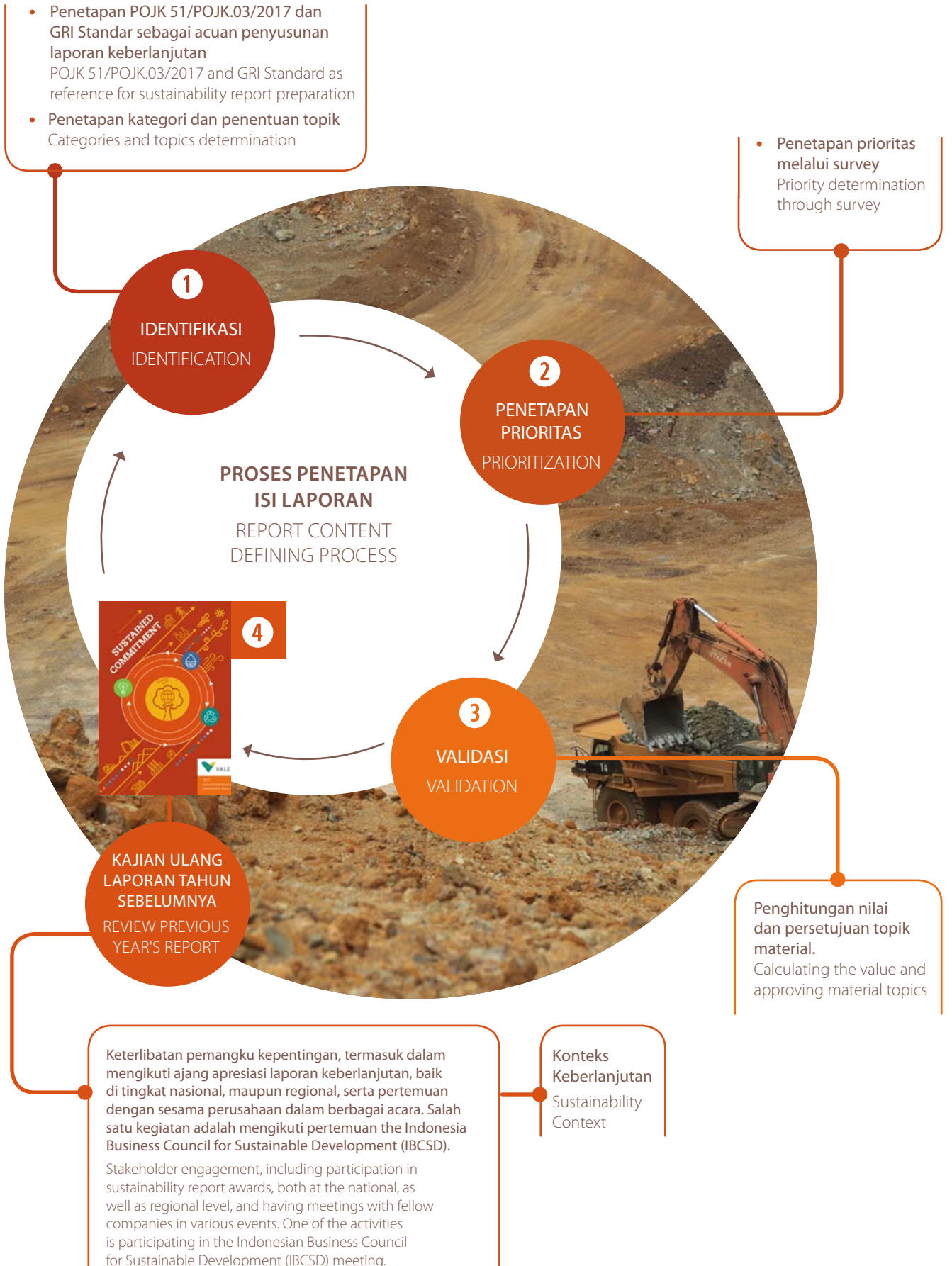


Prinsip-prinsip
Penyusunan
Laporan
Report Preparation
Principles

Keterlibatan Pemangku Kepentingan | Materialitas
| Konteks Keberlanjutan | Kelengkapan |
Kejelasan | Komparabilitas | Keseimbangan |
Akurasi | Keandalan | Ketepatan Waktu

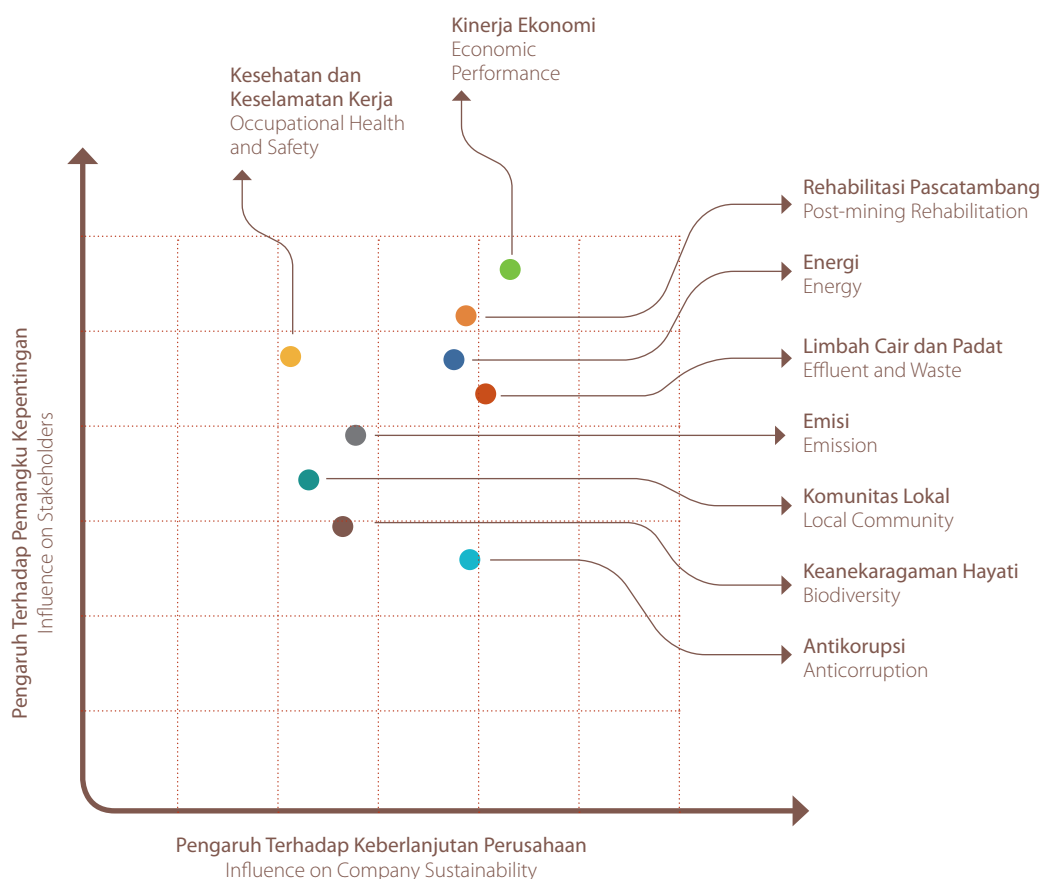
Stakeholder Engagement | Materiality
| Sustainability Context | Completeness | Clarity | Comparability
| Balance | Accuracy | Reliability | Punctuality





Matriks Prioritas Topik Material

Priority Matrix of Material Topics



Entitas yang termasuk di laporan keuangan konsolidasian yaitu PT Vale Indonesia Tbk dengan wilayah operasi Sorowako, Pomalaa, Bahodopi, kantor perwakilan di Makassar, dan kantor pusat di Jakarta. Seluruh wilayah tersebut juga tercakup dalam laporan keberlanjutan. [102-45]

The entities included in the consolidated financial statements are PT Vale Indonesia with its Sorowako, Pomalaa, Bahodopi operating areas, Makassar representative office, and Jakarta head office. All these areas are also included in the sustainability report. [102-45]

Batasan Dampak Topik Keberlanjutan Dalam Laporan [102-47] [103-1]

Limitations on Sustainability Topics In The Report

Topik Keberlanjutan Sustainability Topic	Wilayah Terdampak Affected Areas		Alasan Topik ini Penting untuk Disampaikan Dalam Laporan Reason why This Topic is Important to be Presented in the Report
	Kantor Pusat Head Office	Area Operasi Operating Areas	
Kinerja Ekonomi Economic Performance	✓	✓ Sorowako	Kinerja ekonomi penting untuk dilaporkan karena merupakan dasar penyelenggara operasi Perusahaan, serta risiko yang ada dapat berdampak pada kinerja keuangan. Economic performance is important to report because it is the basis of the company's operations, and the existing risks can impact the financial performance.
Antikorupsi Anticorruption	✓	✓ Sorowako, Bahodopi, Pomalaa	Prinsip antikorupsi sangat penting dilakukan sebagai salah satu bentuk komitmen pada tata kelola yang baik oleh PT Vale. Informasi ini penting untuk dilaporkan sebagai bentuk keterbukaan dan transparansi Perusahaan kepada pemangku kepentingan. The principle of anticorruption is very important to be applied as a form of good governance commitment of PT Vale. This information is important to report as a form of disclosure and transparency of the Company to stakeholders.
Kesehatan dan Keselamatan Kerja Occupational Health and Safety	✓	✓ Sorowako, Bahodopi, Pomalaa	Kesehatan dan keselamatan kerja (K3) menjadi topik yang penting bagi Perusahaan karena karakteristik operasi yang memiliki risiko tinggi. PT Vale menempatkan K3 sebagai hal yang harus dipatuhi semua pihak tanpa terkecuali. Occupational Health and Safety (OHS) is an important topic for the Company due to its high risk operating characteristics. PT Vale put the occupational health and safety (OHS) as issues that must be complied by all parties.

Topik Keberlanjutan Sustainability Topic	Wilayah Terdampak Affected Areas		Alasan Topik ini Penting untuk Disampaikan Dalam Laporan Reason why This Topic is Important to be Presented in the Report
	Kantor Pusat Head Office	Area Operasi Operating Areas	
Emisi Emissions		 Sorowako	<p>Salah satu bentuk kepedulian Perusahaan terhadap lingkungan adalah pengendalian emisi, sehingga informasi mengenai emisi penting untuk dilaporkan. Selain itu, melalui pengendalian dan reduksi emisi, PT Vale berkomitmen untuk mengurangi dampak yang ditimbulkan dari kegiatan operasi penambangan dan pengolahan bijih nikel.</p> <p>One of the Company's concerns for the environment is the emissions control, thus the information on emissions is important to report. In addition, through control and reductions of emission, PT Vale is committed to reduce the impact of mining operations and nickel ore processing.</p>
Keanekaragaman Hayati Biodiversity		 Sorowako	<p>Keanekaragaman hayati merupakan topik material dalam laporan ini karena aktivitas operasi tambang biasanya berdampak signifikan terhadap keanekaragaman hayati.</p> <p>Biodiversity is considered material in this Report as a mining operation commonly having significant impact on biodiversity</p>
Energi Energy		 Sorowako	<p>Konsumsi energi PT Vale cukup besar dibandingkan industri lain sehingga informasi mengenai energi penting untuk dilaporkan. Selain itu, pemanfaatan PLTA dan biodiesel telah menjadi bagian pengembangan sumber energi alternatif dan peningkatan efisiensi.</p> <p>PT Vale's energy consumption is quite large compared to other industries, so information on energy is important to report. In addition, the utilization of hydroelectric power plant and biodiesel has become part of the development of alternative energy sources and improved efficiency.</p>
Limbah Cair dan Padat Effluent and Waste		 Sorowako	<p>Pengelolaan limbah menjadi topik yang penting untuk mengetahui cara PT Vale dalam mengelola dampak negatif dari hasil proses penambangan dan pengolahan bijih nikel.</p> <p>Waste management is an important topic to know how PT Vale manages the negative impacts resulting from the mining and processing of nickel ore.</p>
Rehabilitasi Pascatambang Post-mining Rehabilitation		 Sorowako	<p>Rehabilitasi pascatambang merupakan bagian penting dari proses penambangan yang dilaksanakan PT Vale sehingga informasi ini menjadi topik material yang perlu disampaikan dalam laporan ini.</p> <p>Post-mining rehabilitation is an important part of the mining process undertaken by PT Vale, therefore this information is a material topic that needs to be presented in this report.</p>
Komunitas Lokal Local Community		 Sorowako, Bahodopi, Pomalaa	<p>Pemberdayaan komunitas lokal penting untuk dilaporkan karena salah satu pemangku kepentingan yang turut membangun Perusahaan adalah masyarakat, terutama yang berada di sekitar wilayah operasi PT Vale. Selain itu, 87% dari karyawan Perusahaan berasal dari masyarakat lokal, yaitu Luwu Timur.</p> <p>Local community empowerment is important to report because one of the stakeholders contributing to build the Company is the community, especially those residing around PT Vale's area of operations. In addition, 87% of the Company's employees are from the local community, East Luwu.</p>

Verifikasi dan Penjaminan Independen ^{[102-55][102-56]} Independent Verification and Assurance

PT Vale menyertakan Laporan ini dalam penjaminan (*assurance*) yang dilakukan oleh pihak independen, yakni SR Asia, perwakilan Indonesia, yang mempunyai lisensi AA1000 AS. Tidak ada benturan kepentingan dalam melakukan *assurance* dan pemilihan *assurance* berdasarkan kompetensi, serta pengalaman yang dimiliki oleh tim assesor.

Proses *assurance* dilakukan pada 14 dan 15 Februari 2018 di kantor pusat PT Vale di Jakarta, dan melalui teleconference dengan kantor Sorowako. Selama proses *assurance*, PT Vale menyiapkan semua dokumen yang sudah diverifikasi berdasarkan sampel dan memberikan klarifikasi jawaban atas pernyataan terkait informasi pelaporan. Proses *assurance* ini dipantau langsung oleh Manajemen PT Vale dan juga SR Asia International yang berpusat di India.

PT Vale includes this Report an assurance conducted by an independent party, SR Asia, an Indonesian representative, who has a US AA1000 license. There is no conflict of interest in conducting assurance and assurance selection based on competence, as well as experience owned by the assessor team.

The assurance process was conducted on 14 and 15 February 2018 at PT Vale's head office in Jakarta, and a teleconference with Sorowako's office. During the assurance process, PT Vale prepares all verifiable documents based on the sample and provides clarification of answers to statements regarding reporting information. This assurance process is monitored directly by PT Vale Management and also SR Asia International based in India.



Profil PT Vale Indonesia Tbk

PT Vale Indonesia Tbk Profile



Visi, Misi & Nilai-Nilai Perusahaan [102-16]

Company Vision, Mission & Values

VISI VISION



Menjadi perusahaan sumber daya alam nomor satu di Indonesia yang menggunakan standar global dalam menciptakan nilai jangka panjang, melalui keunggulan kinerja dan kepedulian terhadap manusia dan alam.

To be the number one global natural resources company in creating long term value, through excellence and passion for people and the planet.

MISI MISSION



Mengubah sumber daya alam menjadi sumber kemakmuran dan pembangunan yang berkelanjutan.

To transform natural resources into prosperity and sustainable development.

NILAI-NILAI VALUES



Kehidupan Adalah Yang terpenting

Life Matters Most

Keselamatan jiwa lebih penting daripada keuntungan semata

Life safety is more important than profit

Menghargai Karyawan

Value Our People

Membimbing dan membuka peluang bagi perkembangan individu, memberikan penghargaan kepada seseorang tanpa memandang latar belakang mereka, mendukung keberagaman, mengakui aspirasi serta kebutuhan individu

Nurture and enable personal growth, reward accomplishments regardless of individual background, promote diversity, and recognize individual aspirations and needs

Menjaga Kelestarian Bumi

Prize Our Planet

Komitmen terhadap perkembangan masyarakat, lingkungan dan ekonomi dalam berbagai keputusan bisnis

Commitment to social, environmental and economic development in business decisions

Melakukan Hal Yang Benar

Do What Is Right

Mendukung kepercayaan yang didasarkan pada komunikasi yang terbuka dan jelas, bertindak adil, penuh integritas, dan tunduk pada peraturan hukum

Promote trust-based, open and clear communication, act fairly, with integrity, and in compliance with the law

Bersama-Sama Menjadi Lebih Baik

Improve Together

Berjuang untuk terjadinya kerjasama, peningkatan dan inovasi yang terus menerus, penegakan disiplin kerja untuk meningkatkan nilai-nilai jangka panjang

Strive for collaboration, continuous improvement and innovation, discipline in the way we work to generate long-term values

Mewujudkan Tujuan

Make It Happen

Suka tantangan, kemampuan beradaptasi, bangga atas prestasi dan apa yang telah dilakukan dalam membentuk dunia

Thrill for challenges, ability to adapt, pride in results and shaping the world

Sekilas PT Vale Indonesia, Tbk

PT Vale Indonesia, Tbk At A Glance



Nama Perusahaan [102-1]

Company Name

PT Vale Indonesia, Tbk

Tahun Pendirian

Year of Establishment

1968

Bentuk Legal dan Kepemilikan [102-5]

Legal Form and Ownership

Perusahaan Terbatas Terbuka

Publicly Listed Limited
Liability Company

Terdaftar di Bursa Efek Indonesia

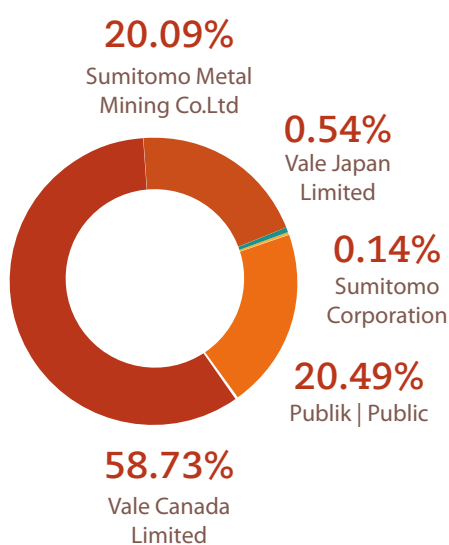
(BEI) pada 16 Mei 1990
Listed in Indonesia Stock Exchange
(IDX) on May 16, 1990

Kode Saham: INCO

Stock Code: INCO

Pemegang Saham

Shareholders



Kegiatan, Merek, Produk dan Jasa [102-2]

Activities, Brands, Products and Services

Kegiatan

Activities

- Penambangan dan pengolahan bijih nikel
- Produksi nikel dalam *matte* dan penjualan nikel *matte*
- Nickel ore mining and processing
- Nickel in *matte* production and sales

Kantor Pusat [102-3]

Head Office

The Energy Building 31st Floor
Jalan Jenderal Sudirman Kav. 52-53
Jakarta 12190 Indonesia

Tel: +62 21 524 9000

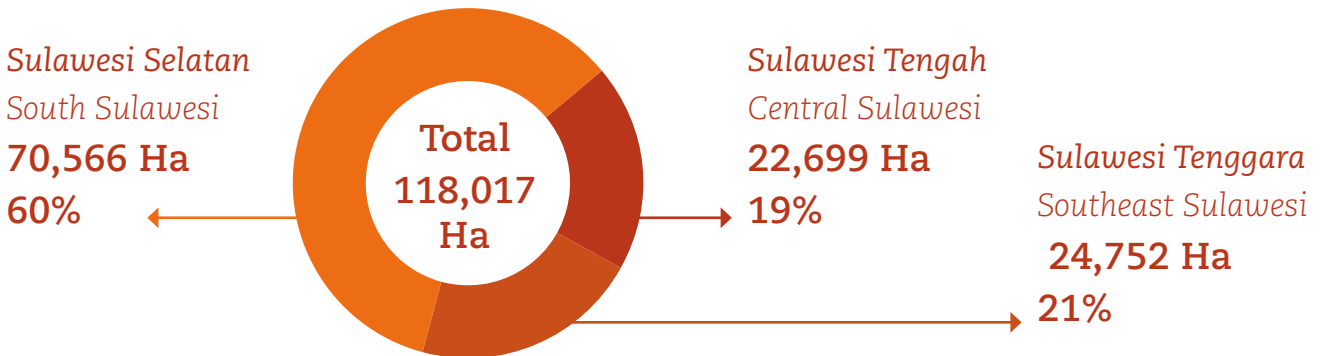
Fax: +62 21 524 9020

www.vale.com/indonesia

PT Vale Indonesia hanya beroperasi di Indonesia dan tidak memiliki anak perusahaan di negara lain. Selama tahun 2017 tidak ada perubahan signifikan terkait segmen bisnis, wilayah operasi maupun rantai pasokan. [102-4][102-10]

PT Vale Indonesia only operates in Indonesia and does not have any subsidiaries in other countries. During 2017 there were no significant changes in the operations area or supply chain. [102-4][102-10]

Wilayah Konsesi PT Vale [102-4]
PT Vale Concession Area



Karyawan dan Pekerja Lain [102-8]

Secara keseluruhan jumlah karyawan PT Vale dan pekerja lain di lingkungan PT Vale berjumlah 3.165 orang. Dari jumlah tersebut, secara keseluruhan 87% dari karyawan (18,18% adalah pejabat setingkat manager) merupakan penduduk lokal dari Luwu Timur. Seluruh karyawan dan pekerja lain, termasuk pekerja tetap dan tidak tetap, dilindungi perjanjian kerja bersama (PKB) yang berlaku di PT Vale. Dalam proses rekrutmen dan seleksi calon karyawan, PT Vale memastikan tidak adanya tenaga kerja paksa maupun tenaga kerja anak. [102-41]

Employees and Other Workers [102-8]

Overall the total number of employees and other workers in PT Vale is 3,165 people. From those number, 87% of the total employees (18.18% are manager level officials) are locals from East Luwu. All employees and other workers, including permanent and non-permanent employees are covered by a collective labor agreement (PKB), in force at PT Vale. In the recruitment and selection process for prospective employees, PT Vale ensures the absence of forced labor and child labor. [102-41]

Jumlah dan Komposisi Karyawan Berdasar Jabatan

Number and Composition of Employees by Position

Jabatan Position	2017		2016		2015	
	Pria Male	Wanita Female	Pria Male	Wanita Female	Pria Male	Wanita Female
Direktur Directors	3	1	3	1	2	1
Manajer Senior Senior Manager	8	1	11	1	11	1
Manajer Madya Middle Manager	44	2	50	2	53	2
Penyelia Supervisor	110	8	111	7	112	8
Spesialis Specialist	223	48	187	29	201	29
Teknisi Technician	2,517	200	2,473	226	2,465	218
Jumlah Total	3,165		3,101		3,103	

Jumlah Karyawan Berdasarkan Lokasi Kerja*

Composition of Employees by Work Location*

Lokasi Kerja Work Location	2017		2016		2015	
	Pria Male	Wanita Female	Pria Male	Wanita Female	Pria Male	Wanita Female
Sulawesi Tengah Central Sulawesi	0	0	0	0	0	0
Sulawesi Tenggara Southeast Sulawesi	1	0	1	0	1	0
Sulawesi Selatan South Sulawesi	2,690	238	2,601	241	2,595	235
Luar Sulawesi Outside Sulawesi	214	22	233	25	248	24
Jumlah Total	2,905	260	2,835	266	2,844	259

*Point of Hire = tempat penerimaan pekerja berasal

*Point of Hire = location of employees hired

Jumlah Karyawan Berdasarkan Jenis Kelamin

Number and Composition of Employees by Gender

Status Kepegawaian Employment Status	2017		2016		2015	
	Pria Male	Wanita Female	Pria Male	Wanita Female	Pria Male	Wanita Female
Karyawan Tetap Permanent Employees	2,891	257	2,809	257	2,767	256
Karyawan Kontrak Contract Employees	14	3	26	9	77	3
Jumlah Total	2,905	260	2,835	266	2,844	259

Pasar Terlayani [102-2, 102-6]

PT Vale menjadi bagian dari rantai pasokan nikel dunia. Sampai dengan akhir periode pelaporan, produksi nikel dalam *matte* Perusahaan memasok kurang lebih 5% dari kebutuhan nikel dunia.

Seluruh produk nikel *matte* PT Vale dijual kepada Vale Japan (bagian dari Vale Canada Limited) dan Sumitomo Metal Mining Co.Ltd, Jepang, sesuai dengan kontrak jangka panjang yang telah disepakati. Selanjutnya nikel dalam *matte* diolah dan dijual ke industri sesuai kebutuhannya, serta tidak ada produk yang ditarik kembali.

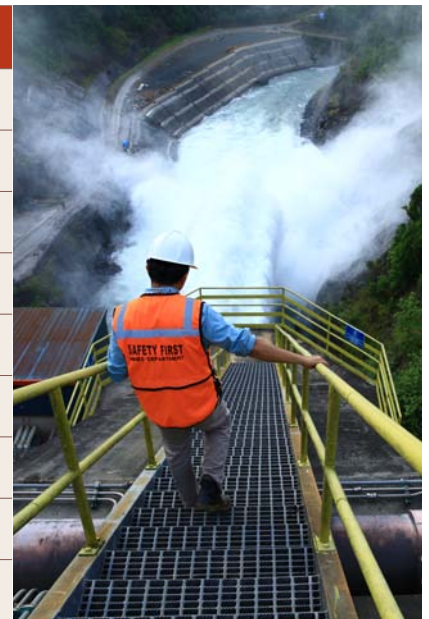
Markets Served [102-2, 102-6]

PT Vale has become part of the world's nickel supply chain. As at the end of the reporting period, the Company's nickel in *matte* production supplied 5% of the world's nickel demand.

All PT Vale nickel in *matte* products are sold to Vale Japan (part of Vale Canada Limited) and Sumitomo Metal Mining Co. Ltd, Japan, in accordance with an agreed long-term contract. Furthermore, the nickel in *matte* is processed and sold to the industries according to their needs, and no product is withdrawn.

Skala Organisasi [102-7] Organizational Scale

Uraian Description		Satuan Unit	2017	2016	2015	
Jumlah Karyawan Total Employees		Orang People	3,165	3,101	3,103	
Jumlah Area Operasi* Total Operating Areas		Area Area	1	1	1	
Pendapatan Revenues			629.33	584.14	789.75	
Total Kapitalisasi Total Capitalization	Total Kewajiban Total Liabilities	Juta USD Million USD	365.19	390.90	455.20	
	Total Ekuitas Total Equity		1,819.37	1,834.59	1,833.96	
Total Aset Total Assets				2,184.56	2,225.49	2,289.1
Jumlah Laba Bersih Total Net Profit				(15.27)	1.91	50.50
Penjualan Produk Nikel dalam <i>Matte</i> Nickel in <i>Matte</i> Product Sales		Ton	77,643	78,976	82,907	
Cadangan Bijih Terbukti Proven Ore Reserves		Juta Ton Million Tons	82.7	91.7	96.9	



*Beroperasi penuh di Sulawesi Selatan, sedangkan kegiatan eksplorasi masih berjalan di Sulawesi Tengah dan Sulawesi Tenggara
*Fully operates in South Sulawesi, while exploration activities are still running in Central Sulawesi and Southeast Sulawesi

Keanggotaan Asosiasi dan Inisiatif Eksternal [102-12, 102-13]

PT Vale ikut serta dalam beberapa inisiatif terkait aspek ekonomi, lingkungan, dan sosial. Beberapa di antaranya adalah PROPER, Indonesian Global Compact Network (IGCN), Indonesian Business Council for Sustainable Development (IBCSD), dan Indonesia Business Link (IBL).

Association Membership and External Initiative [102-12, 102-13]

PT Vale participates in several initiative related to economic, social, and environmental aspects. Some of them are PROPER, Indonesia Global Compact Network (IGCN), Indonesian Business Council for Sustainable Development (IBCSD), and Indonesia Business Link (IBL).

PT Vale juga turut serta dalam beberapa asosiasi pertambangan dan non-pertambangan, baik internasional maupun nasional. Namun, PT Vale tidak memberikan kontribusi dana lain kepada asosiasi, selain iuran keanggotaan setiap tahun, dan tidak terlibat dalam proyek yang dilakukan oleh asosiasi.

PT Vale also participates in several mining and non-mining associations, both internationally and nationally. However, PT Vale does not contribute any funds to the associations, other than membership dues, and does not involve in projects conducted by association.

Keanggotaan Asosiasi Association Membership

Asosiasi Association	Peran Role	Lingkup Scope
Indonesian Mining Association (IMA)	<ul style="list-style-type: none"> • Direktur Utama (Nicolas D. Kanter sebagai Wakil Ketua IMA) President Director (Nicolas D. Kanter as Vice Chairman of IMA) • Direktur Legal (Ratih Amri) sebagai Ketua Komite Hukum Director of Legal (Ratih Amri) as Legal Committee Chairman 	Nasional National
Asosiasi Pengusaha Indonesia (APINDO) The Employers' Association of Indonesia (APINDO)	Anggota Member	Nasional National
Perhimpunan Ahli Pertambangan Indonesia (PERHAPI) Association of Indonesian Mining Professionals (PERHAPI)	Anggota Member	Nasional National
Kamar Dagang dan Industri (KADIN) Chamber of Commerce and Industry (KADIN)	Anggota Member	Nasional National
Stock Issuer Association	Anggota Member	Nasional National
Indonesian Corporate Council Association	Anggota Member	Nasional National
Indonesia Business Council on Sustainable Development (IBCSO)	Anggota pada tingkat Member of Board Member at the level Member of Board	Internasional International
Nickel Institute	Anggota Member	Internasional International
International Committee of Large Dam	Anggota Member	Internasional International
ASEAN Federation of Mining (AFMA)	Anggota Member	Internasional International

Apresiasi dan Penghargaan

Kesungguhan PT Vale melaksanakan komitmen keberlanjutan telah menghasilkan beberapa apresiasi dan penghargaan dari sejumlah pihak pada tahun 2017.

Appreciation and Awards

PT Vale's earnest commitment to sustainability has earned appreciation and awards from a number of parties. The awards obtained by PT Vale in 2017 are as follows.

Nama Penghargaan Awards	Tahun Pemberian dan Lembaga Pemberi Year Granted and Organizer
Penghargaan terbaik Aditama (Emas) kategori Pengelolaan Lingkungan Pertambangan Mineral untuk tahun 2015 dan 2016 Adhitama (Gold) Award for Mineral Mining Environment Management 2015 & 2016	Ministry of Energy & Mineral Resources
Penghargaan Pratama (Perunggu) kategori Keselamatan Pertambangan untuk tahun 2016 Pratama (Bronze) Award for Mining Safety Year category year 2016	Ministry of Energy & Mineral Resources
Sustainability Business Awards Indonesia 2017, Business Responsibility and Ethics Category	Global Initiatives-PricewaterhouseCoopers & Indonesia Business Council for Sustainable Development
The Best Corporate for Prevention and Control of HIV and AIDS at Workplace Program, Platinum Category/Penghargaan Program P2-HIV & AIDS di Tempat Kerja The Best Corporate for Prevention and Control of HIV and AIDS at Workplace Program, Platinum Category/Award Program P2-HIV & AIDS in the Workplace	Ministry of Manpower & Transmigration, July 19, 2017
Occupational Health & Safety/Penghargaan K3 dari Kementerian Tenaga Kerja dan Transmigrasi Occupational Health & Safety/ K3 Award from Ministry of Manpower & Transmigration	Ministry of Manpower & Transmigration
Top 50 Of The Biggest Market Capitalization Public Listed Companies, Pullman Hotel Thamrin, Jakarta	27 November 2017 IICD (Indonesian Institute for Corporate Directorship)
Indonesia Corporate Secretary Award 2017 - Top 5 GCG Issues in Mining Sector	Warta Ekonomi
Indonesia Green Concern Company 2017 Award	SWA Magazine. June 7, 2017





Tata Kelola Berkelanjutan

Sustainable Governance





Struktur Tata Kelola

Struktur tata kelola PT Vale merujuk pada Undang-Undang No.40 Tahun 2007 Tentang Perusahaan Terbatas, yang terdiri atas: [102-18]

- RUPS, yang merupakan organ Perusahaan tertinggi dalam struktur tata kelola.
- Dewan Komisaris merupakan organ Perusahaan yang memiliki tugas dan tanggung jawab mengawasi serta memberikan nasihat kepada Direksi dalam mengelola PT Vale.
- Direksi merupakan organ Perusahaan yang memiliki tugas dan tanggung jawab mengelola PT Vale.
- CEO merupakan pengambilan keputusan tertinggi yang bertanggung jawab mengenai isu keberlanjutan. Dalam penerapannya, CEO dapat mendelegasikan kepada Direktur lain berdasarkan aspek keberlanjutan ekonomi, sosial, dan lingkungan yang terkait.

Penjelasan lain terkait struktur tata kelola disampaikan dalam Laporan Tahunan 2017 PT Vale, meliputi:

- Komposisi dan nominasi pejabat badan tata kelola beserta komite-komite
- Pengembangan pengetahuan Dewan Komisaris dan Direksi
- Evaluasi kinerja Dewan Komisaris dan Direksi
- Remunerasi Dewan Komisaris dan Direksi
- Manajemen risiko dan efektivitas pengelolannya
- Kode Etik.

Governance Structure

PT Vale's governance structure refers to the Law No. 40 of 2007 on Limited Companies, which consists of: [102-18]

- The GMS, as the highest body in the Company within the governance structure.
- The Board of Commissioners is a Company body that has the duties and responsibilities to supervise and give advice to the Board of Directors in managing PT Vale.
- The Board of Directors is a Company body that has the duties and responsibilities to manage PT Vale.
- CEO is the highest decision making who is responsible for sustainability issues. In practice, the CEO can delegate to other Directors based on relevant aspects of economic, social, and environmental sustainability.

Other governance structure explanations can be found in the PT Vale Indonesia Tbk 2017 Annual Report, including:

- Composition and nomination of governance body officials and committees.
- Board of Commissioners and Board of Directors Development
- Board of Commissioners and Board of Directors Performance Assessment
- Board of Commissioners and Board of Directors Remuneration
- Risk management and management effectiveness
- Code of Conduct



Pendelegasian Kewenangan dan Tata Kelola Keberlanjutan

Delegation of Authority and Sustainable Governance

Dalam hal pemenuhan tanggung jawab sosial dan lingkungan (TJSL), Direksi mendelegasikan pelaksanaannya kepada Departemen Komunikasi dan Hubungan Luar. Selanjutnya, Departemen berkonsultasi dengan pemangku kepentingan terkait dengan pelaksanaan prinsip-prinsip keberlanjutan dalam bidang ekonomi, sosial dan lingkungan. [102-18]

Departemen Komunikasi dan Hubungan Luar memiliki empat divisi pendukung:

- **Divisi Communications** yang menjalankan fungsi komunikasi korporasi untuk menjaga reputasi perusahaan, yang mencakup komunikasi internal perusahaan, hubungan dengan media, hubungan publik serta pelaporan.
- **Divisi Strategic Planning and Formalities**, menjalankan fungsi pengembangan, analisis kebijakan, strategi pengembangan program sosial, melakukan perencanaan dan pengukuran kinerja internal, serta mendorong penyelesaian proses perizinan, Kontrak Karya, atau kesepakatan kerja sama operasi antara PT Vale dan pemerintah, serta pihak terkait lainnya.
- **Divisi Social Development Program**, menjalankan fungsi koordinasi pelaksanaan PTPM mencakup pendidikan, kesehatan, ekonomi, kelembagaan, dan pola dukungan lain seperti seni dan budaya yang masuk dalam program kemitraan.
- **Divisi Stakeholder Relations**, menjalankan fungsi membangun hubungan baik dengan pemangku kepentingan serta mendorong penyelesaian keluhan terkait dampak operasi PT Vale dan pemberdayaan masyarakat melalui mekanisme penyelesaian masalah terpadu.

For the fulfillment of social and environmental responsibility (TJSL), the Board of Directors delegates its execution to the Communications and External Affairs Department. The Department consults with those stakeholders related to the implementation of sustainability principles in the economic, social and environmental fields. [102-18]

The Communications and External Affairs Department has four supporting divisions:

- **Communications Division** that carries out corporate communications functions to maintain the company's reputation, which includes internal corporate communications, media relations, public relations and reporting.
- **Strategic Planning and Formalities Division** that carries out functions related to development, policy analysis, social program development strategy, planning and measuring internal performance, and encouraging the licensing process completion, Contract of Work or cooperation agreements between PT Vale and the government, and other parties.
- **Social Development Program Division** that carries out coordination of PTPM implementation function, which includes education, health, economy, institutions, and other support schemes, such as art and culture that are within the partnership program.
- **Stakeholder Relations Division** that carries out the function of building good relationships with stakeholders, and encouraging complaints settlement related to the impact of PT Vale's operations, and community empowerment through an integrated problem solving mechanism.



Dukungan pada Praktik Antikorupsi

Pengungkapan Manajemen [103-2, 103-3]

- Kebijakan: Manual Kepatuhan Antikorupsi PT Vale (Manual PT Vale)
- Komitmen: mendukung penerapan bisnis yang berintegritas dan beretika
- Realisasi komitmen: PT Vale menindaklanjuti dua laporan yang terbukti dari total lima belas laporan yang telah disampaikan melalui *Vale Whistleblower Channel* maupun saluran lain sepanjang tahun 2017.
- Inisiatif khusus tahun 2017: penerapan *e-procurement* atau pengadaan barang/jasa berbasis teknologi informasi.
- Sumber daya: *Vale Whistleblower Channel*, sebagai sistem penyampaian pelaporan.
- Penanggung jawab: Bagian Kode Etik dan Perilaku Vale S.A. di Brazil

Penerapan *E-Procurement* [102-11][102-9]

Salah satu hal penting dalam penerapan tata kelola adalah bidang pengadaan barang dan jasa (*procurement*). Perusahaan menerapkan prinsip-prinsip keterbukaan dalam proses pengadaan barang dan jasa. Kontraktor PT Vale juga turut dalam aktivitas utama penambangan (eksplorasi, penambangan, pengelolaan lingkungan, aktivitas pascatambang) dan pendukung (keamanan, katering, akomodasi, perawatan fasilitas, dan transportasi). Perusahaan juga berkomitmen untuk memberikan layanan yang setara kepada setiap pelanggan.

Proporsi Pelibatan Pemasok

Supplier Involvement Proportion

Uraian Description	2017		2016		2015	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
Pemasok Lokal Local Suppliers	295	32	295	31	253	30
Pemasok Nasional National Suppliers	448	48	441	46	420	50
Pemasok Internasional International Suppliers	189	20	222	23	170	20
Jumlah Total	932	100	958	100	843	100

Support for Anticorruption Practices

Management Disclosure [103-2, 103-3]

- Policy: PT Vale's Anticorruption Compliance Manual (PT Vale Manual)
- Commitment: support the application of business with integrity and ethics
- Actual commitment: PT Vale follows up two complaints / reporting of total fifteen complaints / reports submitted through Vale Whistleblower Channel or other channels throughout 2017.
- 2017 special initiatives: implementation of e-procurement or procurement of goods / services based on information technology.
- Resources: Vale Whistleblower Channel, as a complaint / report submission system.
- Person in charge: Vale S.A. Code of Ethics and Conduct

E-Procurement Implementation [102-11][102-9]

One important area in the implementation of governance relates to the procurement of goods and services, and the Company has adopted the principle of openness in the process of procurement of goods and services. PT Vale contractors participate in the main mining activities (exploration, mining, environmental management, post-mining activities) and support (security, catering, accommodation, facility maintenance, and transportation). The Company is committed to provide an equivalent service to every customer.

Nilai Kontrak Pekerjaan Pemasok (AS\$) Suppliers' Work Contract Value (US\$)

Uraian Description	2017		2016		2015	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
Pemasok Lokal Local Suppliers	61,902,889	13	33,936,418	21	62,615,198	12
Pemasok Nasional National Suppliers	264,632,924	55	93,693,211	59	264,548,811	53
Pemasok Internasional International Suppliers	154,722,319	32	32,229,959	20	175,176,850	35
Jumlah Total	481,258,133	100	159,858,688	100	502,340,859	100

Memasuki tahun 2017 Perusahaan melalui Departemen Corporate Services dan Departemen Teknologi Informasi, menerapkan proses pengadaan secara elektronik (*e-procurement*) melalui pemanfaatan teknologi informasi. Proyek penerapan *e-procurement* telah dimulai pada akhir tahun 2016 sebagai upaya untuk meningkatkan proses transparansi dan kepatuhan (*compliance*) serta manifestasi dukungan Perusahaan pada praktik-praktik antikorupsi.

E-procurement adalah sistem pengadaan barang dan jasa melalui internet atau sistem informasi dan jaringan lain seperti pertukaran data elektronik (*electronic data interchange/EDI*) dan perencanaan sumber daya Perusahaan (*enterprise resource planning/ERP*). Rantai nilai *e-procurement* meliputi *e-informing*, *e-tendering*, *e-auctioning*, *vendor management*, *catalogue management*, *purchase order integration*, *order status*, *ship notice*, *e-invoicing*, *e-payment*, dan *contract management*.

Penerapan *e-procurement* menjadikan pengadaan barang dan jasa lebih efisien dan efektif. Selain itu juga membangun reputasi dan akuntabilitas Perusahaan lebih baik, karena seluruh tahapan dan mekanismenya akan berjalan otomatis dan tanpa intervensi. Dengan demikian prinsip kewajaran (*fairness*) dan kepatuhan (*compliance*) dalam penerapan tata kelola Perusahaan yang baik (GCG) dapat terpenuhi.






In 2017, the Company through the Corporate Services Department and the Information Technology Department, applied an electronic procurement process (*e-procurement*) using information technology. The *e-procurement* implementation project began in late 2016 as an effort to improve the transparency and compliance process, as well as the manifestation of the Company's support for anticorruption practices.

E-procurement is a system for the procurement of goods and services through the Internet or information systems and other networks such as electronic data interchange (EDI) and enterprise resource planning (ERP). The *e-procurement* value chain includes *e-informing*, *e-tendering*, *e-auctioning*, *vendor management*, *catalog management*, *purchase order integration*, *order status*, *ship notice*, *e-invoicing*, *e-payment*, and *contract management*.

E-procurement makes the procurement of goods and services more efficient and effective. It also builds the Company's reputation and accountability better, as all stages and mechanisms run automatically and without intervention. Thus the fairness and compliance principles in good corporate governance (GCG) can be fulfilled.

Prinsip Prinsip *E-Procurement* dan Keuntungan Bagi PT Vale

Principles of E-Procurement and Benefits for PT Vale

Prinsip Principle	Uraian Description	Keuntungan Benefits
 Right Quality	<p><i>E-procurement</i> memastikan kualitas barang yang sampai di tangan Perusahaan benar-benar sama dengan yang dipesan.</p> <p><i>E-procurement</i> ensures that the quality of the goods reaching the Company are exactly the same as the ones ordered.</p>	<p>Meningkatkan efisiensi, karena kualitas barang yang terjamin akan mengurangi kemungkinan terjadinya <i>defect</i>.</p> <p>Increased efficiency, as the quality of the goods is guaranteed and reduces the possibility of defect.</p>
 Right Quantity	<p><i>E-procurement</i> memastikan jumlah barang yang dipesan tepat adanya.</p> <p><i>E-procurement</i> ensures the quantity of goods ordered is precise.</p>	<ul style="list-style-type: none"> • Tidak ada kekurangan yang menyebabkan kerugian bagi Perusahaan. • Perusahaan juga tidak perlu mengecek jumlah barang, yang akan memakan waktu panjang. • There are no deficiencies that cause any harm to the Company. • The company also does not need to check the amount of goods, which takes a long time.
 Right Time	<p><i>E-procurement</i> memastikan setiap barang dikirim tepat waktu.</p> <p><i>E-procurement</i> ensures every item is delivered on time.</p>	<p>Meningkatkan efektivitas Perusahaan dalam proses bisnis, karena Perusahaan bisa mendapatkan material-material yang dibutuhkan tepat waktu.</p> <p>Increases the Company's effectiveness in its business processes, as the Company can receive the materials needed on time.</p>
 Right Source	<p><i>E-procurement</i> memastikan barang yang dipesan berasal dari sumber yang benar.</p> <p><i>E-procurement</i> ensures goods ordered come from the right sources.</p>	<p>Menghilangkan pemalsuan.</p> <p>Eliminates forgery.</p>
 Right Place	<p><i>E-procurement</i> memastikan barang dikirim ke tempat yang benar.</p> <p><i>E-procurement</i> ensures goods are delivered to the correct place.</p>	<p>Barang akan sampai ke tempat yang benar dengantingkat keakuratan 100%, karena jalur pengiriman sudah diatur oleh sistem.</p> <p>Goods will go to the right place with 100% accuracy, as the delivery is set by the system.</p>

Penerapan *e-procurement* akan mempermudah perusahaan yang sudah menjadi rekanan bisnis dan juga perusahaan calon pemasok PT Vale. Sejumlah informasi berkaitan dengan proses pengadaan barang dan jasa dengan mudah didapatkan melalui *website* tanpa harus pergi ke lokasi operasi. Sistem yang dibangun juga membentuk iklim persaingan yang sehat dan kompetitif bagi para pelaku bisnis yang berniat menjadi vendor PT Vale. Dibandingkan dengan proses pengadaan konvensional, penerapan *e-procurement* meminimalkan peluang terjadinya penyelewengan antara pihak-pihak yang terlibat dalam proses pengadaan.

E-procurement facilitates the companies that are business partners, and also potential suppliers to PT Vale. Information related to the procurement process of goods and services can be easily obtained through the website without having to go to the operating location. The established system also forms a healthy and competitive climate for businesses who intend to become PT Vale's suppliers. Compared to the conventional tagging process, *e-procurement* minimizes the chances of misappropriation between parties involved in the procurement process.



Kebijakan Antikorupsi [205-2]

Sampai dengan akhir periode pelaporan, PT Vale telah menerapkan Manual Kepatuhan Antikorupsi PT Vale atau Manual PT Vale. Ketentuan tersebut mengatur kebijakan dan prosedur Perusahaan berkenaan dengan hukum dan perundang-undangan yang berlaku tentang antikorupsi dan antisuap.

Manual PT Vale disusun berdasarkan serta memberikan panduan wajib sehubungan dengan unsur-unsur antikorupsi dari Kode Etik dan Perilaku PT Vale ("Kode Etik PT Vale"), Perjanjian Kerja Bersama dan Kebijakan Kepatuhan Antikorupsi PT Vale ("Kebijakan PT Vale"). Secara keseluruhan semua itu disebut sebagai "Program Kepatuhan Antikorupsi PT Vale" atau "Program PT Vale" dan berlaku untuk semua pihak tanpa kecuali.

Pelatihan dan sosialisasi antikorupsi dilakukan hanya setiap dua tahun, akan tetapi sepanjang tahun 2017 PT Vale terus melakukan sosialisasi penerapan "Program PT Vale" dan memastikan kepatuhan semua pihak atas ketentuan tersebut. Perusahaan melalui Fungsi Compliance Office terus melakukan penyempurnaan proses persetujuan dalam berhubungan dengan pejabat pemerintah dan pihak ketiga terkait hadiah, keramah-tamahan, donasi, pemberian sponsor, pengembangan masyarakat sekitar dan perekrutan pekerja juga dilakukan secara seksama guna mensukseskan terselenggaranya Program PT Vale.

Anticorruption Policy [205-2]

At the end of the reporting period, PT Vale has implemented PT Vale's Anticorruption Compliance Manual or PT Vale Manual. The provisions govern the Company's policies and procedures with respect to applicable laws and regulations concerning anticorruption and anti-bribery.

The Manual of PT Vale is based on and provides mandatory guidance in relation to the anticorruption elements of PT Vale's Code of Ethics and Conduct ("PT Vale Code"), Joint Venture Agreement and PT Vale Anticorruption Policy ("PT Vale Policy"). Overall it is called "PT Vale Compliance Program" or "PT Vale Program" and applies to all parties without exception.

Anticorruption training and socialization is conducted only every two years, however throughout the year of 2017 PT Vale continues to socialize the implementation of "PT Vale Program" and ensure the compliance of all parties to the provisions. The Company through the Compliance Office Functions continues to refine the approval process in dealing with government officials and third parties related to gifts, hospitality, donations, sponsorship, community development and employment recruitment as well as the success of the PT Vale Program.



Perusahaan terus mendorong pemasok, kontraktor maupun vendor untuk mematuhi Kode Etik Pemasok dan melakukan kegiatan bisnis dengan PT Vale sesuai standar-standar tertinggi dari perilaku etis, antikorupsi, serta patuh terhadap hukum yang berlaku. Sosialisasi Kode Etik Pemasok senantiasa dilaksanakan bagi seluruh kontraktor. Sampai dengan akhir tahun 2017 tercatat sudah ada 1.585 pemasok, kontraktor maupun vendor yang mengikuti kegiatan sosialisasi Kode Etik Pemasok.

The Company continues to encourage suppliers, contractors and vendors to comply with the Supplier Code of Conduct and conduct business activities with PT Vale according to the highest standards of ethical, anticorruption, and compliance with applicable law. Socialization of the Supplier Code of Ethics is always implemented for suppliers, contractors and vendors. Until the end of 2017 there are already recorded 1,585 suppliers, contractors and vendors who follow the socialization activities of the Supplier Code of Conduct.

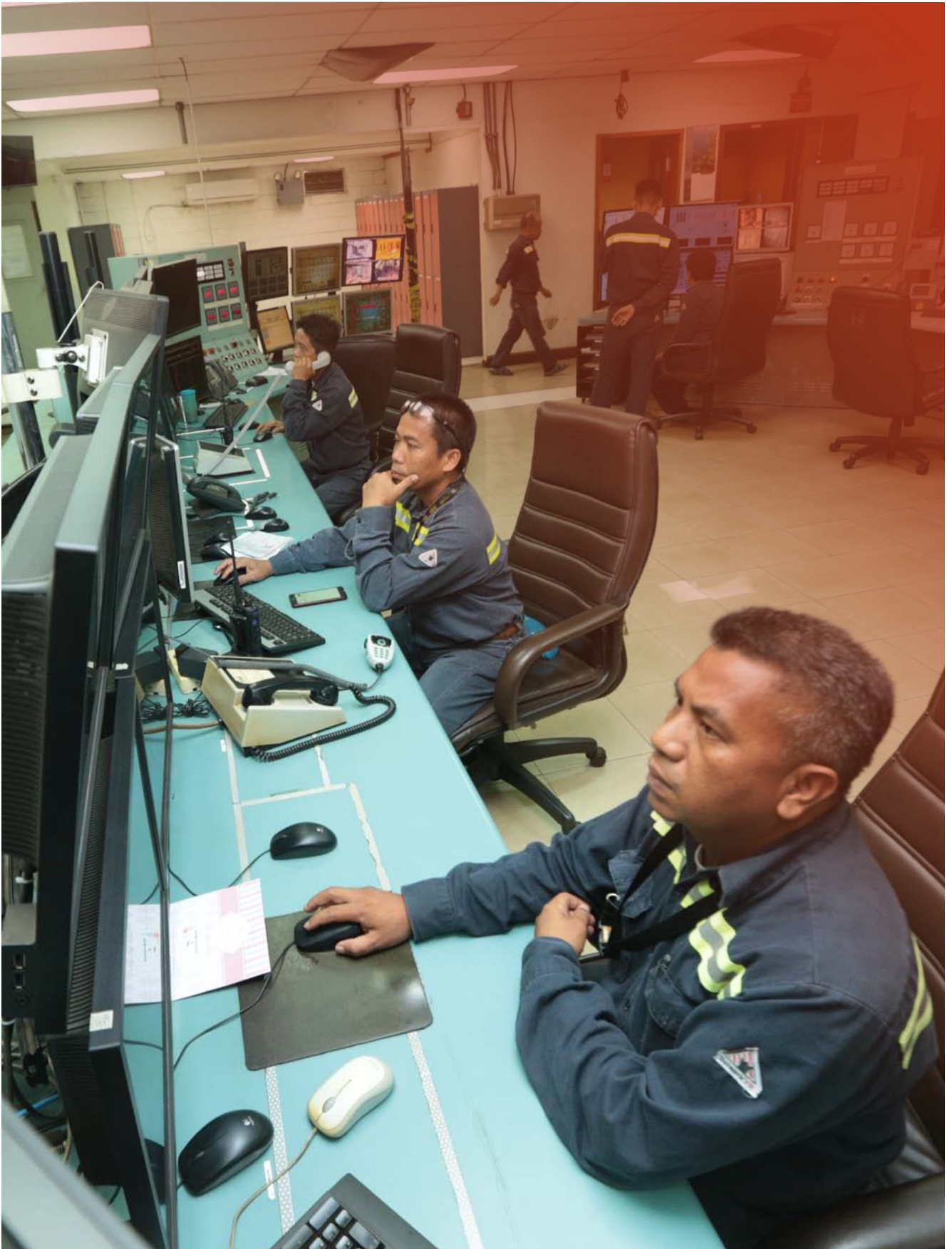
PT Vale memastikan selama tahun 2017 tidak ada kegiatan bisnis yang dilakukan pemasok, kontraktor maupun vendor dengan Perusahaan, yang diindikasikan melanggar Kode Etik Pemasok.

PT Vale ensures that in 2017 no business activities are undertaken by suppliers, contractors or vendors with the Company, which is in violation of the Supplier Code of Conduct.

Pokok-pokok Kode Etik dan Perilaku Pemasok Suppliers' Code of Conduct and Ethics Principles

 <p>Prinsip-prinsip Fundamental Fundamental Principles</p>	<p>Kode Etik dan Perilaku Pemasok dimaksudkan untuk memperjelas apa yang dimaksud dengan perilaku etis dalam hubungan komersial perusahaan yang menyediakan jasa dan produk kepada Perusahaan.</p> <p>The Supplier Code of Conduct and Ethics is intended to clarify what constitutes ethical behavior in the commercial relations of a company providing services and products to the Company.</p>	
 <p>Cakupan dan Jangkauan Coverage and Reach</p>	<p>Kode Etik dan Perilaku Pemasok ini berlaku bagi seluruh pemasok Perusahaan dan pemasok-pemasok dari afiliasi dan anak perusahaan Vale, di seluruh negara tempat afiliasi Perusahaan menjalankan bisnis.</p> <p>The Supplier Code of Conduct and Ethics applies to all the Company's suppliers and suppliers of Vale affiliates and subsidiaries, throughout the countries where the Company's affiliates conduct business.</p>	
 <p>Ketentuan dalam Kode Etik dan Perilaku Provisions in the Code of Conduct and Ethics</p>	<ul style="list-style-type: none"> • Kepatuhan terhadap peraturan, perundang-undangan dan kontrak • Hubungan yang transparan dan informasi yang jujur • Hubungan komersial yang beretika • Kerahasiaan informasi • Kesehatan dan keselamatan di tempat kerja • Perilaku pemasok • Vale Whistleblower Channel • Komitmen terhadap kinerja operasional yang baik • Pelanggaran dan tindakan disiplin 	<ul style="list-style-type: none"> • Compliance with regulations, legislation and contracts • Transparent and honest relationships • Ethical commercial relationships • Confidentiality of information • Health and safety at work • Supplier behavior • Vale Whistleblower Channel • Commitment to good operational performance • Violations and disciplinary action



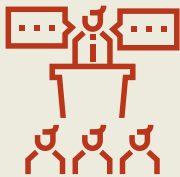




Dalam rangka memperingati Hari Antikorupsi (HAK) yang dilaksanakan setiap tanggal 9 Desember, PT Vale berkolaborasi dengan Kejaksaan Negeri Luwu Timur menyelenggarakan kegiatan Hari Antikorupsi yang bertujuan agar generasi muda menjadi generasi yang jujur. Selain itu, kegiatan peringatan HAK sesuai dengan nilai PT Vale yaitu "Melakukan hal yang benar (*do what is right*)".

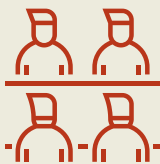
In commemorating Anticorruption Day (HAK) held every December 9th, PT Vale worked with the East Luwu State Attorney to organize an Anticorruption Day event aimed at making the younger generation an honest generation. In addition, this activity was in accordance with the PT Vale value "do what is right".

Jumlah Peserta Sosialisasi dan Pelatihan Anti-Bribery and Corruption (ABC) Number of Participants Receiving Socialization and Training on Anti-Bribery and Corruption (ABC)



Jabatan Position	2017-2016		
	Jumlah Total Karyawan Total Employees	Jumlah Peserta Pelatihan Total Training Participants	% Terhadap Jumlah % Against Total
Direksi Directors	4	4	100
L3 (Direktur Departemen) L3 (Department Director)	11	11	100
L2 (Manajer Senior) L2 (Senior Manager)	52	52	100
L1 (Manajer) L1 (Manager)	125	124	99.20
Karyawan Employees	2,861	2,847	99.51
Jumlah Total	3,053	3,038	99.51

Jumlah Mitra dan Pemasok yang telah Mendapatkan Sosialisasi Antikorupsi Number of Partners and Suppliers Receiving Socialization on Anticorruption



Mitra dan Pemasok Partners and Suppliers	Jumlah Mitra dan Pemasok Total Partners and Suppliers	Jumlah Mitra dan Pemasok yang telah Mendapatkan Sosialisasi Antikorupsi Partners and Suppliers Total Training on Anticorruption Socialization	% Terhadap Jumlah Total Mitra dan Pemasok % Against Total
	2017-2016	2017-2016	2017-2016
Lokal Local	744	279	38
Internasional International	841	0	0
Jumlah Total	1,585	279	38

Vale Whistleblower Channel

Penerapan Vale Whistleblower Channel (VWC) adalah bentuk lain dukungan Perusahaan pada praktik-praktik antikorupsi. Penerapan VWC juga merupakan terobosan Perusahaan untuk mengutamakan operasi yang bermartabat dan terbuka dengan melibatkan semua pemangku kepentingan melakukan pengawasan pada operasi Perusahaan.

VWC menjadi kanal pelaporan dugaan terjadinya penggelapan, korupsi, pencurian, pelanggaran kebijakan Perusahaan, konflik kepentingan, kecurangan laporan keuangan, penyuapan, pelecehan, diskriminasi, pelanggaran ketentuan lingkungan hidup, serta kesehatan dan keselamatan kerja (K3). PT Vale menjamin kerahasiaan, kemandirian tanpa intervensi, ketidakberpihakan dan kekebalan dalam penanganan, penyelidikan, dan penyimpanan informasi yang diterima melalui VWC.

Laporan dapat secara bebas dilakukan terhadap seluruh lini PT Vale, mulai dari anggota Dewan Komisaris, Direksi dan seluruh lini pimpinan maupun karyawan. Penerimaan laporan akan ditindaklanjuti secara seksama tanpa campur tangan PT Vale. Laporan yang disampaikan melalui VWC akan diterima oleh lembaga independen yang ditunjuk dan langsung disampaikan ke Ethics and Conduct Office di Brazil, yang merupakan bagian dari organisasi Vale Global yang secara khusus menangani pelanggaran-pelanggaran terkait Vale dan seluruh anak perusahaannya di dunia. VWC memastikan proses penindakan dapat dilakukan sesuai dengan aturan yang ditetapkan karena adanya pengawasan dari pemegang saham PT Vale.

Sampai dengan akhir periode pelaporan, jumlah pelaporan yang disampaikan melalui VWC mencapai 26. Laporan yang valid akan diinvestigasi lebih lanjut sesuai dengan ketentuan yang berlaku di internal PT Vale maupun Vale Global.

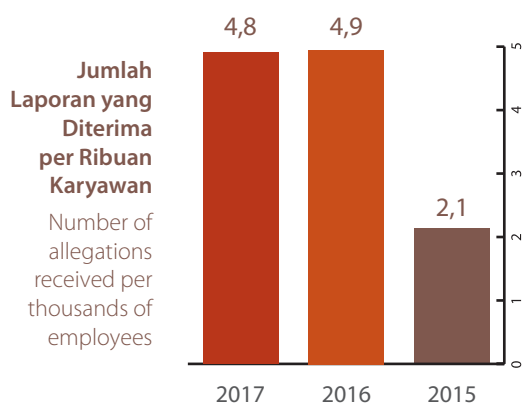
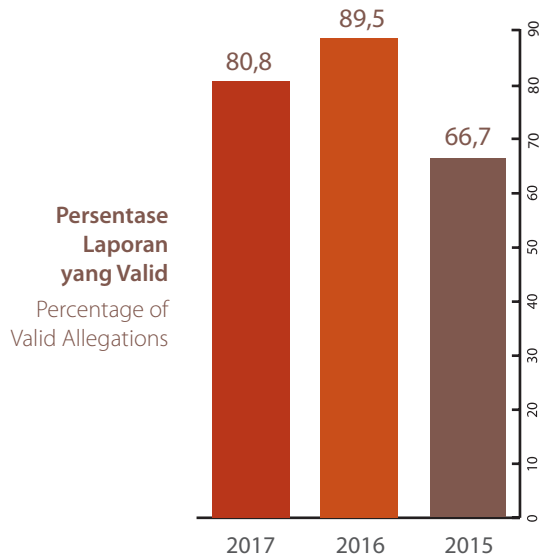
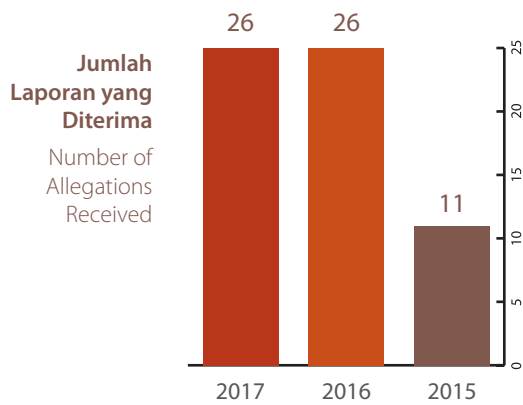
Vale Whistleblower Channel

The adoption of Vale Whistleblower Channel (VWC) is another form of corporate support to anticorruption practices. The application of VWC is also a breakthrough for the Company to prioritize its dignified and open operations by engaging all stakeholders in overseeing the Company's operations.

VWC is a reporting channel for alleged embezzlement, corruption, theft, Company policy violations, conflicts of interest, fraudulent financial statements, bribery, harassment, discrimination, violations of environmental regulations and health and safety (OHS). PT Vale guarantees confidentiality, independence without intervention, impartiality and immunity in the handling, investigation and retention of information received through the VWC.

Reports can be freely made to all lines of PT Vale, from members of the Board of Commissioners, Directors and all lines of leadership and employees. Receipt of the report will be followed up carefully without PT Vale intervention. Reports submitted through the VWC will be accepted by the designated independent agency and submitted directly to the Ethics and Conduct Office in Brazil, which is part of the Vale Global organization that deals specifically with Vale related violations and its subsidiaries worldwide. VWC ensures that the prosecution process can be carried out in accordance with the rules stipulated under the supervision of PT Vale shareholders.

At the end of the reporting period, the amount of report submitted through VWC reached 26. Valid reports will be further investigated according to the applicable provisions in internal PT Vale and Vale Global.

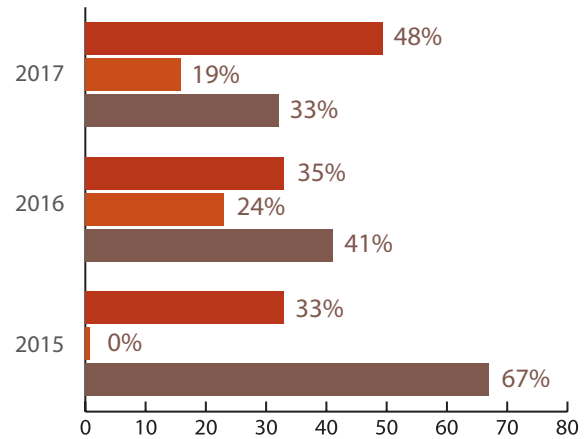


Data pada tabel di atas adalah berdasarkan data yang diterima dari Departemen Ethics and Conduct Office. Terdapat revisi terhadap beberapa data untuk tahun 2015 dan 2016 pada tabel diatas karena beberapa laporan baru selesai diinvestigasi pada tahun berikutnya.

● Tidak Terbukti Not confirmed
● Tidak Dapat Dipastikan Inconclusive
● Terbukti Confirmed

Persentase Konfirmasi Jumlah Pelaporan

Percentage of Valid Allegations Confirmation After Investigated*



*Berdasarkan tahun selesai dilakukannya investigasi

* Per year of investigation completed

Persentasi Pelaporan Yang Telah Selesai Diinvestigasi Berdasarkan Kategori*

Investigated Report Presentation by Category*

Uraian Description	Tahun Year		
	2017	2016	2015
Konflik Kepentingan Conflicts of Interest	28.9	5.9	33.3
Lingkungan, Kesehatan, dan Keamanan Environment, Health, and Safety	4.8	5.9	0
Keamanan Perusahaan Corporate Security	9.5	0.0	0
Hubungan Pihak Ketiga Third Party Relations	14.3	23.5	33.3
Kecurangan Fraud	19.0	35.3	33.3
Sumber Daya Manusia Human Resources	19.0	29.4	0
Lain-lain Others	4.8	0.0	0
Jumlah Total	100.0	100.0	100.0

The above data is based on the data received from the Ethics and Conduct Office Department. Some of the 2015 and 2016 figures on the tables above were updated because there were investigations completed in the following year.



Pemangku Kepentingan PT Vale

Masyarakat adalah salah satu pemangku kepentingan strategis PT Vale, sesuai pemetaan pemangku kepentingan yang telah dilaksanakan pada tahun 2013 dan 2015. Keterlibatan pemangku kepentingan, yaitu masyarakat, pemerintah daerah dan karyawan telah diikutsertakan dalam penentuan topik material Laporan Keberlanjutan 2017 PT Vale melalui pemilihan prioritas topik. [102-40][102-42][102-43][102-44]

PT Vale Stakeholders

The community is one of PT Vale's strategic stakeholders, as per the stakeholder mapping that has been implemented in 2013 and 2015. The involvement of stakeholders, ie communities, local government and employees has been included in the selection of material topics PTVale Sustainability Report 2017 through the selection of priority topics. [102-40][102-42][102-43][102-44]

Pemangku Kepentingan dan Pendekatan PT Vale

Stakeholders and Approaches of PT Vale [102-40][102-42][102-43][102-44]

Pemangku Kepentingan Stakeholders	Basis Identifikasi Identification Base	Topik Pembahasan Discussion Topics	Pendekatan dan Respon PT Vale Approach and Response of PT Vale	Frekuensi Pendekatan Approach Frequency
<p>INTERNAL</p> <ul style="list-style-type: none"> • Karyawan • Pemimpin Perusahaan • Kontraktor • Keluarga karyawan <p>INTERNAL</p> <ul style="list-style-type: none"> • Employees • Company Leaders • Contractors • Employees' families 	<ul style="list-style-type: none"> • Social Management System & Communication Policy 	<ul style="list-style-type: none"> • Fluktuasi harga nikel dunia • Peningkatan efisiensi dan produktivitas • Penguatan posisi dan pasar • Penguatan kapasitas pemasok lokal dan peningkatan total kandungan dalam negeri (TKDN) serta pelibatan karyawan lokal • Kinerja ekonomi • Kesehatan dan keselamatan kerja • Energi • Emisi • Global nickel price fluctuations • Increased efficiency and productivity • Strengthening of position and market • Strengthening the capacity of local suppliers and increasing total domestic content (TKDN) as well as involving local employees • Economic performance • Occupational Health and Safety • Energy • Emission 	<ul style="list-style-type: none"> • Rapat Umum Pemegang Saham (RUPS) • Penyusunan rencana kerja dan anggaran tahunan • Penerapan Promote National Initiative (NPI) dan Local Business Initiative (LBI). • General Meeting of Shareholders (GMS) • Preparation of work plans and annual budgets • Implementation of Promote National Initiative (NPI) and Local Business Initiative (LBI). 	<ul style="list-style-type: none"> • RUPS minimal satu kali dalam setiap tahun. • Dialog dan komunikasi secara berkala sesuai kebutuhan. • Kerjasama dan kontrak bisnis sesuai kebutuhan. • GMS at least once per year. • Dialogue and communication periodically as needed. • Cooperation and business contract as required.

Pemangku Kepentingan Stakeholders	Basis Identifikasi Identification Base	Topik Pembahasan Discussion Topics	Pendekatan dan Respon PT Vale Approach and Response of PT Vale	Frekuensi Pendekatan Approach Frequency
KOMUNITAS <ul style="list-style-type: none"> • Pemimpin komunitas • Pensiunan COMMUNITY <ul style="list-style-type: none"> • Community leaders • Retirees 	<ul style="list-style-type: none"> • Social Management System & Communication Policy 	<ul style="list-style-type: none"> • Pelibatan dalam proses perencanaan program pengembangan masyarakat, pelaksanaan, dan pemantauan • Pelibatan dalam pertimbangan proses perekrutan tenaga kerja lokal • Pemberdayaan komunitas lokal • Involvement in community development program planning, implementation and monitoring processes • Involvement in consideration of local hiring process • Empowerment of local communities 	<ul style="list-style-type: none"> • Pelaksanaan program pengembangan masyarakat sesuai kesepakatan. • Pemantauan dan evaluasi program pengembangan masyarakat serta penyampaian hasilnya • Penyampaian informasi perekrutan tenaga kerja lokal dan proses perekrutan yang terbuka • Implementation of community development programs as agreed. • Monitoring and evaluation of community development programs and delivery of results • Delivery of local recruitment information and an open recruitment process 	<p>Satu kali dalam sepekan atau sesuai dengan kebutuhan dan situasi yang dihadapi</p> <p>Once a week or in accordance with the needs and situations encountered</p>
PEMERINTAH DAN SWASTA <ul style="list-style-type: none"> • Pemerintah lokal • Pemerintah pusat • Investor • Pelanggan • Pemasok dan mitra • Sektor publik GOVERNMENT AND PRIVATE <ul style="list-style-type: none"> • Local government • The central government • Investor • Customer • Suppliers and partners • Public sector 	<ul style="list-style-type: none"> • Social Management System & Communication Policy 	<ul style="list-style-type: none"> • Kerjasama dan dukungan pada praktik-praktik tata kelola perusahaan yang baik, transparansi, akuntabilitas, dan antikorupsi • Tumpang tindih izin usaha pertambangan (IUP) dengan pihak lain • Limbah cair dan padat • Cooperation and support on good corporate governance, transparency, accountability and anticorruption practices • Overlapping business licenses (IUP) with other parties • Effluent and Waste 	<ul style="list-style-type: none"> • Musyawarah rencana pembangunan (musrenbang) • Koordinasi penerapan Program CSR Terpadu dengan aparat Satuan Kerja Perangkat Daerah (SKPD) • Development planning meeting (musrenbang) • Coordination for Integrated CSR Program with apparatus from Local Government Work Units (SKPD) 	<p>Satu kali dalam sepekan atau sesuai kebutuhan</p> <p>Once a week or according to needs</p>
PENGAMAT <ul style="list-style-type: none"> • Media • Akademisi • LSM • Asosiasi Buruh • Entitas Lain OBSERVER <ul style="list-style-type: none"> • Media • Academics • NGO • Workers' Association • Other Entities 	<ul style="list-style-type: none"> • Social Management System & Communication Policy 	<ul style="list-style-type: none"> • Konsultasi, kerjasama penyusunan program CSR/PTPM • Konsultasi terkait kasus-kasus perselisihan lahan serta upaya penyelesaian • Rehabilitasi pascatambang • Consultation, collaborative preparation of CSR / PTPM program • Consultation on land dispute cases and settlement efforts • Post-mining rehabilitation 	<ul style="list-style-type: none"> • Pertemuan dan diskusi terfokus (FGD) • Kerjasama penelitian • Penyusunan laporan tahunan dan laporan keberlanjutan • Focus meetings and discussions (FGDs) • Research collaboration • Preparation of annual reports and sustainability reports 	<p>Sesuai dengan kebutuhan</p> <p>According to needs</p>



Pemangku Kepentingan Stakeholders	Basis Identifikasi Identification Base	Topik Pembahasan Discussion Topics	Pendekatan dan Respon PT Vale Approach and Response of PT Vale	Frekuensi Pendekatan Approach Frequency
MASYARAKAT SEKITAR LOCAL COMMUNITIES	<ul style="list-style-type: none"> Social Management System & Communication Policy 	<ul style="list-style-type: none"> Transparansi dan akuntabilitas operasi PT Vale Pengembangan informasi kinerja keberlanjutan Keanekaragaman hayati Transparency and accountability of PT Vale's operations Development of sustainability performance information Biodiversity 	<ul style="list-style-type: none"> Mekanisme pelaporan dan pengaduan dari masyarakat, serta tindak lanjutnya Pelaporan pemantauan penerapan program pengembangan masyarakat Reporting and complaints mechanisms from the community, and follow-up Monitoring report on the implementation of community development programs 	<p>Sesuai kebutuhan According to needs</p>



Kinerja Keberlanjutan Ekonomi: Bisnis dan Operasi Berkelanjutan

Economic Sustainability Performance:
Sustainable Business & Operation





Kinerja Ekonomi Economic Performance

Pengungkapan Manajemen [103-2, 103-3] Management Disclosure



Kebijakan: Meningkatkan perolehan Pendapatan Usaha dan Laba.

Policy: Increase business and profit revenue.

Komitmen:

Commitment:

- Peningkatan volume produksi dan penjualan nikel dalam *matte*.
- Berkontribusi kepada para pemangku kepentingan.

- Increased production volume and sales of nickel in *matte*.
- Contribution to stakeholders.



Realisasi:

Realization:

- Pendapatan Usaha 2017 sebesar AS\$629,3 juta, atau 99,7% dari target AS\$655,2 juta.
- Perolehan Rugi tahun berjalan sebesar AS\$15,3 juta.

- Operating revenues for 2017 amounted to US\$629.3 million, or 99.7% of the targeted US\$655.2 million.
- Current year's loss of US\$ 15.3 million.



Inisiatif Khusus Tahun 2017:

2017 Special Initiatives:

- Inisiatif *Hot Seat Shift Change* untuk meningkatkan produksi penambangan harian sebesar 9.000 ton/hari.
- Inisiatif penggunaan *Mobile Screening Station* untuk memperpendek jarak pengangkutan bijih ke Stasiun Penyaringan (*Screening Station*).
- Inisiatif melakukan Pra Pengupasan Tanah penutup (*Pre-Stripping*) untuk meningkatkan akses terhadap bijih.

- The Hot Seat Shift Change Initiative to increase daily mining production by 9,000 tons / day.
- Mobile Screening Station initiative to shorten the haulage distance to the Screening Station.
- Pre-stripping Initiative to improve access to ores.



Sumber Daya:

Resources:

- Produksi nikel dalam *matte* tahun 2017 sebesar 76.807 ton.
- Cadangan bijih nikel terbukti 82,7 juta Ton.
- Kontrak penjualan jangka panjang dengan Vale Japan (anggota VCL) dan Sumitomo Metal Mining Co.Ltd.

- Nickel in *matte* production by 2017 reached 76,807 ton.
- Nickel ore reserves proved 82.7 million tons.
- Long-term sales contracts with Vale Japan (VCL member) and Sumitomo Metal Mining Co.Ltd.



Penanggung Jawab:

Person in Charge:

- Chief Operating Officer untuk kinerja produksi serta Chief Finance Officer untuk kinerja penjualan dan keuangan.

- Chief Operating Officer for production performance as well as Chief Finance Officer for sales and financial performance.



Nilai Ekonomi Dihasilkan dan Didistribusikan

Sepanjang tahun 2017, PT Vale telah menyelesaikan proses pemeliharaan tungku serta tanur sehingga proses produksi berjalan dengan baik. Keadaan ini mendukung Perusahaan untuk mempertahankan pencapaian tingkat produksi dan penjualan nikel dalam *matte*.

Economic Value Generated and Distributed

Throughout 2017, PT Vale completed the process of maintaining the furnaces and kilns so that the production process went well. This supported the Company in maintaining its achievements for production and sales of nickel in *matte*.



Target dan Realisasi Produksi dan Penjualan Nikel dalam *Matte* (Ton)

Production and Sales Target and Realization of Nickel in *Matte* (Ton)

Uraian Description	Target Target	Realisasi Realization	Persentase Percentage
 Produksi Production	80,000	76,807	96%
 Penjualan Sales	80,000	77,643	97%

Realisasi Produksi dan Penjualan Nikel dalam *Matte* (Ton)

Actual Production and Sales of Nickel in *Matte* (Ton)

Uraian Description	2017	2016	2015	Δ%	Δ%
	1	2	3	1:2	2:3
Realisasi Produksi Production Realization	76,807	77,581	81,777	(1)	(4)
Realisasi Penjualan Sales Realization	77,643	78,976	82,907	(2)	(5)

Realisasi Penjualan Nikel *Matte* (Ton)

Actual Nickel in *Matte* Sales (Ton)

Pelanggan Customer	2017		2016		2015	
	Ton	%	Ton	%	Ton	%
Vale Japan (Anggota VCL) Vale Japan (VCL Member)	62,113	80	63,172	80	66,331	80
Sumitomo Metal Mining Co.Ltd	15,529	20	15,804	20	16,576	20
Jumlah Total	77,643	100	78,976	100	82,907	100

Perolehan Nilai Ekonomi

Peningkatan volume penjualan dan membaiknya harga nikel dunia memberikan pengaruh signifikan pada perolehan Pendapatan Usaha dan Laba Perusahaan. Seluruh pendapatan Perusahaan diperoleh dari hasil penjualan nikel *matte*. [201-1]

Economic Results

The increase in sales volume and the improvement in world nickel price significantly influenced the Company's revenue and profit. All revenues from the Company were obtained from the sales of nickel in *matte*. [201-1]

Nilai Ekonomi Didapat dan Didistribusikan (Ribu AS\$) [201-1]

Economic Value Generated and Distributed (USD thousand)

Uraian Description	2017	2016	2015
Nilai Ekonomi Dihilangkan Economic Value Generated			
Pendapatan Revenue	629,334	584,143	789,745
Pendapatan Lain Other Revenue	2,763	1,902	1,375
Total Pendapatan Total Revenue	632,097	586,045	791,102
Distribusi Nilai Ekonomi Economic Value Distribution			
Biaya Operasi* Operating Costs*	(492,109)	(414,348)	(505,408)
Gaji Karyawan dan Tunjangan Employee Salary and Allowances	(84,415)	(77,171)	(76,167)
Pembayaran Kepada Penyandang Dana Payments to Providers of Capital	(5,841)	(6,950)	(6,080)
Pembayaran Kepada Pemerintah* Payments to Government	(62,821)	(81,002)	(152,653)
Investasi Untuk Komunitas Community Investments	(2,136)	(5,942)	(4,298)
Total Distribusi Nilai Ekonomi Total Economic Value Distribution	(647,319)	(585,413)	(744,606)
Nilai Ekonomi Ditahan Retained Economic Value			
Jumlah Total	(15,222)	632	46,496

Keterangan:
Kinerja ekonomi Perusahaan disampaikan secara konsolidasi sesuai dengan laporan keuangan yang diaudit, oleh karena itu tidak disampaikan berdasarkan wilayah atau area atau produk.

Information:
The Company's economic performance was consolidated in accordance with the audited financial statements, therefore it is not shown by region or area or product.

Perhitungan nilai ekonomi yang disajikan pada Laporan Keberlanjutan menggunakan metode cash basis sesuai yang disarankan pada GRI Standard, sehingga angka yang disajikan berbeda dengan Audited Financial Statement.

The calculation of economic value in Sustainability Report is based on Cash Basis method as suggested by the GRI Standard, thus the presented value is different from Audited Financial Statement.

Kontribusi bagi Penerimaan Negara

Sebagian dari perolehan pendapatan didistribusikan PT Vale kepada pemangku kepentingan, salah satunya pemerintah. Perusahaan turut berkontribusi pada penerimaan negara melalui pembayaran pajak dan penerimaan negara bukan pajak (PNBP). PT Vale Indonesia hanya memiliki wilayah operasi di Indonesia. [201-1]

Contributions to State Revenue

A portion of revenue generated by PT Vale is distributed to stakeholders, one of which is the government. The Company also contributes to state revenues through tax payments and non-tax state revenues (PNBP). PT Vale Indonesia only has operating areas in Indonesia. [201-1]

Kontribusi Terhadap Negara (Ribuan AS\$) [201-1]

Contribution to the State (Thousand AS\$)

Uraian Description	2017	2016	2015
Komponen Penerimaan Negara Bukan Pajak (PNBP) (Ribuan USD) Components of Non-tax State Revenue (PNBP) (Thousand USD)			
Iuran Produksi Production Royalty	12,635	11,683	22,344
Iuran Tetap Wilayah Kontrak Karya Land Rent of Contract of Work Area	474	474	544
PNBP Lainnya Other Non-tax State Revenue	64	72	57
Jumlah Total	13,174	12,228	22,946
Komponen Pajak dan Retribusi (Ribuan USD) Components of Taxes and Levies (Thousand USD)			
Pajak Pertambahan Nilai Value Added Tax	1,199	1,077	1,328
Pajak Bumi dan Bangunan Land and Building Tax	1,968	2,309	2,485
Pajak Penghasilan Karyawan Employee Income Tax	9,821	8,046	9,839
Pajak Penghasilan Badan Corporate Income Tax	11,837	33,832	90,149
Pajak, Retribusi dan Hibah Daerah* Regional Taxes, Levies and Grants*	19,233	15,186	18,101
Pemotongan Pajak Penghasilan Pihak Ketiga Third Party Income Tax Withholding	3,178	3,977	7,628
Bea Masuk Duty	2,374	4,348	177
Jumlah Total	49,646	68,774	129,708
PNBP + Komponen Pajak dan Retribusi (Ribuan USD) PNBP + Tax Component and Levies (Thousand USD)			
Jumlah Total	62,820	81,002	93,336

* Sesuai Peraturan Pemerintah No.2 Tahun 2012 Tentang Hibah Daerah

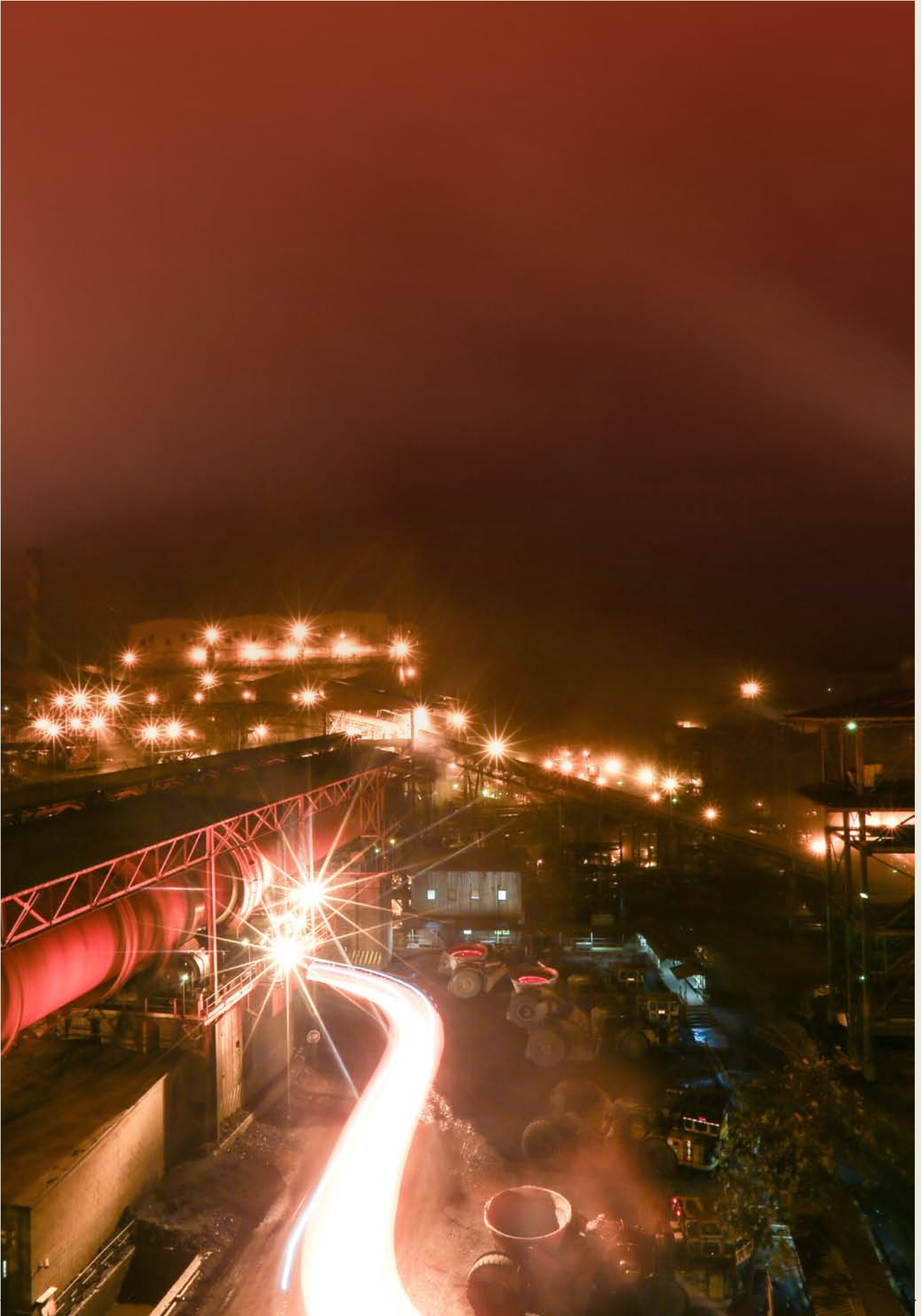
*: According to Government Regulation No.2 Year 2012 regarding Regional Grants

Pembayaran Imbal Jasa Pekerjaan

Sebagai bentuk penerapan tata kelola yang baik dalam hubungan dengan karyawan, PT Vale telah memiliki ketentuan mengenai imbal jasa pekerjaan bagi karyawan yang telah disesuaikan dengan ketentuan perundangan yang berlaku, termasuk Upah Minimum Kabupaten (UMK) Luwu Timur. Perusahaan memberikan remunerasi karyawan tetap di tingkat terendah sebesar 128,8% dari UMK yang ditetapkan. Kebijakan remunerasi dan penetapan imbal jasa pekerjaan didasarkan pada latar belakang profesional, fungsi jabatan, masa kerja, serta capaian kinerja, tanpa membedakan jenis kelamin maupun pertimbangan lain yang mengindikasikan praktik-praktik diskriminasi dalam kerja.

Payment of Employee Benefit

As a form of good corporate governance in relation to employees, PT Vale provides employee benefits for employees in compliance with applicable laws, including the East Luwu Regency Minimum Wage (UMK). The Company provides remuneration for permanent employees at the lowest level of 128.8% of the UMK. Remuneration and employment benefits policies are based on professional background, job function, tenure, and performance, regardless of gender or other considerations that indicate discriminatory practices in the workplace.



Efisiensi dan Inovasi

Efficiency and Innovation



Proyek Konversi Batubara (CCP)

PT Vale melanjutkan kebijakan efisiensi dengan meneruskan pelaksanaan proyek konversi batubara atau *coal conversion project* (CCP). Tahap pertama pelaksanaan proyek konversi batubara (CCP1) telah dimulai sejak tahun 2013 dan dilanjutkan dengan tahap kedua (CCP2) pada tahun 2016. Realisasi pelaksanaan CCP2 pada tahun 2017 memasuki tahapan operasional di Tanur Pereduksi No. 3.

CCP adalah proyek untuk menggantikan *high sulfur fuel oil* (HSFO) dengan batubara sebagai sumber energi pengganti pada tiga tanur pengeringan di pabrik pengolahan. Batubara dipilih karena harganya yang relatif lebih murah dibanding HSFO, sehingga berpengaruh signifikan terhadap biaya produksi. Selain itu pelaksanaan CCP1 juga menjadi bagian dari upaya PT Vale mereduksi emisi SO₂.

Coal Conversion Project (CCP)

PT Vale continues its efficiency policy by continuing the implementation of the coal conversion project (CCP). The first phase of the coal conversion project (CPP1) started in 2013, and continued with the second phase (CPP2) in 2016. In 2017 the CPP2 implementation entered the Reduction Kiln No. 3 operational phase.

CPP is a project to replace high sulfur fuel oil (HSFO) with coal as a replacement energy source in three drying kilns at the processing plants. Coal was chosen as the price is cheaper than HSFO, so it has a significant effect on production costs. In addition, the implementation of CCP1 is also part of PT Vale's efforts to reduce SO₂ emissions.

Inovasi dan Program Efisiensi Lain

Sepanjang tahun 2017, PT Vale juga melakukan program inovasi yang berkelanjutan dan bertujuan untuk mendukung penerapan kebijakan efisiensi. Berbagai bentuk inovasi telah dilaksanakan dan memberikan pengaruh signifikan dan berkelanjutan terhadap efisiensi dalam proses penambangan bijih nikel maupun proses produksi nikel dalam *matte*.

Innovation and Other Efficiency Programs

Throughout 2017, PT Vale also undertook a continuous innovation program with the aim of supporting the efficiency policy. Various forms of innovations have been implemented that had a significant and sustained impact on efficiency in the nickel ore mining process as well as the nickel in *matte* process.



#1

Hot Seat Shift Change (HSSC) and Dispatching

Proyek ini akan meningkatkan *daily rate* dengan meningkatkan produktivitas per jam selama perubahan shift.

This project will increase the daily rate by increasing hourly productivity during shift changes.

#2

Pit Optimization & Mine Production Scheduling

Mengoptimalkan rencana *Life of Mine* PTVI 2018-2045 dengan mereview *mine parameter*, saat ini proyek masih berlangsung.

Optimizing the Life of Mine PTVI 2018-2045 plan by reviewing the mine parameter, the project is currently underway.

#3

DR Upgrade Main Drive System on D#1 D#2 D#3

Menaikkan hasil keluaran DKP dengan meningkatkan rotasi dari pengumpan pengering dari 2,0 menjadi 2,2 RPM. Proyek ini saat ini masih berlangsung

Increasing the DKP output by increasing the rotation of the dryer feeder from 2.0 to 2.2 RPM. This project is currently underway.

#4

DR Dust Line Improvement on D#1

Mengurangi keterlambatan operasi pada kiln dan *dryer* yang disebabkan oleh penuhnya debu dalam 500T bin dengan membuat jalur pipa debu ke 100T bin.

Reducing operation delays in kilns and dryers caused by full dust inside 500T bin by making dust pipeline to 100T bin.

#5

RK DOS Weight Scale Ratio Improvement

Mengurangi variabilitas proses dengan memperbaiki rasio DOS agar sesuai dengan spesifikasi berdasarkan resep produksi mingguan, terutama pada variabilitas kadar karbon dan kadar besi

Reducing process variability by improving DOS ratios to fit specifications based on weekly production recipes, particularly on the variability in carbon content and iron content.



#6

EF2 High Roof Temp Delay Reduction on EF#1 and EF#2

Mengurangi 30% keterlambatan operasi pada tungku peleburan yang diakibatkan oleh suhu tinggi pada bagian atap dengan mengembangkan panduan dan prosedur untuk pembersihan rutin di area *gap intake*

Reducing 30% of operating delays in melting furnaces producing high-temperatures through the roof by developing guidelines and procedures for routine cleaning in the gap intake area.

#7

EF Off Gas System Improvement for All Furnaces

Mengurangi keterlambatan operasi dikarenakan permasalahan gas buang hingga 33% dan meningkatkan kapasitas gas buang tungku peleburan untuk dapat menangani volume gas buang masa depan

Reducing operational delays due to exhaust gas problems up to 33% and increased smelting furnace exhaust capacity to handle future exhaust volumes.

#8

EF Installation of New Skimming Mechanized Drill on Furnace#1

Meningkatkan stabilitas operasi dengan mengurangi waktu pembukaan lubang *Skimming* dari 45 menit menjadi 30 menit per siklus *Skimming*

Improving operation stability by reducing Skimming opening time from 45 minutes to 30 minutes per Skimming cycle.

#9

CV Trial of Blowing Rate on Converter #4

Mengurangi waktu *blowing* dan operasional per *Heat* dan meningkatkan kemampuan produksi *converter* yang dibutuhkan pada tahun 2020

Reducing blowing and operational times per Heat and improving converter production capability needed by 2020.



#10

Block Model Tambang Jangka Pendek

Membuat Model Blok Jangka Pendek yang diharapkan dapat memberikan panduan perencanaan tambang secara bulanan dengan prediktabilitas dalam batas kesalahan $\pm 15\%$ dan pada tingkat kepercayaan 90%

Creating a Short-Term Block Model that is expected to provide predictable monthly mine planning guidance within a fault tolerance of $\pm 15\%$ and at a confidence level of 90%.



Keberlanjutan Rantai Pasok [102-9]

Kegiatan penambangan bijih nikel dan produksi nikel dalam *matte* melibatkan pengelolaan rantai pasok (*supply chain management* atau SCM). Dalam mengelola rantai pasok, PT Vale berkomitmen menggunakan produk dalam negeri melalui pelaksanaan program *Promote National Interest* (PNI) untuk menaikkan porsi tingkat kandungan dalam negeri (TKDN).

Penerapan hal tersebut sesuai Peraturan Menteri ESDM No.24 Tahun 2012 Tentang Penyelenggaraan Usaha Jasa Pertambangan Mineral dan Batubara. Realisasi angka TKDN pada tahun 2017 mencapai 67,85%, lebih tinggi dari target sebesar 62%. Hal ini dapat dicapai karena adanya komitmen dari Perusahaan untuk mengalihkan pembelian barang dan jasa dari luar negeri menjadi dalam negeri, seperti pembelian seragam pekerja dan sudah memanfaatkan jasa konsultan ahli dalam negeri.

Pelibatan pemasok lokal juga menjadi bagian dari Program *Local Business Initiative* (LBI). Realisasi keterlibatan perusahaan lokal dalam rantai pasokan pada tahun 2017 mencapai 22% dari target 24%. Pencapaian tersebut tidak terlepas dari berbagai inisiatif yang telah dilaksanakan PT Vale.

Supply Chain Sustainability [102-9]

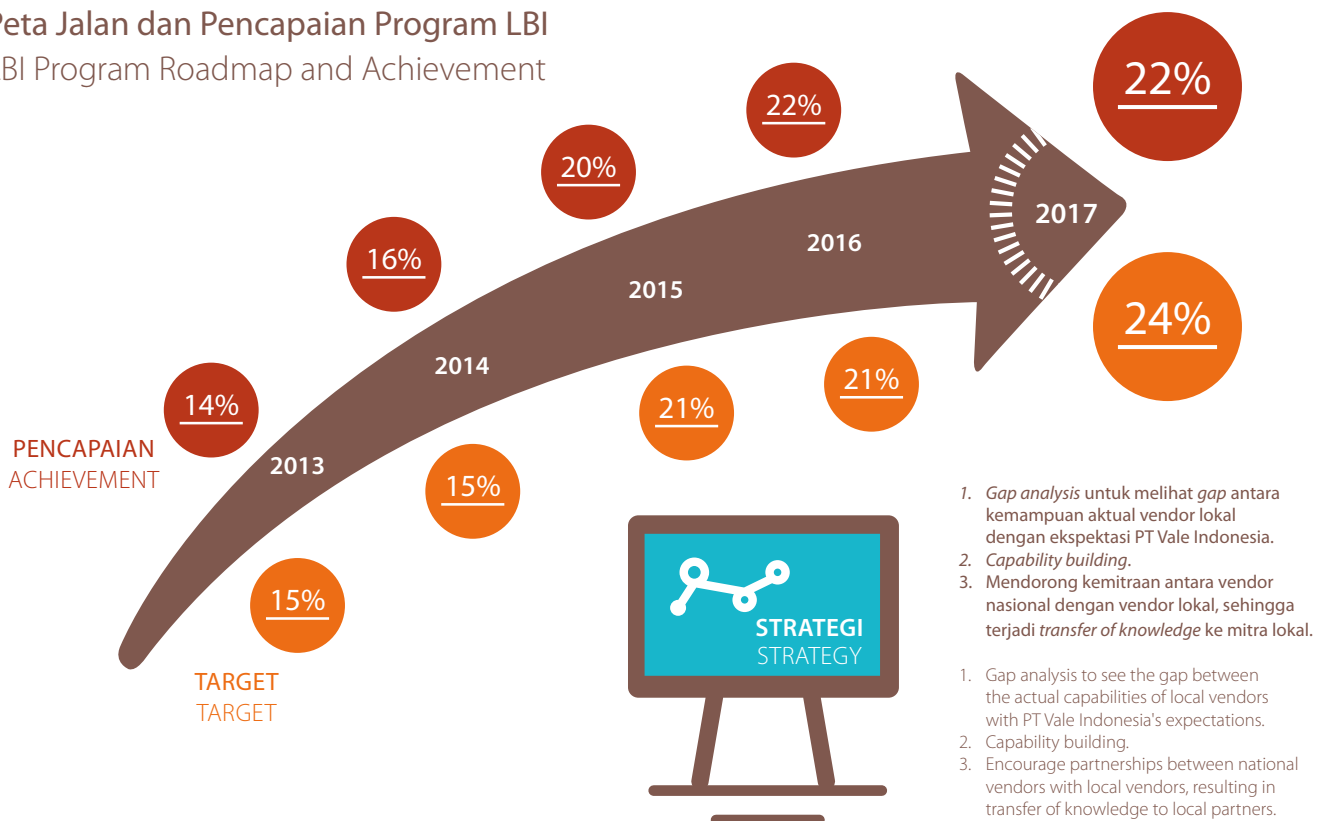
Nickel ore mining activities and nickel in *matte* production involves supply chain management (SCM). In managing its supply chain, PT Vale is committed to using domestic products through the *Promote National Interest* (PNI) program to raise the share of domestic content level (TKDN).

Implementation is in accordance with the Minister of Energy and Mineral Resources Regulation No.24 - 2012 concerning the Mineral and Coal Mining Business. Realization of TKDN figures in 2017 reached 67.85%, higher than the target of 62%. This was due to the Company's commitment to transfer the purchase of goods and services from abroad into local, such as the purchase of worker uniforms, and continuing to utilize the services of expert consultants locally.

The involvement of local suppliers is also part of the *Local Business Initiative* Program (LBI). Actual engagement of local companies in the supply chain by 2017 reached 22% of the target of 24%. Achievement is inseparable from the various initiatives that have been implemented by PT Vale.

Peta Jalan dan Pencapaian Program LBI

LBI Program Roadmap and Achievement



Selain itu, pengawasan atas kinerja vendor dan kontraktor dilakukan melalui evaluasi kinerja K3 dan lingkungan bagi pemasok baru. Dari evaluasi tahun 2017 yang dilakukan kepada 168 pemasok tingkat lokal dan 180 pemasok tingkat nasional, 100% pemasok lokal telah sesuai dengan standar kriteria lingkungan yang ditentukan.

In addition, supervision over the vendors and contractors performance was carried out through an OHS and environmental performance evaluation for new suppliers. In 2017 evaluations were conducted on 168 local level suppliers and 180 national suppliers, 100% of local suppliers were in compliance with the specified environmental criteria standards.

Pengawasan dan Evaluasi Pemasok Baru

Supervision and Evaluation of New Suppliers

Wilayah Operasi Operation Areas	Jumlah Pemasok Yang Dievaluasi Number of Suppliers Evaluated	Jumlah Pemasok Lolos Evaluasi Number of Suppliers Passing Evaluation	Persentase Percentage
Kriteria Dampak Terhadap Lingkungan Environmental Impact Criteria			
Lokal Local	168	168	100%
Nasional National	180	52	28%
Internasional International	N/A	N/A	N/A
Kriteria Dampak Terhadap Masyarakat Impact on Society Criteria			
Sorowako - Towuti	250	198	79%
Wasuponda - Malili	111	97	87%



Keterangan: Evaluasi kriteria dampak masyarakat hanya dilakukan kepada pemasok di tingkat lokal
 Information: The community impact evaluation criteria was only used for suppliers at the local level

Tanggung Jawab Produk

Produk PT Vale mengikuti *Restriction of Hazardous Substance* (RoHS) atau aturan pembatasan bahan berbahaya yang menjadi standar oleh pasar Uni Eropa. Perusahaan juga telah mendapatkan sertifikasi ISO 9001:2008 Tentang Sistem Manajemen Mutu dan ISO 17025:2008 Tentang Persyaratan Kompetensi Laboratorium Pengujian dan Kalibrasi.

PT Vale menerapkan sistem produksi Vale Terpadu yang merupakan standarisasi dalam mengevaluasi keamanan dan mutu setiap produk (100%) yang dimulai dari tingkat operasional. Sistem manajemen dilakukan dalam empat bidang utama, yaitu karyawan, operasi, perawatan, dan manajemen, dengan tiga bidang pendukung: kesehatan, keselamatan, serta lingkungan hidup.

Product Responsibility

PT Vale products follow the Restriction of Hazardous Substance (RoHS) rules that are standardized by the EU market. The Company has also obtained ISO 9001: 2008 certification on Quality Management System and ISO 17025: 2008 Regarding Testing and Calibration Laboratories Competency Requirements.

PT Vale has a standardized Integrated Vale production system for evaluating the safety and quality of each product (100%) starting from the operational level. The management system is carried out in four key areas, i.e. employees, operations, maintenance, and management, with three supporting areas: health, safety, and the environment.



Sistem Produksi Vale Terpadu dalam Menjaga Keselamatan dan Mutu Produk

Vale Integrated Production System for Maintaining Product Safety and Quality

- 1 Mencegah potensi risiko kesehatan akibat paparan serbuk logam dengan, pelatihan K3, pemeriksaan kesehatan, dan hak menolak pekerjaan yang tidak aman.

To prevent potential health risks from exposure to metal powders with OHS training, medical examinations, and the right to refuse unsafe jobs.

- 2 Menyediakan fasilitas dan peralatan K3 sesuai Sistem Manajemen K3, seperti pemakaian masker gas, sistem ventilasi dan sanitasi, alat pelindung diri.

To provide facilities and OHS equipment in accordance with OHS Management System, such as the use of gas masks, ventilation and sanitation systems, personal protective equipment.

- 3 Memberlakukan prosedur ketat terkait pengepakan dengan kemasan khusus berkapasitas 3,3 ton dan pencantuman label informasi dan dokumen mengenai *major hazard standard* yang disebabkan produk.

To enforce strict packing procedures with special packaging with a capacity of 3.3 tons and the inclusion of information labels and documents on major hazard standards caused by the product.

- 4 Memberikan hasil sampel kepada pelanggan melalui *certificate of analysis* berisi komposisi produk untuk setiap 1.000 ton produk. Selain itu, Departemen Supply Chain Management dan Departemen Process Plant melakukan evaluasi atas setiap masukan berharga yang disampaikan pelanggan untuk memperbaiki kualitas produk.

To provide sample results to customers through certificates of analysis containing product composition for every 1,000 ton of product. In addition, the Supply Chain Management Department and the Process Plant Department evaluates every valuable input submitted by customers to improve product quality.



PT Vale selama tahun 2017 tidak pernah mendapatkan sanksi terkait laporan, keluhan maupun pengaduan adanya gangguan kesehatan dan keselamatan dalam proses pengemasan serta pengiriman produk kepada konsumen.

During 2017 PT Vale did not receive any sanctions related to reports, complaints or violations of health and safety problems in the processes of packaging and delivery of products to consumers.





Kinerja Keberlanjutan Sosial: Pemberdayaan Berkelanjutan

Social Sustainability Performance:
Sustainable Empowerment





Keselamatan dan Kesehatan Kerja Occupational Health and Safety

Pengungkapan Manajemen [103-2, 103-3] Management Disclosure

**Kebijakan:**

- Permen ESDM No.38 Tahun 2014 Tentang Penerapan Sistem Manajemen Keselamatan Pertambangan Mineral dan Batubara.

Policy:

- ESDM Ministerial Regulation No.38 of 2014 regarding Safety Management System for Mineral and Coal Mining.

**Komitmen:**

- Komitmen PT Vale dalam keselamatan kerja adalah mencapai nihil kecelakaan kerja dan meminimalkan penyakit akibat kerja (PAK). Komitmen ini tercapai dengan tidak adanya kecelakaan kerja bersifat fatal.

Komitmen:

- PT Vale's commitment to safety is to achieve zero accidents and minimize occupational diseases (PAK). This commitment is achieved by the absence of fatal workplace accidents.

**Inisiatif Khusus Tahun 2017:**

- Inisiatif khusus tahun 2017: Diklat auditor Sistem Manajemen Keselamatan Pertambangan (SMKP) Mineral dan Batubara. Diklat diikuti oleh dua puluh auditor karyawan PT Vale dan kontraktor.

2017 Special Initiative:

- Auditor Training for Mining Safety Management System (SMKP) Minerals and Coal. The training was attended by twenty PT Vale auditors and contractors.

**Sumber Daya:**

- Panitia Pembina Keselamatan dan Kesehatan Kerja (P2K3)
- Budaya Keselamatan Kerja
- Standarisasi K3: OHSAS 18001, Sistem Manajemen Keselamatan Pertambangan Mineral dan Batubara (SMKP Minerba), Sistem Terintegrasi Environment, Health and Safety – Management System

Resources:

- Committee for Fostering Occupational Safety and Health (P2K3)
- Safety Culture
- OHSAS 18001 Standard, Safety Management System of Minerals and Coal Mining (SMKP Minerba), Integrated System Environment, Health and Safety - Management System

**Penanggung Jawab:**

- Kepala Teknik Tambang dan Chief Operating Officer

Person in Charge:

- Head of Mining Engineering and Chief Operating Officer

Kepatuhan dan Pelaksanaan K3

PT Vale menempatkan keselamatan dan kesehatan kerja (K3) sebagai hal yang harus dipatuhi semua pihak tanpa kecuali. Komitmen ini diwujudkan antara lain melalui peningkatan kemampuan internal karyawan dan kontraktor dengan melaksanakan pendidikan dan pelatihan (diklat) Auditor Sistem Manajemen Keselamatan Pertambangan Mineral dan Batubara (SMKP Minerba).

Diklat diselenggarakan secara berkesinambungan pada tahun 2017 dan diikuti oleh total 11 karyawan PT Vale serta 9 karyawan dari perusahaan kontraktor yang telah mengikuti program *Contractor Safety Management System (CSMS)*. Penyelenggaraan diklat dimaksudkan agar Perusahaan memiliki tim auditor internal yang mampu membuat perencanaan, menjalankan, dan melaporkan audit SMKP sesuai standar.

Komitmen untuk mematuhi K3 juga dinyatakan dengan mencantumkan perihal K3 dalam Perjanjian Kerja Bersama (PKB). Perihal K3 diatur dalam Pasal 8 dan Pasal 10 PKB 2016-2019. Pencantuman perihal K3 dalam PKB menegaskan tugas dan tanggung jawab manajemen maupun pekerja dalam penerapan K3.

Kepatuhan Perusahaan pada penerapan K3 juga diperkuat Instruksi Direksi: INS-003-VIEHS Tentang Instruksi Terkait Akuntabilitas untuk Keselamatan Kerja dan Perilaku. Dalam instruksi ini, diatur bahwa kepatuhan K3 sebagai bagian dari penilaian kinerja (KPI) individu. Ketentuan ini mendorong setiap karyawan mematuhi penerapan K3 untuk dapat memenuhi target KPI.

Kinerja Kepatuhan K3

Melalui penerapan K3, PT Vale terus membangun sistem keselamatan yang baik serta tingkat disiplin operasional yang tinggi. Tujuan dari kepatuhan terhadap K3 adalah pencapaian target *zero harm/nihil celaka*.

Selama tahun 2017, Perusahaan mencatat ada beberapa peristiwa kecelakaan kerja yang dialami karyawan dan pekerja lain. Total jumlah peristiwa kecelakaan kerja mencapai lima belas kasus, turun dibanding tahun 2016 sebanyak tujuh belas kasus. Namun, PT Vale berhasil mencapai *zero fatality*. [403-2]

OHS Compliance and Implementation

PT Vale places safety and health (K3) as a matter that must be obeyed by all parties without exception. This commitment is realized, among others, through the improvement in the internal capabilities of employees and contractors through the education and training of the Mining and Mineral Mining Safety Management System Auditors (SMKP Minerba).

The training was held throughout 2017 and was followed by a total of 11 PT Vale employees and 9 contractor company employees, that have participated in the Contractor Safety Management System (CSMS) program. The training is intended so that the Company has a team of internal auditors capable of planning, executing and reporting the SMKP audit according to the standards.

Commitment to comply with OHS is also stated by mentioning it in the Collective Labor Agreement (PKB). OHS is set out in Article 8 and Article 10 of the 2016-2019PKB. The inclusion of Occupational Safety and Health in the PKB affirms the duties and responsibilities of management and workers related to OHS.

Company compliance with OHS is also strengthened by the Directors Instruction: INS-003-VIEHS concerning Instructions Related to Accountability for Safety and Behavior. In this instruction, it is stipulated that OHS compliance is part of the individual performance appraisal (KPI). This provision encourages every employee to comply with OHS in order to fulfill their KPI target.

OHS Compliance Performance

Through OHS, PT Vale continues to build a good safety system as well as a high level of operational discipline. The purpose of compliance with OHS is the achievement of the *zero/no harm target*.

During 2017, the Company notes that there were several workplace accidents experienced by employees and other workers. The total number of occupational accidents reached fifteen cases, down from seventeen in 2016. However, PT Vale successfully achieved *zero fatalities*. [403-2]

Tingkat dan Jumlah Peristiwa Kecelakaan Kerja*
Rate and Number of Workplace Accidents*

Area Area	Tingkat Kecelakaan Kerja Workplace Accident Rate	2017		2016		2015	
		Pria Male	Wanita Female	Pria Male	Wanita Female	Pria Male	Wanita Female
Sorowako	Ringan Medical Aid	11	0	13	0	7	
	Sedang dan Berat Lost Time Injury & Disabling Injury	4	0	3	1	3	
	Fatal Fatality	0	0	0	0	1	
Bahodopi	Ringan Medical Aid	0	0	0	0	0	0
	Sedang dan Berat Lost Time Injury & Disabling Injury	0	0	0	0	0	0
	Fatal Fatality	0	0	0	0	0	0
Pomaala	Ringan Medical Aid	0	0	0	0	0	0
	Sedang dan Berat Lost Time Injury & Disabling Injury	0	0	0	0	0	0
	Fatal Fatality	0	0	0	0	0	0
Jumlah Total		15		17		11	

Keterangan: Pencatatan kecelakaan kerja berdasarkan laporan yang terdaftar di SAP.
Information: Recording of work accidents are based on reports listed on SAP.

Pencapaian Lain Kinerja Pelaksanaan K3

Other OHS Implementation Performance Achievement

Uraian Description	Kegiatan Activities	Tingkat Partisipasi (%) Participation Rate (%)		
		2017	2016	2015
Budaya Keselamatan Safety Culture	Rencana Aksi Keselamatan Individu Personal Safety Action Plan (PSAP)	143	136	>90
	Analisis Risiko Aktivitas Individu Personal Activity Risk Analysis (PARA)	235	72	27
Sosialisasi <i>Contractor Safety Management System</i> (CSMS) Contractor Safety Management System (CSMS) Socialization		84.55	84.0	79.9
Program Pencegahan Fatalitas Fatality Prevention Program		100	60.8	87.0
Standardisasi K3 OHS Standards	<ul style="list-style-type: none"> OHSAS 18001 ISO 14001 Sistem Manajemen Keselamatan Pertambangan Minerba (SMKP-Minerba) Mineral and Coal Mining Safety Management System (SMKP-Minerba) Sistem Manajemen Terintegrasi – EHS MS Integrated Management System – EHS MS 			

PT Vale memberikan perhatian kepada karyawan dan pekerja lain yang bekerja dengan risiko tinggi terhadap keselamatan kerja maupun kesehatan kerja. Sampai dengan akhir periode pelaporan, Perusahaan mencatat ada lebih dari 60% karyawan dan pekerja lain yang memiliki risiko tinggi terhadap keselamatan kerja maupun kesehatan kerja. Perusahaan telah mengidentifikasi delapan belas jenis pekerjaan berisiko tinggi terhadap keselamatan kerja dan tiga jenis pekerjaan berisiko tinggi terhadap kesehatan kerja. [403-3]

PT Vale pays close attention to employees and other workers working at high risk related to occupational safety and health. As of the end of the reporting period, the Company notes that more than 60% of employees and other workers are at high risk related to occupational safety or health. The Company has identified eighteen high-risk types of occupational safety; and three high-risk types of occupational health. [403-3]

Jenis Pekerjaan Berisiko Tinggi K3

Jenis Pekerjaan Berisiko Tinggi K3 [403-3]



Bekerja di Ketinggian

Types of High Work OHS Risk

- Mengimplementasikan standar MHS 01
Implementing MHS 01 standard
- Melakukan *training* dan audit terkait bahaya bekerja di ketinggian
Conducting training and audit on working at heights



Meninggal/
Cedera Serious
Death / serious injury

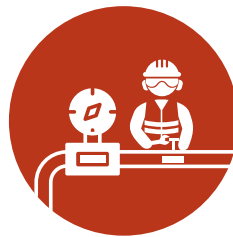


Peledakan Blasting

- Mengimplementasikan standar MHS-04
Implement MHS 04 standard
- Sertifikasi juru ledak
Certify blasting operator
- Melakukan audit terkait pekerjaan peledakan
Perform audit on blasting job



Meninggal/
Cedera Serious
Death / serious injury



Bekerja di Dekat Gas Berbahaya

Working near dangerous gases

- Melakukan *hygiene industrial risk assessment*
Conducted industrial hygiene risk assessment
- Melakukan *direct monitoring* dan *online monitoring*
Conducted direct and online monitoring
- Menyiapkan prosedur kerja aman
Used appropriate PPE
- Menyiapkan prosedur kerja aman
Prepared safe working procedures



Keracunan gas berbahaya
Hazardous gas poisoning



Bekerja di Kebisingan

Working in noisy areas

- Melakukan *hygiene industrial risk assessment*
Conducted industrial hygiene risk assessment
- Melakukan *monitoring*
Monitoring



Kehilangan kepekaan pendengaran
Loss of hearing sensitivity



Bekerja di Area Paparan Panas

Working in hot exposure areas

- Melakukan *hygiene industrial risk assessment*
Conducted industrial hygiene risk assessment
- Melakukan *monitoring*
Monitoring



Heat stress



Pengaruh Terhadap Karyawan/Pekerja Lain
Influence on Employees / Other Workers



Sistem Keselamatan Terintegrasi

Lingkungan kerja yang layak, aman dan sehat menjadi alasan diterapkannya sistem keselamatan terintegrasi. Perusahaan juga melakukan audit setiap tahun untuk mengetahui tingkat kepatuhan K3 yang mengacu pada tingkat kepatuhan *IMS-Environment Health and Safety Management System*. Audit yang dilakukan pada tahun 2017 mendapatkan hasil tingkat kepatuhan sebesar 80,33%. Pencapaian tersebut naik dibanding tahun 2016 yang mencapai 74,77%.

Beberapa upaya strategi yang dilakukan PT Vale selama tahun 2017 dalam upaya meningkatkan penerapan sistem keselamatan kerja antara lain:

1. Pelatihan untuk menguji kesiapan mengantisipasi dan menghadapi situasi darurat, di antaranya:
 - *Airport Emergency Response Drill*, yang diikuti oleh departemen-departemen di PT Vale seperti *Environment, Health & Safety, Defense & Security Services, General Facilities & Services, Human Resource & Corporate Services, Communications & External Affairs* dan RS INCO. Pelatihan bertujuan menguji fasilitas, prosedur dan kompetensi personel menghadapi keadaan darurat sebenarnya. Selain itu juga merupakan keharusan bagi Bandara Sorowako yang telah memegang Dokumen Penanggulangan Keadaan Darurat Bandar Udara
2. Sertifikasi peralatan-peralatan kritikal seperti alat angkut, *pressure vessel*, jalur pemipaan, dan fasilitas turbin dan generator.
3. Sertifikasi pelabuhan dan penerapan standar keselamatan di jalan logistik.
4. Pengembangan sarana lingkungan kerja seperti sistem sirkulasi dan ventilasi kerja di *Skimming Furnace*.

Sejak tahun 2007 hingga 2017, tidak pernah terjadi demonstrasi ataupun pemogokan yang melebihi satu minggu. [MM4]

Integrated Safety System

A proper, safe and healthy work environment is the reason for implementing the integrated safety system. The Company also conducts annual audits to determine OHS compliance levels that refer to the compliance levels in the *IMS-Environment Health and Safety Management System*. Audits conducted in 2017 resulted in a compliance rate of 80.33%. This achievement was an increase from 74.77% in 2016.

Some of PT Vale's strategic efforts during 2017 to improve the of safety system included:

1. Training to test readiness to anticipate and deal with emergency situations, including:
 - *Airport Emergency Response Drill*, followed by departments in PT Vale such as *Environment, Health & Safety, Defense & Security Services, General Facilities & Services, Human Resource & Corporate Services, Communications & External Affairs* and INCO Hospital. The training aims to examine the facilities, procedures and competencies of personnel facing actual emergencies. It is also a must for the Sorowako Airport who holds the Emergency Countermeasures Document for the Airport
2. Certification of critical equipment such as conveyance, pressure vessel, pipeline, and turbine and generator facilities.
3. Port certification and application of safety standards on logistics roads.
4. Development of workplace environments such as circulation and ventilation systems in *Skimming Furnace*.

Between 2007 and 2017, there have been no demonstrations or strikes lasting over a week. [MM4]



Program Pencegahan HIV/AIDS dan Pemberantasan Narkoba

Salah satu hal penting aspek kesehatan di tempat kerja yang mendapat perhatian PT Vale adalah pencegahan dan penanggulangan HIV/AIDS. Dilakukan sejak tahun 2008, Perusahaan melalui Kelompok Kerja (Pokja) HIV/AIDS di RS INCO menyelenggarakan berbagai sosialisasi, pelatihan, dan kampanye untuk pencegahan penularan dan penindakan HIV/AIDS di lingkungan PT Vale maupun masyarakat. Keberadaan Pokja didukung oleh enam belas tenaga terlatih dan terintegrasi dengan program sosial Perusahaan di sektor kesehatan.

Kesungguhan PT Vale dalam melaksanakan program pencegahan dan penanggulangan HIV/AIDS telah mendapat apresiasi kategori platinum dari Kementerian Ketenagakerjaan Republik Indonesia. Penghargaan diberikan atas upaya Perusahaan mendorong pencegahan dan penularan TB-HIV melalui skema kemitraan strategis dengan Dinas Kesehatan Kabupaten Luwu Timur melalui pembentukan Pokja TB-HIV yang bertujuan untuk menurunkan beban TB pada Orang Dengan HIV/AIDS (ODHA), serta menurunkan beban HIV pada pasien TB.

Sepanjang tahun 2017 PT Vale juga melakukan pemeriksaan kesehatan berkala kepada karyawan dan pekerja lain. Pemeriksaan kesehatan berkala dilakukan di RS INCO dan dimaksudkan untuk memastikan kondisi karyawan dan pekerja lain, senantiasa dalam keadaan sehat saat bekerja. PT Vale juga memberi perhatian kepada upaya bersama untuk mencegah dan menanggulangi penyalahgunaan narkotika dan obat berbahaya (narkoba).

Sesuai dengan hasil survei karyawan, PT Vale melakukan beberapa perbaikan untuk mendukung penerapan kesehatan di tempat kerja:

1. Senam Pagi yang dilakukan secara rutin setiap hari Jumat.
2. Konseling Psikososial untuk karyawan *Mining Department*. Kegiatan ini dilakukan dengan cara mengidentifikasi dan mengenali risiko psikososial di tempat kerja dengan mendatangkan psikolog.
3. Sosialisasi/Awareness mengenai "*Muskuloskeletal Disease*". Kegiatan ini dilakukan dengan cara memberikan pemahaman mengenai tindakan preventif dan kuratif untuk penyakit yang berhubungan dengan tulang belakang/*Ergonomic Hazard*.

HIV / AIDS Prevention and Drug Eradication Program

One important aspect of workplace health that PT Vale is concerned with is the prevention and treatment of HIV / AIDS. Starting in 2008, the Company through the HIV / AIDS Working Group (Pokja) at INCO Hospital has organized various socialization, training and campaigns for prevention of HIV / AIDS transmission and treatment within PT Vale and the community. The Pokja is supported by sixteen trained personnel and integrated with the Company's social health sector programs.

PT Vale's seriousness in HIV / AIDS prevention and treatment programs has been appreciated by the receipt of the platinum category from the Republic of Indonesia Ministry of Manpower. The award was given to recognise the Company's efforts to promote the prevention and transmission of TB-HIV through its strategic partnership scheme with the East Luwu Regency Health Office, and through the establishment of the TB-HIV Working Group that aims to reduce TB in people living with HIV / AIDS.

During 2017 PT Vale also conducted periodic health check ups for employees and other workers. Periodic health check ups are conducted at INCO Hospital and are intended to ensure the health of employees and workers, so they remain fit for work. PT Vale also pays close attention to the joint efforts to prevent and combat narcotics and dangerous drug abuse.

In accordance with the employee survey results, PT Vale made several changes to support health in the workplace:

1. Morning exercise conducted regularly every Friday.
2. Psychosocial Counseling for Mining Department employees. This activity is conducted by identifying and recognizing psychosocial risks in the workplace by bringing in psychologists.
3. Socialisation / Awareness on "*Muskuloskeletal Disease*". This activity is conducted by providing an understanding of preventive and curative measures for spine-related / *Ergonomic Hazard* diseases.

4. Konseling HIV/AIDS yang dilakukan secara privat dan bekerja sama dengan Dinas Kesehatan untuk penanggulangan masyarakat sekitar yang mengidap HIV/AIDS.
5. *Hearing Conservation Program*, yaitu program yang dijalankan oleh *Industrial Hygiene* untuk mengenali bahaya kebisingan dan mengendalikan risiko yang muncul di tempat kerja.
6. *Respiratory Protection Program*, yaitu program yang dilakukan untuk mengenali bahaya yang berhubungan dengan masalah pernapasan dan memantau risiko yang telah memapari pekerja.
7. *Regular Annual Medical Check Up* yang dilaksanakan terintegrasi dengan *Employee Similar Exposure Group*. Pelaksanaan MCU dilakukan berkala sesuai kebutuhan pemeriksaan kesehatan dan disesuaikan dengan bahaya dan risiko yang diterima pekerja.

4. HIV / AIDS counseling conducted privately and in collaboration with the Office of Health for its prevention in the surrounding communities living with HIV / AIDS.
5. Hearing Conservation Program, a program run by Industrial Hygiene to recognize the hazards of noise and control the risks that arise in the workplace.
6. Respiratory Protection Program, a program to identify hazards associated with respiratory problems and monitor risks that workers may have been exposed to.
7. Regular Annual Medical Check Ups integrated with the Employee Similar Exposure Group. MCU are conducted periodically as needed through health inspections and adjusted to hazards and risks encountered by worker.

Lembaga Sertifikasi Profesi

Peningkatan kesejahteraan karyawan dan pekerja lain juga diwujudkan melalui peninjauan kompetensi karyawan maupun pekerja lain di lingkungan PT Vale, yang dilaksanakan oleh Lembaga Sertifikasi Profesi (LSP). Keberadaan LSP telah mendapatkan pengakuan dari Badan Nasional Sertifikasi Profesi (BNSP) dan didukung keberadaan 170 assessor di berbagai lini kerja Perusahaan.

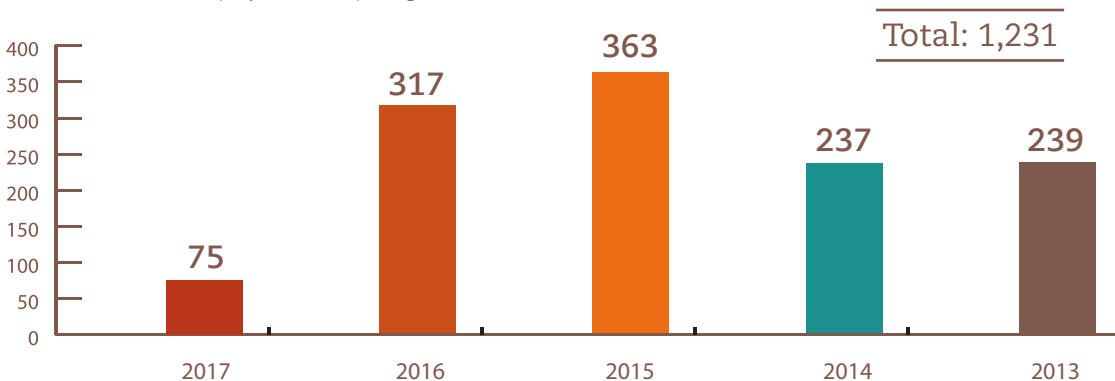
Sampai dengan akhir periode pelaporan total ada 1.231 karyawan yang telah menjalani kompetensi keahlian untuk pekerjaan di bidang operator alat berat, pemeliharaan pabrik, mekanik alat berat, tenaga medis, pengaman dan pemeliharaan fasilitas Perusahaan.

Professional Certification Agency

Increasing the welfare of employees and other workers is also realized through competency reviews of employees and other workers within PT Vale, implemented by the Professional Certification Institute (LSP). LSP has received recognition from the National Agency for Professional Certification (BNSP) and supported by the presence of 170 assessors in various Company's work lines.

Up to the end of the reporting period there were 1,231 employees who underwent competency skills training for heavy equipment operators, factory maintenance, heavy equipment mechanics, medical personnel, safety and maintenance of Company facilities.

Jumlah Karyawan PT Vale Peserta Sertifikasi Profesi
Number of PT Vale Employees Participating in Professional Certification



Pemberdayaan Masyarakat Berkelanjutan Sustainable Community Empowerment

Pengungkapan Manajemen [103-2, 103-3] Management Disclosure



Kebijakan:

- Memberdayakan masyarakat di sekitar lokasi operasi PT Vale.

Policy:

- Empowering communities around PT Vale's operations sites

Komitmen:

• Program Terpadu Pengembangan Masyarakat (PTPM)

Pemberdayaan berkelanjutan menjadi inti dari pemenuhan kinerja keberlanjutan sosial, baik pemberdayaan terhadap karyawan maupun masyarakat sekitar. Pemberdayaan masyarakat dilaksanakan melalui Program Terpadu Pengembangan Masyarakat (PTPM) dan mengacu pada *social management system* (SMS) PT Vale, serta diselaraskan dengan Tujuan Pembangunan Berkelanjutan (SDGs).

Tahun 2017 pelaksanaan PTPM memasuki periode lima-tahunan pertama. Selanjutnya PT Vale menyiapkan pelaksanaan PTPM untuk periode lima-tahunan kedua, sehingga program pemberdayaan masyarakat berkelanjutan. Selama tahun 2017 Perusahaan telah mengalokasikan AS\$2,4 untuk mendukung PTPM dan program sosial di 38 desa dengan jumlah penerima manfaat sebanyak 12.386 jiwa.

Commitment:

• Integrated Community Development Program (PTPM)

Sustainable empowerment is at the heart of fulfilling the performance of social sustainability, both through empowering employees and the surrounding community. Community empowerment is implemented through the Integrated Community Development Program (PTPM) and refers to the PT Vale social management system (SMS), and is aligned with Sustainable Development Goals (SDGs).

In 2017 the implementation of PTPM entered its first five-year period. In addition PT Vale prepared the implementation of PTPM for the second five-year period, so that the community empowerment program can remain sustainable. During 2017, the Company allocated US\$ 2.4 to support PTPM and social programs in 38 villages with a total of 12,386 beneficiaries.



Inisiatif Khusus Tahun 2017:

- PT Vale menyiapkan pelaksanaan PTPM periode lima tahun kedua untuk tahun 2018 – 2022

2017 Special Initiative:

- PT Vale prepared the PTPM for the second five-year period of 2018 - 2022.



Sumber Daya:

- Alokasi dana PTPM tahun 2017 AS\$2,2 juta.
- Sinergi tiga pilar mencakup PT Vale, pemerintah daerah dan masyarakat.
- Publikasi majalah bulanan, laporan tahunan Community Development dan Keberlanjutan.

Sumber Daya:

- Allocation of PTPM funds in 2017 US\$ 2.2 million.
- Three-pillar synergy including PT Vale, local government and the community.
- Monthly magazine publications, annual reports on Community Development and Sustainability.



Penanggung Jawab:

- Fungsi Social Development Program dan Communications & External Affairs Department

Person in Charge:

- Social Development Program Function and Communications & External Affairs Department

Pelaksanaan PTPM Tahap 1

Program Terpadu Pengembangan Masyarakat (PTPM) dilaksanakan PT Vale sejak tahun 2013. PTPM dipilih seiring perubahan pendekatan Perusahaan dalam memenuhi tanggung jawab sosial dan lingkungan (TJSL) melalui pelaksanaan tanggung jawab sosial perusahaan (CSR).

PT Vale hanya memiliki satu wilayah operasi produktif dan berbagai kegiatan *local community engagement* dilakukan di sana. Sejak awal beroperasi PT Vale telah melaksanakan program pengembangan masyarakat melalui program pengembangan masyarakat (*community development*) yang berjalan hingga 2012. Pada 2013 Perusahaan melakukan pemetaan pemangku kepentingan (*stakeholders mapping*), studi dasar kebutuhan masyarakat (*community needs assessment*) di wilayah sekitar Perusahaan, serta kajian terhadap profil layanan Kabupaten Luwu Timur. Hasil yang diperoleh dari ketiga proses tersebut menjadi dasar perencanaan dan implementasi PTPM sebagai program untuk memberdayakan masyarakat setempat. Selain itu, pada tahun 2016 PT Vale melakukan *assessment* independen atas implementasi PTPM, hasilnya menunjukkan bahwa PTPM telah berhasil membangun fondasi dan sistem kemitraan antara pemerintah, masyarakat, dan PT Vale dengan pendekatan musyawarah dalam implementasi PTPM. [413-1]

Berbeda dengan program sebelumnya, PTPM dilaksanakan dalam periode lima tahunan, berbasis kemitraan tiga pilar yakni pemerintah, PT Vale dan masyarakat. PTPM juga mendorong partisipasi aktif masyarakat untuk merumuskan usulan kegiatan dengan mengutamakan prinsip transparansi dan akuntabilitas. Prinsip transparansi dan akuntabilitas didasari pertimbangan sinergi program dalam PTPM dengan program pemerintah daerah, serta meminimalkan penyimpangan termasuk korupsi. PT Vale secara berkala melakukan audit atas pelaksanaan PTPM, sehingga setiap dana yang dikeluarkan dapat dipertanggungjawabkan.

Implementation of PTPM Phase 1

The Integrated Community Development Program (PTPM) has been implemented by PT Vale since 2013. PTPM was selected as the Company's approach to social and environmental responsibility (CSR) through improvements to the corporate social responsibility (CSR).

PT Vale has only one productive operation area and various local community engagement activities are conducted there. Since its inception PT Vale has implemented community development programs through community development programs that ran until 2012.

In 2013, the Company carried out stakeholder mapping, community needs assessment in the areas surrounding the Company, and reviewed the service profile of East Luwu Regency. The results obtained from these three processes formed the basis for planning and implementation of PTPM as a program to empower local communities. In addition, in 2016 PT Vale conducted an independent assessment of the PTPM, with the results indicating that PTPM had succeeded in establishing a foundation and partnership system between the government, the community and PT Vale with a deliberative approach in the implementation of PTPM. [413-1]

Unlike previous programs, PTPM was implemented for a five-year period, based on a three-pillar partnership between the government, PT Vale and the community. PTPM also encourages the active participation of the community to formulate the proposed activities by prioritizing the principles of transparency and accountability. The principles of transparency and accountability are based on consideration of program synergies within PTPM with local government programs, as well as minimizing irregularities including corruption. PT Vale periodically conducts audits of the implementation of PTPM, so that any funds issued can be accounted for.



PTPM terbagi atas tiga program, yakni Program Mitra Desa Mandiri (PMDM), Kemitraan Strategis dan Kontribusi Strategis.

PTPM is divided into three programs, i.e. Independent Village Partnership Program (PMDM), Strategic Partnership, and Strategic Contribution.



Program Mitra Desa Mandiri (PMDM)

Independent Village Partnership Program

- Kegiatan PMDM diusulkan secara mandiri oleh masyarakat desa melalui musyawarah desa sehingga meningkatkan partisipasi masyarakat dan transparansi pelaksanaan program. Hingga akhir 2017 PMDM telah memberikan manfaat antara lain:

 - Lebih dari 36.000 jiwa yang merupakan keluarga miskin di 38 desa di Kabupaten Luwu Timur telah menerima manfaat program. [413-1]
 - Lebih dari 1.000 jamban keluarga sehat dibangun untuk rumah tangga miskin di 38 desa di Kabupaten Luwu Timur.
 - Dukungan sarana dan prasarana Posyandu, Pustu dan PKM di empat kecamatan di Kabupaten Luwu Timur.
 - Program satu desa satu pendidikan anak usia dini (PAUD) di Kabupaten Luwu Timur telah membuka akses pendidikan bagi anak di masa emas pertumbuhan.
 - Bantuan konsultasi legalitas usaha dan produk bagi pelaku usaha mikro, kecil dan menengah (UMKM) skala rumah tangga dari seluruh kabupaen Luwu Timur.
 - Upaya pengolahan limbah ternak menjadi sumber energi biogas
- PMDM activities are proposed independently by villagers through village meetings so as to increase community participation and transparency of program implementation. During 2017 PMDM provided the following benefits:

 - More than 36,000 people in poor families in 38 villages in East Luwu Regency received program benefits. [413-1]
 - More than 1,000 healthy family toilets were built for poor households in 38 villages in East Luwu regency.
 - Supporting Posyandu, Pustu and PKM facilities and infrastructure in four districts in East Luwu Regency.
 - One village, one early childhood education (PAUD) program in East Luwu Regency has opened access to education for children in the golden age period.
 - Assistance for businesses, and product legality consultation for micro, small and medium enterprises (MSMEs) in households from all sub-districts of East Luwu.
 - Efforts to process livestock waste into biogas energy sources

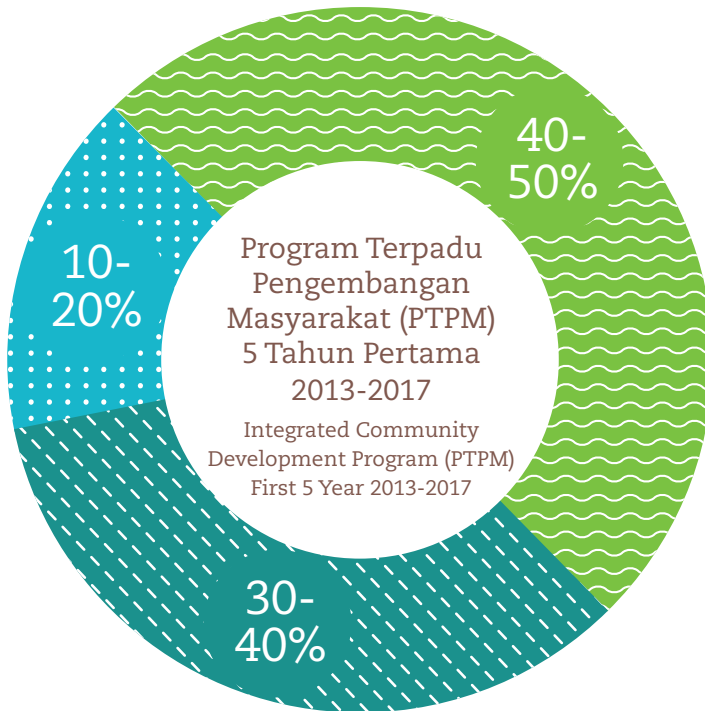
- Pelatihan *life skill* bagi Karang Taruna melalui sinergi dengan lembaga pemuda untuk peningkatan skill dan kecakapan bekerja untuk mendukung peningkatan taraf hidup bagi masyarakat terdampak.
- Permodalan Gapoktan melalui ketersediaan daya dukung penguatan kelembagaan ekonomi dan aktivitas perekonomian masyarakat.
- Life skills training for Karang Taruna through synergy with youth institutions to improve skills and work ability to support improved living standards for affected communities.
- Gapoktan provision through the availability of capacity strengthening support for economic institutions and economic activities in the community.

Kemitraan Strategis dan Kontribusi Strategis

Strategic Partnership and Strategic Contributions

2. Kemitraan Strategis dan Kontribusi Strategis melengkapi PTPM dengan kegiatan-kegiatan sosial strategis yang dilakukan PT Vale dan pemerintah daerah. Hingga akhir tahun 2017, pelaksanaan Kemitraan Strategis dan Kontribusi Strategis mencakup: [413-1]
 - Memperkenalkan sistem pertanian ramah lingkungan *System of Rice Intensification (SRI) Organik* di kalangan petani di Kabupaten Luwu Timur. Pola budidaya *System of Rice Intensification (SRI) Organik* kini telah menyebar ke 27 desa di tujuh kecamatan se-Luwu Timur. Hasil padi dari Mahalona, Kecamatan Towuti, sudah mendapatkan sertifikat organik dari lembaga sertifikasi nasional INOFICE.
 - Di sektor kesehatan, PT Vale memberi dukungan berupa pelatihan dan pendampingan budidaya tanaman herbal.
 - Di sektor pendidikan, PT Vale meningkatkan kapasitas pendidik dan kependidikan tingkat PAUD hingga sekolah menengah atas melalui program magang, studi banding, pembinaan teknis dan *workshop* yang dilakukan bekerja sama dengan Ikatan Guru Taman-taman Kanak-kanak Indonesia (IGTKI) dan Persatuan Guru Republik Indonesia (PGRI) Kabupaten Luwu Timur.
 - Di bidang UKM telah, dilakukan penguatan UKM olahan komoditas lokal sebagai cikal bakal industri pangan di Luwu Timur, edukasi ke pelaku usaha kecil untuk legalitas usaha, dan legalitas produk olahan agar dapat diterima oleh pasar.
2. Strategic Partnership and Strategic Contributions complemented PTPM with strategic social activities undertaken by PT Vale and local governments. During 2017, the Strategic Partnerships and Strategic Contributions included: [413-1]
 - Introducing environmentally friendly Farming System for Rice Intensification (SRI) for farmers in East Luwu Regency. The Organic System of Rice Intensification (SRI) pattern has now spread to 27 villages in seven sub-districts of East Luwu. The rice produced from Mahalona, Towuti Sub-district, has been certified organic by the national certification agency INOFICE.
 - In the health sector, PT Vale provided support in the form of training and mentoring of herbal cultivation.
 - In the education sector, PT Vale increased the capacity of teachers and educators at PAUD through high school through apprenticeships, comparative studies, technical guidance and workshops conducted in collaboration with the Teachers Association of Indonesian Kindergarten (IGTKI) and United Teachers of Indonesia (PGRI) in East Luwu Regency.
 - In the SME field strengthened SMEs processing local commodities as a forerunner to the food industry in East Luwu, education for small businesses in business legality, and the legality of processed products to be accepted by the market.

PTPM Periode 5 Tahun Pertama
PTPM First 5 Year Period



Independent Village Partnership Program (PMDM)

- Kesehatan
Health
- Pendidikan
Education
- Pengembangan Ekonomi & UMKM
Economic Development & SMEs



Strategic Partnership

- Kesehatan
Health
- Pendidikan
Education
- Ekonomi
Economy
- Sosial Budaya
Art and Culture



Strategic Contribution

- *Emergency Response*
Emergency Response
- Sosial Budaya
Art and Culture
- Donasi
Donation



Realisasi Biaya PTPM dan Program Sosial Tahap 1 (AS\$ Ribu)
PTPM and Social Program Phase 1 Realization (US\$ Thousand)

Uraian Description	2017	2016	2015	2014	2013	Akumulasi Accumulation
PTPM	2,200	3,400	4,200	3,700	4,900	18,600
Program Sosial Reguler Regular Social Program	200	400	500	600	600	2,300
Jumlah Total	2,400	3,800	4,700	4,300	5,500	20,900

Pemetaan Dampak Kegiatan Sosial [413-2]

Kegiatan sosial yang dilakukan PT Vale memberikan dampak positif dan negatif bagi masyarakat dan lingkungan. Berikut beberapa pembangunan infrastruktur berdasarkan dampak positifnya di empat wilayah kecamatan, yaitu Towuti, Nuha, Wasuponda dan Malili.

Mapping the Impact of Social Activities [413-2]

Social activities conducted by PT Vale have had positive and negative impacts on the society and environment. Here are some infrastructure developments, based on their positive impact, in four sub-districts, i.e. Towuti, Nuha, Wasuponda and Malili.

Program Program	Sektor Sector	Dampak Impact
Pembangunan dan rehab toilet dan <i>septic tank</i> Toilet and septic tank construction and rehab	Sanitasi dan pola hidup bersih dan sehat (PHBS) Sanitation and clean and healthy lifestyle (PHBS)	Menurunnya angka penderita penyakit menular dan dukungan terhadap pencapaian misi ODF Pemda Luwu Timur bidang kesehatan. Decreasing number of infectious diseases and support for the achievement of the East Luwu Provincial Health Administration's ODF mission.
Dukungan sarana dan prasarana Posyandu, Pustu dan PKM Support facilities and infrastructure Posyandu, Pustu and PKM	Peningkatan kualitas layanan kesehatan dasar, peningkatan akses layanan kesehatan Improving the quality of basic health services, improving access to health services	Perluasan dan peningkatan akses layanan kesehatan dasar untuk meningkatkan kualitas hidup masyarakat, dukungan terhadap pemerintah dalam penyelenggaraan jaminan kesehatan bagi masyarakat miskin dan rentan. Expansion and improvement of access to basic health services to improve the quality of life of communities, support for government in providing health insurance for the poor and vulnerable.
Pengadaan motor dan bak sampah Procurement of garbage vehicles and bins	Kesehatan PHBS PHBS Health	Mendorong penyelenggaraan desa sehat, penanggulangan penyakit menular. Encourage healthy villages, prevention of infectious diseases.
PMT balita, lansia, kelas ibu hamil Nutritional food supplements for toddlers and the elderly, pregnant mothers classes	Promosi kesehatan ibu anak dan lansia Promotion of children and elderly health	Menurunnya angka kematian ibu dan anak, meningkatnya taraf hidup bagi lansia. Decrease in maternal and child mortality, rising living standards for the elderly.
Pengadaan sarana dan prasarana peternakan Procurement of livestock facilities and infrastructure	Sarana dan prasarana pendukung pertanian Agricultural support and infrastructure facilities	Peningkatan produktivitas pertanian dan peternakan untuk mewujudkan kemandirian petani. Increased agriculture and livestock productivity to achieve the independence of farmers.
Pengembangan UKM SME development	Ekonomi UMKM UMKM economics	Peningkatan pendapatan masyarakat rentan dan miskin di daerah terdampak dan meningkatnya pendapatan dan taraf hidup masyarakat. Increased income for vulnerable and poor communities in affected areas and increased income and living standards for the community.
Pembuatan dan perbaikan jalan tani Farmer road construction and repair	Sapas pendukung pertanian Agricultural Support facilities	Peningkatan pendapatan masyarakat rentan dan miskin di daerah terdampak dan meningkatnya pendapatan dan taraf hidup masyarakat. Increased income for vulnerable and poor communities in affected areas and increased income and living standards for the community.
Pelatihan keterampilan bagi Karang Taruna Skills training for Karang Taruna	Penguatan lembaga mitra Strengthening partner institutions	Sinergi dengan lembaga pemuda untuk peningkatan skill dan kecakapan hidup agar memudahkan dalam membuka lapangan kerja baru dan peningkatan taraf hidup bagi masyarakat. Synergy with youth institutions to improve skills and life skills to facilitate new job opportunities and improved living standards for the community.
Pembangunan sarana dan prasarana pendukung PAUD Development of facilities and infrastructure for early childhood support	Perluasan akses layanan pendidikan, peningkatan mutu dan daya saing pendidikan Expansion of access to education services, quality improvement and educational competitiveness	Terpenuhinya Target one village one PAUD di 4 kecamatan pemberdayaan. Meningkatnya kualitas layanan pendidikan sekolah PAUD yang telah ada. Fulfillment of empowerment target for one village one PAUD in 4 sub-districts. Increasing the quality of education services in existing PAUD schools.



PTPM Tahap 2 (2018-2022)

PTPM Phase 2 (2018-2022)



Pada tahun 2017, PT Vale menyusun rencana pelaksanaan PTPM tahap kedua yang akan dilaksanakan dalam kurun waktu 2018 – 2022 dan mengacu pada Permen ESDM No 41 Tahun 2016 tentang Pengembangan dan Pemberdayaan Masyarakat. Penyusunan rencana ini diawali dengan melakukan mengumpulkan usulan dan memfinalkan program PTPM untuk periode 2018-2022. Kegiatan ini dikelola oleh Tim Tiga Pilar yang terdiri oleh PT Vale, pemerintah daerah, dan masyarakat desa binaan.

PT Vale juga terus mensinergikan pelaksanaan PTPM pada Tahap kedua dengan prakarsa internasional, di antaranya Tujuan Pembangunan Berkelanjutan (SDGs). Hal ini menegaskan dukungan PT Vale pada upaya Pemerintah Indonesia untuk meningkatkan kesejahteraan penduduk melalui penerapan SDGs.

In 2017, PT Vale prepared the second phase for the PTPM plan to be implemented during 2018 - 2022 with reference to the Ministerial Regulation No. 41 of 2016 on Community Development and Empowerment. The preparation for this plan began by collecting proposals and finalizing the PTPM program for the period 2018-2022. This was managed by a Three Pillar Team consisting of PT Vale, local government, and the village community.

PT Vale also continued to synergize the execution of PTPM in Phase two with international initiatives, including Sustainable Development Goals (SDGs), confirming PT Vale's support for the Government of Indonesia's efforts to improve the welfare of the population through the implementation of SDGs.

Pendekatan Manajemen dan Penanganan Keluhan [103-2, 413-1, 413-2, MM7]

Selama kurun waktu periode pelaporan, Perusahaan menerima keluhan/pengaduan dari masyarakat setempat maupun pemangku kepentingan lain melalui Forum Masyarakat dan serangkaian pertemuan yang dilakukan Tim Tiga Pilar. Setiap keluhan/pengaduan yang diterima ditindaklanjuti PT Vale melalui Communications & External Affairs Department dengan berbagai metode pendekatan, guna mendapatkan solusi yang saling menguntungkan.

Management Approach and Handling of Complaints [103-2, 413-1, 413-2, MM7]

During the reporting period, the Company received complaints / violations reports from local communities, as well as other stakeholders through the Community Forum, and a series of meetings conducted by the Tiga Pilar Team. All complaints / violations received by PT Vale coming through the Communications & External Affairs Department used various approach methods, in order to receive a mutually beneficial solution.

Penyampaian Pendapat/Keluhan dan Tindak Lanjut Submission of Opinions / Complaints and Follow-up

Jenis Keluhan/Pengaduan Complaint / Violation Type	Lokasi Location	Tindak Lanjut Follow-up
Tidak Terkait Langsung Dengan Kegiatan Operasional Not Directly Related to Operational Activities		
<p>Pelajar di Desa Balambano menyampaikan keluhan penghentian operasional bus sekolah yang disediakan PT Vale</p> <p>Students in Balambano Village complained about the suspension of school bus operations provided by PT Vale</p>	Sorowako	<p>Dilakukan pertemuan dengan aparat desa sebagai perwakilan masyarakat/pelajar dan diputuskan perubahan mekanisme pengelolaan bus. Pengelolaan menggunakan mekanisme rental dengan menunjuk salah satu penyedia kendaraan bis.</p> <p>A meeting was held with village officials as community / student representatives and it was decided to change the bus management mechanism. Management using a rental mechanism by appointing one provider for bus vehicles.</p>
<p>Masyarakat Aliansi Masyarakat Lingkar Tambang menyampaikan keluhan perihal belum adanya realisasi dari PT Vale perihal empat belas butir kesepakatan tiga pilar yang ditandatangani pada 15 November 2016, dan permohonan penerimaan pekerja lokal.</p> <p>The Mine Circle Society Community Alliance submitted a complaint regarding the absence of any realization from PT Vale concerning the fourteen point three-pillar agreement signed on November 15, 2016, and the request for acceptance of local workers.</p>	Sorowako	<p>PT Vale berkomitmen akan memenuhi semua komitmen yang telah dibangun melalui kesepakatan sebelumnya termasuk kesepakatan 15 November 2016..</p> <p>PT Vale is committed to fulfill all commitments that have been built through prior agreements including the November 15, 2016 agreement.</p>
Terkait Langsung Dengan Kegiatan Operasional Related Directly With Operational Activities		
<p>Dampak dari kegiatan penambangan PT Vale menyebabkan Forum Masyarakat Tani (FMT) Kecamatan Towuti, Kabupaten Luwu Timur, menyampaikan keluhan terhadap mobilisasi peralatan penambangan PT Vale pada area Ferari yang diklaim sebagai milik petani dan warga.</p> <p>The impact of PT Vale mining activities caused the Farmers Community Forum (FMT) Towuti Sub-district, East Luwu Regency, to complain about the mobilization of PT Vale mining equipment in the area of Ferrari claimed to belong to farmers and residents.</p>	Sorowako	<p>PT Vale difasilitasi oleh pemerintah daerah melakukan penertiban area Ferari dengan mengacu kepada peraturan. Area Ferari masuk dalam kawasan kontrak karya PTVI. Pemerintah mengupayakan pembebasan kawasan hutan yang diperuntukan bagi aktivitas ekonomi masyarakat yang berada diluar wilayah kontrak karya.</p> <p>PT Vale facilitated by local government referring the Ferari area to the regulation. The Ferari area is included in PTVI's contract of work area. The Government is seeking the release of forest areas intended for the economic activities of communities that are outside the contract of work area.</p>
<p>Warga Dusun Labose, Desa Laskap, Kecamatan Malili, Kabupaten Luwu Timur menyampaikan keluhan ketidaksesuaian harga ganti rugi lahan mereka yang digunakan untuk jalur pipa minyak PT Vale.</p> <p>Residents from Labose Village, Laskap Village, Malili Sub-district, East Luwu Regency, complained of the compensation price of their land compensation used for the PT Vale oil pipeline.</p>	Sorowako	<p>Melalui Forum Tiga Pilar dan serangkaian pertemuan, sebuah tim appraisal akan ditunjuk untuk menentukan harga di area tersebut.</p> <p>Through the Three Pillar Forum and a series of meetings, an appraisal team will be appointed to determine the price in the area.</p>

Pada wilayah operasional PT Vale tidak ada aturan terkait masyarakat adat, dan Perusahaan juga tidak memiliki perjanjian formal dengan masyarakat adat manapun. Namun, PT Vale terus membangun komunikasi dengan masyarakat adat, dan menyertakan mereka dalam program pemberdayaan masyarakat terdampak di sekitar wilayah operasi Perusahaan. Ada beberapa masyarakat adat di sekitar wilayah operasi PT Vale, yakni Masyarakat Asli Sorowako, Masyarakat Adat Karonsi'e Dongi, Masyarakat Adat Padoe, Masyarakat Adat Matano, dan Masyarakat Adat Tambee. [MM5]

Selama tahun 2017 terdapat beberapa peristiwa menyangkut perselisihan lahan yang terjadi antara PT Vale dengan kelompok masyarakat. Beberapa peristiwa tersebut termasuk

In PT Vale's operational areas there are no indigenous peoples' customs, nor does the Company have any formal agreements with any indigenous peoples. However, PT Vale continues to build communications with the indigenous people, and includes them in community empowerment programs around the Company's operating areas. There are several indigenous people around PT Vale's operations area, namely the Sorowako, Karonsi'e Dongi, Padoe, Matano, and Tambee. [MM5]

During 2017 there were several events involving land disputes between PT Vale and the community. These included issues in Ferrari, Toni Terry, and Pakumanuk.

permasalahan lahan pada area Ferrari, Toni Terry, dan Pakumanuk. Dalam menangani permasalahan tersebut PT Vale bersama Pemerintah Daerah telah melakukan koordinasi dan sosialisasi dengan masyarakat sehingga kegiatan operasional Perusahaan bisa berjalan dengan baik. Selain itu, terdapat permasalahan lahan Songko yaitu adanya klaim dari masyarakat bahwa lokasi tersebut merupakan bagian dari pelepasan lahan Perumahan Sumasang yang dulunya difasilitasi oleh Pemda Luwu Utara, namun BPN telah menerbitkan sertifikat atas lahan tersebut, sehingga Perusahaan melaporkan kasus tersebut dan saat ini masih dalam penanganan polisi. [MM6]

In handling these problems, PT Vale together with the Local Government, coordinated and socialized with the community so that the Company's operational activities could run well. In addition, there was an issue at the Songko area claimed by the community that the location is part of the Sumasang land disposal, which was once controlled by the North Luwu Government, but BPN has issued a land certificate, so the Company reported the case and it is still being handling by the Police. [MM6]

Selain permasalahan lahan, terdapat permasalahan pipa minyak Labose yang melewati pemukiman masyarakat. Permasalahan yang terjadi karena masyarakat tidak sepakat dengan penawaran harga saat proses akuisisi lahan dan melakukan aksi penggalian pipa minyak. Namun atas bantuan kepolisian dan pemerintah daerah, PT Vale berhasil melakukan penutupan galian. [MM6]

In addition to land issues, there was a problem with the Labose oil pipeline passing through community settlements. The problem occurred as people did not agree with the price offered during the land acquisition process, and conducted a oil pipeline extraction action. But with the help of the police and local government, PT Vale succeeded in stopping the extraction. [MM6]

Selain itu, terdapat kasus dengan Masyarakat Karonsi'e Dongi terkait penyaluran listrik. Kasus tersebut hingga saat ini masih dalam tahap penyelesaian. Namun, hingga akhir periode pelaporan, tidak terjadi pemindahan pemukiman masyarakat setempat sebagai dampak dari kegiatan operasi pertambangan. Selain itu, tidak ada aktivitas penambangan ilegal atau pertambangan rakyat yang dilakukan oleh masyarakat di sekitar wilayah operasi PT Vale. [MM8][MM9]

In addition, there were cases with Karonsi'e Dongi Indigenous Peoples related to electricity distribution. The case is still under completion. However, until the end of the reporting period, there was no resettlement of local communities as a result of mining operations. In addition, there were no illegal mining activities or community mining conducted by communities around PT Vale's operations areas. [MM8] [MM9]



Program PMDM PT Vale di wilayah pemberdayaan di Luwu Timur mendapatkan perhatian pemerintah untuk menjalin kerjasama dalam mensinergikan pembangunan desa. Kementerian Desa, Pembangunan Daerah Tertinggal dan Transmigrasi (Kemendesa) mengunjungi PMDM selama dua hari pada bulan Desember 2017. Dari kunjungan tersebut, PMDM dinilai dapat dijadikan *good practices* penerapan UU Desa (UU No.6 Tahun 2014), sehingga PT Vale melakukan penandatanganan MoU dengan Kemendesa yang bertujuan mendorong pembangunan desa, dan memanfaatkan dana CSR untuk mendukung program pembangunan di desa. [MM5]

PT Vale's PMDM empowerment program in the area of East Luwu has received government attention in establishing cooperation in synergizing village development. The Ministry of Villages, Development of Disadvantaged Regions and Transmigration (Kemendesa) visited PMDM for two days in December 2017. From this visit, PMDM has been considered to be a good practice for the implementation of Village Law (UU No.6 Year 2014), so PT Vale signed an MoU with Kemendesa aimed at encouraging rural development, and utilizing CSR funds to support rural development programs. [MM5]



Kinerja Keberlanjutan Lingkungan: Pelestarian Lingkungan Berkelanjutan

Environmental Sustainability Performance:
Sustainable Environmental Conservation





PT Vale melaksanakan kegiatan operasional dengan mengedepankan upaya pencegahan dan menerapkan prinsip kehati-hatian. Tujuannya agar dampak terhadap lingkungan dapat dicegah atau diminimalkan. Perusahaan telah menerapkan pengelolaan lingkungan yang mengacu pada Vale *Integrated Management System* (IMS) yakni mekanisme yang berdasarkan prinsip kehati-hatian dalam mengelola dampak lingkungan, salah satunya dengan menerapkan manajemen risiko. Penjelasan lebih lengkap mengenai manajemen risiko bisa dilihat pada Laporan Tahunan PT Vale. [102-11]

Selain itu, Perusahaan melakukan pengelolaan lingkungan sejak dalam tahap perencanaan kegiatan operasional melalui penyusunan dokumen Analisis Mengenai Dampak Lingkungan (AMDAL). Setelah beroperasi, dilakukan pelaporan berkala setiap enam bulan melalui penyusunan Rencana Pemantauan Lingkungan (RPL) dan Rencana Pengelolaan Lingkungan (RKL). Setiap tahun PT Vale juga menyertakan pelaksanaan pengelolaan lingkungan dalam penilaian PROPER oleh Kementerian Lingkungan Hidup dan Kehutanan RI. Pada tahun 2017, PT Vale memperoleh PROPER Biru. [102-11]

Komitmen PT Vale untuk mengelola lingkungan juga diwujudkan dengan alokasi biaya lingkungan. Realisasi biaya lingkungan pada tahun 2017 mencapai AS\$16,3 juta. Jumlah tersebut naik 101,2% dibanding tahun 2016 sebesar 8,1 juta US\$. Hal ini disebabkan adanya penggantian alat penangkap debu berupa electrostatic precipitator (ESP) pada tanur pereduksi No. 4 untuk memastikan pemenuhan baku mutu emisi yang lebih ketat pada tahun 2019.

Ada beberapa hal yang menjadi perhatian PT Vale dalam mengelola lingkungan dan menjadi topik pelaporan, yakni pengendalian emisi terutama emisi SO₂, pemanfaatan energi dan pengembangan energi alternatif, pengelolaan dan pengolahan limbah, serta rehabilitasi lahan dan reklamasi pascatambang. Kesungguhan Perusahaan dalam mengelola lingkungan telah membuahkan penghargaan Aditama (Emas), yakni penghargaan tertinggi dalam Pengelolaan Lingkungan Pertambangan dari Kementerian ESDM untuk tahun 2015 dan 2016.

PT Vale carried out operational activities by prioritizing prevention efforts and applying prudential principles. The goal is that any impact on the environment can be prevented or minimized. The Company has implemented environmental management that refers to the Vale Integrated Management System (IMS), a prudent mechanism for managing environmental impact, by implementing risk management. A fuller explanation of risk management can be seen in PT Vale's Annual Report. [102-11]

In addition, the Company conducts environmental management in the planning stage for its operational activities through the preparation of an Environmental Impact Analysis (AMDAL) document. After operations, periodic reporting is conducted every six months through the preparation of an Environmental Monitoring Plan (RPL) and an Environmental Management Plan (RKL). Every year PT Vale also includes its environmental management in the assessment for PROPER by the Ministry of Environment and Forestry of the Republic of Indonesia. In 2017, PT Vale earned a Blue PROPER award. [102-11]

PT Vale's commitment to manage the environment is also realized with the allocation of environmental costs. Environmental costs in 2017 reached US\$16.3 million. The number is up 101.2% compared to US\$8.1 million in 2016. This was due to the replacement of a dust-catching device in the form of an electrostatic precipitator (ESP) in the reduction kiln No. 4 to ensure compliance with stricter emissions standards by 2019.

There are several matters that concern PT Vale in managing the environment and they become the topic of reporting, i.e. emission control, especially SO₂ emissions, energy utilization and alternative energy development, waste management and processing, and land rehabilitation and post-mining reclamation. The Company's seriousness in managing the environment earned it Aditama (Gold) awards, the highest award in Mining Environmental Management from the ESDM Ministry, in 2015 and 2016.

PT Vale memiliki rencana manajemen keanekaragaman hayati yang mencakup seluruh (100%) wilayah operasi pertambangan kami. Rencana ini tertuang dalam Persetujuan 188.4/66/II/BAPEDALDA. [MM2]

PT Vale has a biodiversity management plan that covers all (100%) of our mining operations areas. This plan is included in the 188.4/66/II/BAPEDALDA Agreement. [MM2]

Kegiatan operasional PT Vale memberikan dampak positif dan dampak negatif terhadap lingkungan hidup sekitar terutama upaya peningkatan daya dukung ekosistem. Perusahaan melakukan beberapa upaya menanggulangi dampak negatif terhadap lingkungan hidup.

PT Vale's operational activities provide positive impacts and negative impacts to the surrounding environment, especially efforts to increase the carrying capacity of ecosystems. The Company has made several efforts to overcome the negative impact on the environment.

Upaya Penanggulangan Dampak Negatif Lingkungan Hidup Efforts to Address Environmental Negative Impacts

Dampak Teridentifikasi Identified Impact	Sumber Dampak Impact Resource	Strategi Penanggulangan Dampak Impact Reduction Strategies
PENURUNAN KUALITAS UDARA: AIR QUALITY DECLINE: Total Suspended Particulate (TSP)	Operasional peralatan Penambangan Mining equipment operations	<ul style="list-style-type: none"> Menyiram jalan tambang secara berkala pada jalan-jalan tidak beraspal Menanam pohon di daerah tambang untuk mengurangi debu yang mengarah ke daerah pemukiman Watering the mine roads periodically on unpaved roads Planting trees in mining areas to reduce dust that enters residential areas
FISIOLOGI/ MORFOLOGI ALAM: PHYSIOLOGY / NATURAL MORPHOLOGY: Bentang Alam Landscape	Pengupasan dan penempatan tanah penutup Overburden stripping and placement	<ul style="list-style-type: none"> Mengoptimalkan rencana tambang berdasarkan kriteria kestabilan lereng Mengatur kontur lokasi penempatan tanah penutup untuk memastikan stabilitas lereng jangka panjang Menyebarkan tanah pucuk di lokasi penempatan akhir tanah penutup untuk reklamasi Optimizing the mine plan based on slope stability criteria Adjusting the contours of the land cover locations to ensure long-term slope stability Spreading the top soil at the end as land cover for reclamation
TANAH: LAND: Erosi Tanah Soil Erosion	<ul style="list-style-type: none"> Pembukaan lahan Pengupasan dan penempatan tanah pucuk dan tanah penutup Penggalian biji nikel Reklamasi lahan purna-tambang Land clearing Removal and placing of top soil and cover soil Nickel ore excavation Post-mining land reclamation 	<ul style="list-style-type: none"> Meminimalkan luas pembukaan lahan hanya pada lahan yang diperlukan untuk kegiatan Melindungi lokasi penimbunan tanah pucuk dengan pembuatan guludan (<i>berm</i>) dan penanaman tanaman penutup tanah (<i>cover crops</i>) Minimizing the extent of land clearing only for the land required for activities Protecting the landfill site by bundling (<i>berm</i>) and planting cover crops
KUALITAS AIR PERMUKAAN: SURFACE WATER QUALITY: Padatan Tersuspensi Total Total Suspended Solid/TSS	<ul style="list-style-type: none"> Pembukaan lahan Pengupasan dan penempatan tanah pucuk dan <i>overburden</i> Land clearing Removal and placing of top soil and cover soil 	<ul style="list-style-type: none"> Membangun dan mengoperasikan kolam-kolam sedimentasi di daerah tambang yang masih aktif dan tambang tidak aktif Menutup material kerukan dengan tanah penutup untuk menghindarkan terjadinya resuspensi Building and operating sedimentation ponds in active mining areas and inactive mines Closing dredged material with top soil to avoid resuspension
KEANEKARAGAMAN HAYATI: BIODIVERSITY: Flora dan Fauna Flora and Fauna	<ul style="list-style-type: none"> Seluruh kegiatan penambangan PT Vale dan kegiatan fasilitas pendukung lainnya All mining activities of PT Vale and other supporting facilities activities 	<ul style="list-style-type: none"> Melakukan studi keanekaragaman hayati sebelum kegiatan penambangan Menyediakan bibit-bibit tanaman jenis tanaman lokal langka di fasilitas pembibitan (<i>nursery</i>) Conducting biodiversity studies prior to mining activities Providing seedlings of rare local plant species at nursery facilities

Pengendalian Emisi Emissions Control

Pengungkapan Manajemen [103-2, 103-3] Management Disclosure



Kebijakan:

- Peraturan Menteri Lingkungan Hidup No.4 Tahun 2014 Tentang Baku Mutu Emisi Sumber Tidak Bergerak Bagi Usaha dan/atau Kegiatan Pertambangan.

Policy:

- Minister of Environment Regulation No. 4 of 2014 regarding the Quality Standards for Immovable Emission Sources for Business and / or Mining Activities.



Komitmen:

- Reduksi emisi SO₂
Realisasi kadar Emisi SO₂ tahun 2017: 0,75 dari target 0,86

Commitment:

- SO₂ emission reduction.
Realization of SO₂ emission levels in 2017: 0.75 of target 0.86



Inisiatif Khusus Tahun 2017:

- Melakukan efisiensi penambahan sulfur cair.
- Melakukan pemantauan estimasi emisi SO₂ berdasarkan neraca massa untuk interval waktu harian dan mingguan.
- Membuat sistem pencatatan timbangan secara *online* material curah Sulfur, Batubara dan Silica untuk memudahkan pengontrolan pengiriman dan meningkatkan akurasi laporan.
- Perusahaan tidak melakukan karbon *offset*.

2017 Special Initiatives:

- Perform efficient addition of liquid sulfur.
- Monitor SO₂ emissions estimates based on the mass balance for daily and weekly time intervals.
- Create an online weighing system for Sulfur, Coal and Silica bulk material to facilitate the control of shipping and improve report accuracy.
- The Company does not conduct carbon *offset*.



Sumber Daya:

- Fasilitas *electrostatic precipitator* (ESP)
- Fasilitas laboratorium pemantau dan pengukur kualitas emisi

Resources:

- Electrostatic precipitator (ESP) facilities
- Emergency monitoring and measurement laboratory facilities



Penanggung Jawab:

- Departemen *Environmental, Health and Safety* (EHS) dan diawasi Chief Operating Officer.

Person in Charge:

- Environmental, Health and Safety (EHS) Department supervised by Chief Operating Officer.

Pengendalian Emisi SO₂ [305-7]

SO₂ merupakan jenis emisi yang relevan dengan kegiatan Perusahaan. Emisi SO₂ berpotensi menimbulkan polusi dan hujan asam, yang dapat mengganggu kesehatan makhluk hidup maupun ekosistem. Emisi SO₂ bersumber dari pemanfaatan sulfur murni serta pemakaian bahan bakar dan batubara.

Penghitungan emisi SO₂ ditentukan berdasarkan Peraturan Menteri Lingkungan Hidup No.4 Tahun 2014 Tentang Baku Mutu Emisi Sumber Tidak Bergerak Bagi Usaha dan/atau Kegiatan Pertambangan. Penghitungan emisi dinyatakan dalam neraca massa, dengan menentukan intensitas emisi melalui perbandingan berat SO₂ yang diemisikan dengan berat produk yang dihasilkan. Penghitungan emisi SO₂ dinyatakan dalam satuan kg/kg Ni.

Selama tahun 2017 PT Vale melakukan beberapa upaya untuk mengendalikan emisi SO₂. Perusahaan memastikan kadar emisi SO₂ telah memenuhi ambang batas baku mutu yang ditetapkan Pemerintah sebesar 0,86 kg/kgNi.

Upaya Strategis Mengendalikan Emisi SO₂ Strategic Efforts to Control SO₂ Emissions

Upaya Strategis Strategic Effort	Lokasi Location
Mengganti bahan bakar HSFO dengan batubara yang mempunyai kadar sulfur lebih rendah Replace HSFO fuel with coal with a lower sulfur content	Tanur Pengering dan Tanur Pereduksi No. 3 Drying and reduction kilns No. 3
Melanjutkan uji coba sulfur online balance untuk meningkatkan kualitas pengendalian penambahan sulfur cair Continue online sulfur balance test to improve control quality of liquid sulfur addition	Tanur Pereduksi No. 5 Reduction kiln No. 5
Memasang CEMS (Continuous Emission Monitoring System) Install CEMS (Continuous Emission Monitoring System)	Tanur Pereduksi No.4 dan No. 5 Reduction kiln No. 4 and No. 5

SO₂ Emission Control [305-7]

SO₂ is a type of emission that is relevant to the Company's activities. SO₂ emissions have the potential to cause pollution and acid rain, which can disrupt the health of living things and ecosystems. SO₂ emissions are sourced from the use of pure sulfur and the use of fuel and coal.

SO₂ emission calculation is determined based on Regulation of the Minister of Environment No. 4 of 2014 concerning the Quality Standard of Immovable Sources of Emissions for Business and / or Mining Activities. The emission calculation is expressed as a mass balance, by determining the intensity of the emission through the weight ratio of SO₂ emitted by the weight of the resulting product. The SO₂ emission calculation is expressed in kg / kg Ni.

During 2017 PT Vale made several attempts to control SO₂ emissions. The Company ensures that SO₂ emission levels have met the quality standard limits set by the Government of 0.86 kg /kgNi.

Hasil Pengukuran Intensitas Emisi SO₂ (Scope 1) [305-7] SO₂ Emission Intensity Measurement Results (Scope 1)

Uraian Description	Satuan Unit	2017	2016	2015
Jumlah Produksi Nikel Total Nickel Production	Ton Ton	76,809	77,581	81,177
Jumlah Emisi SO ₂ Total SO ₂ Emissions	Ton Ton	57,224.77	55,456.00	63,990.92
Intensitas Emisi Emissions Intensity	kg/kg Ni kg/kg Ni	0.74	0.72	0.79
Baku Mutu Quality Standards		0.86	0.86	0.86
Keterangan Information		Memenuhi baku mutu Meets Quality Standards	Memenuhi baku mutu Meets Quality Standards	Memenuhi baku mutu Meets Quality Standards

Pengendalian Partikulat [305-7]

Selama kurun waktu periode pelaporan, PT Vale melakukan pemantauan dan pengukuran secara berkala untuk mengetahui konsentrasi partikulat. Selain dapat berpengaruh negatif terhadap kesehatan, partikulat juga dapat mengganggu daya tembus pandang mata dan memicu berbagai reaksi kimia di udara.

Pengukuran konsentrasi partikulat dilakukan sesuai USEPA Method 5. Nilai baku mutu partikulat adalah 0,22 mg/Nm³. Dari hasil pengukuran diketahui konsentrasi partikulat yang dihasilkan selama tahun 2017 telah memenuhi baku mutu yang ditetapkan Pemerintah.

Hasil Pengukuran Intensitas Partikulat [305-7]

Particulate Intensity Measurement Results

Uraian Description	Satuan Unit	2017	2016	2015
Jumlah Produksi Nikel Total Nickel Production	Ton Ton	76,809	77,581	81,177
Volume Konsentrat Partikulat Particulate Concentrate Volume	Ton Ton	1,802	2,238	2,694
Intensitas Konsentrat Partikulat Particulate Concentrate Intensity	Mg/Nm ³ Mg/Nm ³	0.019	0.029	0.033
Baku Mutu Quality Standards		0.22	0.22	0.22
Keterangan Information		Memenuhi baku mutu Meets Quality Standards	Memenuhi baku mutu Meets Quality Standards	Memenuhi baku mutu Meets Quality Standards

Particulate Control [305-7]

During the reporting period, PT Vale conducted periodic monitoring and measurement to determine particulate concentrations. In addition to negatively affecting health, particulates can also interfere with the visibility of the eyes, and trigger various chemical reactions in the air.

The particulate concentration measurement was carried out according to USEPA Method 5. The particulate quality standard value was 0.22 mg / Nm³. From the measurement result, it can be seen that the particulate concentrate produced during 2017 has fulfilled the quality standard set by the Government.



Pemanfaatan Energi dan Pengembangan Energi Alternatif Energy Use and Alternative Energy Development

Pengungkapan Manajemen [103-2, 103-3] Management Disclosure

Kebijakan:

- Mengembangkan Sistem Manajemen Energi yang terintegrasi dengan sistem bisnis lain untuk menilai, mengukur, dan mengelola penggunaan energi.
- Memanfaatkan teknologi hemat energi yang layak finansial
- Mengaudit, menilai, dan melaporkan secara rutin kepada manajemen mengenai implementasi kebijakan.
- Kebijakan pemerintah untuk meningkatkan pemakaian bahan bakar nabati yang tertuang dalam Permen ESDM No.15 Tahun 2015.
- Kebijakan pemerintah untuk konservasi energi yang tertuang dalam Permen SDM No.14 Tahun 2012 Tentang Manajemen Energi.

Policy:

- Develop an Integrated Energy Management System with other business systems to assess, measure, and manage energy use.
- Utilize energy-saving technologies that are financially feasible
- Audit, assess, and report regularly to management on policy implementation.
- Government policy to increase the use of biofuels as stated in ESDM Ministerial Regulation No.15 of 2015.
- Government policy for energy conservation as stated in HRM No.14 Year 2012 About Energy Management.

Komitmen:

- Efisiensi energi dan pengembangan energi alternatif.
Realisasi efisiensi energi tahun 2017: 0,43% dari target 1% efisiensi energi.

Commitment:

- Energy efficiency and alternative energy development.
Realization of energy efficiency in 2017: 0.43% of target 1% energy efficiency.

Inisiatif Khusus Tahun 2017:

- Melanjutkan Program *Coal Conversion* pada Tanur No.2.
- Melakukan Program *Continuous Improvement*.
- Melaksanakan *Core Data Q System* untuk menurunkan pemakaian bahan bakar pada alat berat.
- Penggantian lampu LED.
- Melakukan energi audit.

2017 Special Initiatives:

- Continuing the Coal Conversion Program on Plant No.2.
- Conducting Continuous Improvement Program.
- Implementing Core Data Q System to reduce fuel consumption in heavy equipment.
- Replacing LED lamps.
- Conducting energy audit.

Sumber Daya:

- Tiga unit pembangkit listrik tenaga air (PLTA), total kapasitas 365 MegaWatt.
- Pembangkit termal berbahan bakar minyak kapasitas 70 MegaWatt.

Resources:

- Three hydroelectric power plant units (PLTA), total capacity of 365 MegaWatt.
- 70 MegaWatt thermal oil-fired generator.

Penanggung Jawab:

- Departemen *Maintenance and Facilities* dan diawasi Chief Operating Officer.

Person in Charge:

- Maintenance and Facilities Department supervised by Chief Operating Officer.





Konsumsi Energi

Energi yang dikonsumsi berupa energi listrik bersumber dari pembangkit listrik milik PT Vale. Selain itu PT Vale juga memanfaatkan energi bersumber dari bahan bakar fosil, yakni batubara, *high speed sulfur oil* (HSFO), *high speed diesel* (HSD) dan bensin.

Sampai dengan akhir periode pelaporan, PT Vale mengoperasikan dua jenis pembangkit listrik:

- Pembangkit listrik tenaga air (PLTA), yang termasuk energi terbarukan.
- Pembangkit termal berbahan bakar minyak, yang tidak termasuk energi terbarukan.

Penghitungan konsumsi energi dalam Laporan ini meliputi pemakaian energi di lingkungan PT Vale, termasuk energi yang digunakan alat-alat berat yang dioperasikan kontraktor. Penghitungan energi dilakukan dengan metode penjumlahan volume sumber energi yang digunakan, dan kemudian dikonversi dalam satuan energi (gigajoule atau GJ). Konversi yang digunakan PT Vale menggunakan konversi International Energy Agency (IEA). [302-1]

Secara umum total konsumsi energi pada tahun 2017 sebesar 26.381.630 GJ, turun 0,43 % dibanding tahun 2016 sebanyak 26.500.702 GJ. Hal ini disebabkan penggunaan energi dari hydro dan menurunnya pemakaian bahan bakar untuk pembangkitan listrik di termal yang menggunakan bahan bakar.

Energy Consumption

Energy consumed in the form of electrical energy is sourced from PT Vale power plants. In addition PT Vale also utilizes energy sourced from fossil fuels, namely coal, high speed sulfur oil (HSFO), high speed diesel (HSD) and gasoline.

Up to the end of the reporting period, PT Vale operated two types of power plants:

- Hydroelectric power plant (PLTA), which includes renewable energy.
- Thermal oil-fired generators, which do not include renewable energy.

The calculation of energy consumption in this Report includes the use of energy in PT Vale environments, including energy used by contractor-operated heavy equipment. Energy calculation was conducted by summing up the volume of energy source used, and then converted into units of energy (gigajoule or GJ). Conversions used by PT Vale use international conversions. [302-1]

In general, total energy consumption in 2017 amounted to 26,381,630 GJ, down 0.43% compared to 26,500,702 GJ in 2016. This was due to the use of energy from hydro, and decreased use of fuel for thermal electricity generation.

Volume Pemakaian Energi di Dalam Organisasi (GJ) [302-1]

Energy Usage Volumes within the Organization (GJ)

Sumber Energi Energy Sources	Peruntukan Allotment	2017	2016	2015
Energi Tidak Terbarukan Non-renewable Energy				
Batubara Coal	Tanur pembakar Firing Kilns	4,355,610	4,687,359	5,363,150
High Speed Diesel HSD	Kendaraan berat Heavy vehicle	2,909,845	2,967,140	3,298,526
High Sulfur Fuel Oil* HSFO	<ul style="list-style-type: none"> • Tanur Pembakar • Tanur Pemanas • Firing Kilns • Heating Kilns 	9,916,302	9,781,775	10,537,303
Bensin Gasoline	Kendaraan Ringan Light Vehicles	14,343	15,158	17,346
HSD (PLTD) untuk Pembangkit Thermal Diesel Power Plant	Listrik untuk pabrik pengolahan Electricity for processing plants	5,248	56,590	**205,909
Energi Terbarukan Renewable Energy				
PLTA Hydroelectric Power Plant	Listrik untuk pabrik pengolahan Electricity for processing plants	9,194,231	9,004,921	9,117,241
Jumlah Total		26,395,760	26,512,944	28,544,057

Keterangan:

* Perhitungan yang disajikan tidak termasuk pemanas

Note:

* Calculation presented excluded boiler

PT Vale menyalurkan listrik yang bersumber dari PLTA ke PT PLN dengan pembayaran harga yang disepakati untuk didistribusikan kepada masyarakat.

PT Vale delivers electricity from hydroelectric power plant to PT PLN with an agreed price payment to be distributed to the public.

Volume Penjualan Energi (GJ)

Energy Sales Volume (GJ)

Sumber Energi Energy sources	Peruntukan Allotment	2017	2016	2015
PLTA (melalui PLN) PLTA (through PLN)	Listrik untuk komunitas Electricity for the community	14,130	12,242	8,236

Efisiensi Energi

Pencapaian kinerja energi tidak terlepas dari kebijakan PT Vale untuk terus melakukan efisiensi energi dan mengoptimalkan pemakaian energi. Memasuki kurun waktu periode pelaporan, Perusahaan meneruskan pelaksanaan proyek konversi batubara (CPP) tahap kedua.

Proyek CPP mengganti pemakaian HSFO dengan batubara, sebagai sumber energi dalam proses produksi nikel dalam *matte*. Pelaksanaan CPP 1 dan CPP 2 telah dapat mengurangi pemakaian HSFO sehingga berdampak pada penghematan biaya pembelian HSFO. Total HSFO yang dapat dihemat pada tahun 2017 mencapai 992.565 barrel.

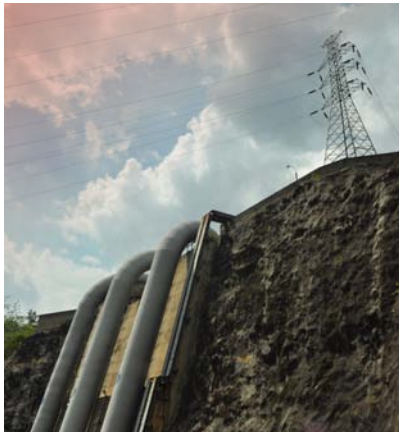
PT Vale juga memaksimalkan kapasitas PLTA agar dapat memasok lebih banyak kebutuhan listrik untuk proses produksi nikel dalam *matte*. Perusahaan berhasil mengurangi operasional pembangkit termal berbahan bakar minyak, sehingga penggunaan bahan bakar HSD dapat dikurangi. Total HSD yang dapat dihemat pada tahun 2017 mencapai 1,47 juta barrel.

Energy Efficiency

Achieving energy performance can not be separated from PT Vale's policy to continue to be energy efficient and to optimize energy consumption. During the reporting period, the Company proceeded with the second phase of its coal conversion project (CPP).

The CPP project replaces the use of HSFO with coal, as an energy source in the production of nickel in *matte*. The implementation of CPP 1 and CPP 2 has reduced the use of HSFO with an impact on cost savings for purchasing HSFO. Total HSFO saved in 2017 reached 992,565 barrels.

PT Vale also maximizes the hydroelectric power plant capacity in order to supply more electricity needed for the nickel in *matte* production process. The company succeeded in reducing the operation of thermal oil-fired generators, so that the use of HSD fuels could be reduced. Total HSD saved in 2017 reached 1.47 million barrels.



Volume Pemakaian Batubara, HSFO dan HSD
Coal, HSFO and HSD Volume Usage

Sumber Energi Energy Sources	Satuan Unit	2017	2016	2015	Δ%	Δ%
		1	2	3	1:2	2:3
Batubara Coal	DMT	184,610	198,671	227,314	(7.1)	(12.6)
HSFO	Barrel	1,630,184	1,608,068	1,723,273	1.4	(6.7)
HSD	Barrel	74,803,210	76,276,101	84,795,023	(1.9)	(10.0)

Selama kurun waktu tahun 2017, PT Vale juga menjalankan beberapa upaya lain untuk mendukung kebijakan efisiensi energi:

- Melakukan audit energi
- Penghematan bahan bakar pada truk
- Penggantian lampu-lampu yang rendah watt
- Pemasangan timer atau relay otomatis untuk on/off lampu diluar ruangan

During 2017, PT Vale also undertook several other measures to support its energy efficiency policy:

- Conducted energy audits
- Fuel savings on trucks
- Changed lamps to low wattage
- Installed automatic timers or relays for on/off lights outside the room

Biaya Produksi

Total biaya energi tahun 2017 merupakan 28% dari komponen biaya produksi nikel dalam *matte*. Upaya efisiensi yang dilakukan PT Vale sepanjang tahun 2017 telah mampu mempertahankan biaya produksi nikel dalam *matte* menjadi AS\$623 juta. Nilai tersebut lebih tinggi 14% dibanding tahun 2016 sebesar AS\$548 juta.

Biaya Produksi Nikel Dalam *Matte* Per Ton Nickel In Matte Production Costs Per Ton

Komponen Biaya Produksi Production Cost Component	2017		2016		2015	
	Biaya AS\$ Juta Cost Million USD	%	Biaya AS\$ Juta Cost Million USD	%	Biaya AS\$ Juta Cost Million USD	%
BBM dan Pelumas Fuel and Lubricants	127	20	95	17	153	23
Bahan Pembantu Indirect Materials	112	18	141	26	155	23
Biaya Depresiasi, Amortisasi, dan Deplesi Depreciation, Amortization, and Depletion Cost	127	20	123	23	121	18
Lainnya Others	257	41	188	34	235	36
Jumlah Total	623	100	548	100	664	100

Production Costs

The total energy cost in 2017 represented 28% of the nickel in *matte* production costs. Efficiency efforts by PT Vale throughout 2017 have helped keep the nickel in *matte* production cost to US\$623 million. This amount was 14% higher than the US\$548 million in 2016.

Intensitas Energi

Total pemakaian energi untuk setiap ton produksi nikel dalam *matte* atau intensitas energi pada tahun 2017 mencapai 347,23 GJ/ton. Nilai tersebut lebih tinggi 1,6% dibanding tahun 2016 sebesar 343,36 GJ/ton. Hal ini disebabkan jumlah produksi nikel yang berkurang dari tahun 2016.

Energy Intensity

Total energy consumption for every ton of nickel in *matte* production, or energy intensity, in 2017 reaches 347.23 GJ / ton. This amount is 1.6% higher than 343.36 GJ / ton in 2016. This was due to the decrease in nickel production from 2016.



Hasil Pengukuran Intensitas Energi Energy Intensity Measurement Results

Uraian Description	Satuan Unit	2017	2016	2015
Jumlah Produksi Nikel Total Nickel Production	Ton Ton	76,807	77,581	81,177
Jumlah Energi Terpakai Total Energy Used	GJ GJ	26,409,890	26,525,286	28,522,293
Intensitas Energi Energy Intensity	GJ/ton GJ/ton	343.83	341.9	351.73

Pengembangan Energi Terbarukan

PT Vale telah memanfaatkan PLTA yang termasuk sebagai energi terbarukan. Ada tiga unit PLTA yang dioperasikan Perusahaan di sepanjang Sungai Larona. PLTA pertama adalah PLTA Larona yang dioperasikan sejak tahun 1979, disusul PLTA Balambano tahun 1999 dan PLTA Karebbe tahun 2011. Total kapasitas terpasang ketiga unit PLTA tersebut adalah 365 megawatt (MW).

Selama tahun 2017 volume pemakaian energi yang bersumber dari listrik PLTA mencapai 9.194.231 GJ, atau sekitar 34,8% dari total konsumsi energi pada tahun 2017. Volume pemakaian energi bersumber dari listrik PLTA naik dibanding tahun 2016 sebesar 9.004.921,51 GJ atau 33,9% dari total konsumsi energi. Penyebabnya adalah kondisi air di danau yang sangat mencukupi di tahun 2017. [302-1]

Renewable Energy Development

PT Vale uses hydroelectric power plant which is included as renewable energy. There are three hydroelectric power plant units operated by the Company along the Larona River. The first hydroelectric power plant was the Larona hydroelectric power plant, operated since 1979, followed by Balambano hydroelectric power plant in 1999 and the Karebbe hydroelectric power plant in 2011. The total installed capacity of the three units is 365 megawatts (MW).

During 2017 the volume of energy usage generated from hydroelectric power plant reached 9,194,231 GJ, or about 34.8% of total energy consumption in 2017. The volume of energy consumption sourced from hydroelectric power plant saw an increase from 9,004,921,51 GJ in 2016 or 33.9% of total energy consumption. The reason was due to the water in the lake being sufficient in 2017. [302-1]

Pemanfaatan Energi Bersumber dari Listrik PLTA [302-1]

Energy Utilization Sourced from Hydroelectric Power



Tahun Year	Pemakaian Daya Listrik (MWH) Power Consumption (MWH)			Pemakaian Energi (GJ) Energy Consumption (GJ)		
	Sumber PLTA PLTA Resource	Total Total	%	Sumber PLTA PLTA Resource	Total Total	%
2017	2,553,953	2,553,953	100	9,194,231	9,194,231	100
2016	2,501,367	2,501,367	100	9,004,921	9,004,921	100
2015	2,532,567	2,532,567	100	9,117,242	9,111,242	100

Selain memenuhi pasokan listrik sebagai sumber energi, pengoperasian PLTA juga mendatangkan manfaat lain, yaitu menggantikan pemakaian energi dari HSFO dan HSD, sehingga mengurangi konsumsi HSFO dan HSD.

Pengoperasian PLTA secara tidak langsung akan mengurangi emisi CO₂ yang dihasilkan. Emisi CO₂ termasuk gas rumah kaca, yang berpotensi memicu perubahan iklim. Penghitungan total reduksi emisi CO₂ dilakukan dengan menggunakan metode perhitungan yang menggunakan tabel konversi sesuai ketentuan KLH dan tahun *baseline* 2010. Total reduksi emisi CO₂ dari operasional PLTA mencapai 500.000 Ton CO₂eq per tahun (scope 1). [305-5]

In addition to meeting the electricity needs as a source of energy, the hydroelectric power plant operations also has other benefits, namely replacing the usage and consumption of HSFO and HSD.

Hydroelectric power plant operations will indirectly reduce CO₂ emissions generated. CO₂ emissions include greenhouse gases, which could potentially trigger climate change. The calculation of total CO₂ emission reduction uses a calculation method using conversion tables according to KLH regulations and the baseline year 2010. Total CO₂ emission reduction from hydroelectric power plant operation reached 500.000 Ton CO₂eq per year (scope 1). [305-5]

Tahun 2017 PT Vale juga melanjutkan program penggunaan biodiesel, yakni pencampuran bahan bakar diesel dengan bahan bakar nabati (BBN) berupa *Fatty Acid Methyl Ester* (FAME) dengan konsentrasi 15%. Program biodiesel secara langsung mengurangi pemakaian bahan bakar diesel dan menjadi bentuk dukungan pada program Pemerintah untuk menjadikan biodiesel sebagai sumber energi alternatif.

Biodiesel umumnya digunakan untuk kendaraan ringan operasional PT Vale. Total volume pemakaian biodiesel sepanjang tahun 2017 mencapai 74,8 juta liter. Jumlah tersebut berkurang dibanding tahun 2016 yang mencapai 76,8 juta liter. Hal ini disebabkan pemakaian diesel untuk pembangkitan Thermal berkurang dari tahun sebelumnya.

Pengembangan energi alternatif lain yang dilakukan PT Vale dalam kurun waktu periode pelaporan adalah memenuhi kebutuhan energi untuk proses produksi nikel dalam matte dari pemanfaatan pembangkit listrik tenaga air (PLTA) dan biodiesel.

In 2017 PT Vale also continued the biodiesel usage program, which mixes diesel fuel with biofuel (BBN) in the form of *Fatty Acid Methyl Ester* (FAME) with a 15% concentration. The biodiesel program directly reduces diesel fuel consumption and is a form of support for Government programs to make biodiesel an alternative source of energy.

Biodiesel is generally used for PT Vale's light vehicle operations. Total biodiesel consumption throughout 2017 reached 74.8 million liters, a reduction from 76.8 million liters in 2016. This was due to Thermal generation diesel usage decreasing from the previous year.

Alternative energy development by PT Vale in the reporting period was to meet the energy needs for the nickel in matte production process from the utilization of hydroelectric power plant (PLTA) and biodiesel.



Pengelolaan dan Pengolahan Limbah Waste Management and Processing

Pengungkapan Manajemen [103-2, 103-3] Management Disclosure



Kebijakan:

- Peraturan Pemerintah No.101/2014 Tentang Pengelolaan Limbah Bahan Berbahaya dan Beracun
- Peraturan Menteri Lingkungan Hidup No. 9 Tahun 2006 Tentang Baku Mutu Air Limbah bagi Usaha dan/atau Kegiatan Pertambangan Bijih Nikel

Policy:

- Government Regulation No.101/2014 on the Management of Hazardous and Toxic Waste
- Minister of Environment Regulation No. 9 of 2006 concerning Wastewater Quality Standard for Business and / or Nickel Ore Mining Activities

Komitmen:

- Mengurangi limbah barang berbahaya dan beracun (B3) maupun bukan B3
- Mencegah dampak pencemaran dari limbah B3 maupun bukan B3

Commitment:

- Reducing dangerous and toxic goods waste (B3) and not B3
- Preventing the impact from B3 waste or non B3 waste pollution

Realisasi volume pengelolaan limbah padatan:

- Volume limbah padatan bukan B3 tahun 2017 10.452 ton, turun/naik 47% dibanding volume tahun 2016 sebesar 19.858 ton
- Volume limbah padatan B3 tahun 2017 4.181.902 ton, turun 8% dibanding volume tahun 2016 sebesar 4.525.305 ton seluruhnya telah dapat dikelola baik oleh PT Vale maupun bekerjasama dengan pihak ketiga

Actual volume of solid waste management:

- The volume of non-B3 solid waste in 2017 was 10,452 tons, down 47% compared to 2016 volume of 19,858 tons
- The volume of B3 solid waste in 2017 was 4,181,902 tons, down 8% compared to the volume of 2016 amounted to 4,525,305 tons, all of which could be managed either by PT Vale or in cooperation with third parties



Inisiatif Khusus Tahun 2017:

- Pemanfaatan kembali tanah pucuk dan *overburden* dalam kegiatan reklamasi dan pascatambang
- Pemanfaatan kembali *furnace slag* sebagai pengeras jalan tambang
- Pemanfaatan kembali oli dan lemak bekas sebagai tambahan bahan bakar pada unit *dryer* dan klin, pengolahan bijih nikel.

2017 Special Initiatives:

- Utilization of top soil and overburden land in reclamation and post-mining activities
- Reuse of furnace slag as a mine hardener
- Recycling of used oil and grease in addition to fuel in the nickel ore processing drying and kiln units.



Sumber Daya:

- Tempat penampungan sampah (TPS) limbah B3 dan Non B3
- Fasilitas pengolahan limbah bukan B3
- Kolam pengendapan untuk limbah cair (*effluent*) berkapasitas 3,5 juta m³

Resources:

- Waste storage (TPS) waste B3 and Non B3 waste
- Non-B3 waste treatment facilities
- Settlement ponds for effluent with a capacity of 3.5 million m³



Penanggung Jawab:

- Fungsi HSE dan diawasi oleh Direktur EHS

Person in Charge:

- HSE function supervised by EHS Director



Kegiatan operasi penambangan bijih nikel dan proses produksi nikel dalam *matte* menghasilkan limbah yang berpotensi mencemari lingkungan sehingga harus dikelola dan diolah dengan benar. PT Vale mengedepankan kepatuhan terhadap ketentuan hukum yang berlaku dalam mengelola dan mengolah limbah.

Nickel ore mining operations and nickel in matte production processes produce waste that has the potential to pollute the environment so it must be managed and processed properly. PT Vale prioritizes compliance with applicable legal provisions in waste management and treatment.

Pengelolaan dan Pengolahan Limbah Padatan [306-2][MM3]

Solid Waste Management and Treatment [306-2][MM3]

Kegiatan penambangan bijih nikel menghasilkan limbah padatan berupa *overburden* dan lapisan tanah pucuk (*top soil*). Limbah padatan dari proses produksi nikel dalam *matte* adalah *furnace slag* dan *converter slag*, yang termasuk limbah B3. Selain itu juga ada limbah padatan lain yang dihasilkan dari kegiatan pendukung, baik limbah padatan bukan B3 maupun limbah padatan B3. Pengelolaan limbah padatan dilakukan sesuai dengan Peraturan Pemerintah No.101/2014 Tentang Pengelolaan Limbah Bahan Berbahaya dan Beracun.

Nickel ore mining activities produce solid waste in the form of overburden and top soil. The solid waste from the nickel in matte process is from the slag furnace and the slag converter, which includes B3 waste. There are also other solid waste generated from the supporting activities, both non-B3 solid waste and B3 solid waste. The management of solid waste is carried out in accordance with Government Regulation No.101/2014 on the Management of Hazardous and Toxic Waste.

Jenis dan Volume Limbah Padatan Bukan B3 dari Penambangan Bijih Nikel [306-2]

Types and Volume of Non-B3 Solid Waste from Nickel Ore Mining

Jenis Limbah Type of Waste	Satuan Unit	Volume Dihasilkan Volume Generated			Metode Pengelolaan Management Method
		2017	2016	2015	
Tanah Pucuk Topsoil	WMT	294,470	285,498,950	341,422,042	Ditimbun di area penimbunan, digunakan sebagai material timbun dalam proses reklamasi pascatambang Dumped in a collection area, and used as material in the post-mining reclamation process
Overburden		35,373,104	34,520,600	42,422,043	

Jenis dan Volume Limbah Padatan B3 dari Produksi Nikel Dalam *Matte* [306-2]

Types and Volume of B3 Solid Waste From Nickel In Matte Production

Jenis Limbah Type of Waste	Satuan Unit	Volume Dihasilkan Volume Generated			Metode Pengelolaan Management Method
		2017	2016	2015	
Furnace Slag	Ton	4,180,479	4,523,826	4,181,838	Ditimbun untuk digunakan kembali sebagai material pengeras jalan tambang Dumped for reuse as a mine hardening material

Jumlah dan Metode Pengelolaan Limbah Padatan dari Kegiatan Pengolahan dan Penunjang [306-2]

Total and Methods of Solid Waste Management from Processing and Supporting Activities

Jenis Type	Bentuk Form	Metode Pengelolaan Management Method	Jumlah yang Diolah (ton) Processed Quantity (tons)		
			2017	2016	2015
Limbah Padatan Bukan B3 Non Hazardous and Toxic Waste	Limbah domestik Domestic waste	Pengolahan di TPA di area bekas tambang dan <i>scrap yard</i> Processing in landfill of post-mining area and scrap yards	4,418*	14,220	13,733
	Limbah <i>scrap</i> /logam Scrap/metal waste		6,034	5,638	5,624
Limbah Padatan B3 Hazardous and Toxic Waste	Oli dan gemuk bekas Used lubricants and grease	Dimanfaatkan sebagai tambahan bahan bakar pada proses pengolahan bijih nikel dryer dan kiln Reused as fuel additive in the nickel ore processing in dryer and kiln	1,206.4	1,200.1	1,470.4
	Terak tanur listrik Furnace slag	Dimanfaatkan untuk menunjang operasi tambang Reused to support mine operations	4,180,479	4,523,826	4,181,838
	Filter, kain majun, dan material terkontaminasi oli/minyak Lubricants and grease contaminated materials	Dikirim ke Prasadha Pamunah Limbah Industri (PPLI) Sent to Prasadha Pamunah Limbah Industri (PPLI)	142.2	206.1	332.4
	Bahan kimia kadaluwarsa Expired date chemical reagent	Dikirim ke PPLI Sent to PPLI	13.8	3.3	11.3
	Baterai dan aki bekas Used battery	Dikirim ke PPLI Sent to PPLI	54.3	56.5	60.6
	Cat dan bahan kimia Paints and chemicals	Dikirim ke PPLI Sent to PPLI	3.0	1.6	5.9
	Limbah medis Medical waste	Dibakar di incinerator dan abunya dikirimkan ke pihak ke tiga Burned in the incinerator and the ashes are sent to a third party	2.6	1.4	2.1
	Asbes Asbestos	Dikirim ke PPLI Sent to PPLI	0.87	10.1	12.7
Jumlah Total			4,192,354.2	4,545,163.1	4,203,089.8

*Terdapat perbedaan perhitungan limbah domestik pada tahun 2017 karena saat ini Perusahaan menggunakan timbangan, sedangkan sebelumnya menggunakan estimasi berdasarkan jumlah trip dan kapasitas bucket. Selain itu, ada beberapa truk yang mengangkut sampah penebangan pohon atau pembabatan tidak masuk ke fasilitas penimbangan.

*There is a difference in domestic waste calculations in 2017 as the Company currently uses scales, whereas previously used estimates based on the number of trips and bucket capacity. In addition, there are some trucks carrying trash from tree cutting and clearance are not included in the weighing facility.

Pengelolaan dan Pengolahan Limbah Cair

Selain limbah padatan, kegiatan penambangan bijih nikel dan produksi nikel dalam *matte* menghasilkan limbah cair (*effluent*). PT Vale mengelola limbah cair melalui mekanisme pengendapan dan perlakuan kimiawi, dengan tujuan meningkatkan kualitas sehingga memenuhi baku mutu yang ditetapkan Pemerintah.

Secara berkala, dilakukan pemantauan dan pengukuran kualitas olahan limbah cair. Pengukuran dilaksanakan oleh laboratorium

Effluent Management and Processing

In addition to solid waste, nickel ore mining activities and nickel in *matte* production produces effluent. PT Vale manages effluent through chemical precipitation and treatment mechanisms, with the aim of improving quality to meet the quality standards set by the Government.

Periodical monitoring and measuring of wastewater quality is conducted. Measurements are carried out by an

independen terakreditasi, menggunakan metode SNI 6989.59:2008 Air dan Air Limbah dan Standard Methods for the Examination of Water and Wastewater 21th Edition (2005), 1060, Collection and Preservation. Pengukuran mencakup beberapa parameter dan dilakukan di sejumlah titik di badan air yang menjadi lokasi pembuangan hasil olahan limbah cair. Limbah cair yang dibuang langsung diproses dalam *water treatment plan* dan tidak digunakan kembali oleh pihak lain. [306-1]

accredited independent laboratory, using SNI 6989.59: 2008 Water and Wastewater Methods and Standard Methods for the Examination of Water and Wastewater 21th Edition (2005), 1060, Collection and Preservation. Measurements include several parameters that are carried out at a number of points in the body of water into which waste is discharged or disposed of Effluent discharged directly is processed in a water treatment plan and is not reused by another party. [306-1]

Hasil Pengukuran Kualitas Air Limbah [306-1]

Wastewater Quality Measurement Results

Lokasi Pengukuran Measurement Location	Tahun Years	Jumlah yang Diolah* (Liter) Processed Quantity* (Liters)	Hasil Pengolahan Tiap Parameter Processing Result per Parameter				
			TSS 200 ppm	Cr Total 0.5 ppm	Cr ⁶⁺ 0.1 ppm	Fe 5 ppm	Ni 0.5 ppm
Anak Sungai Lamoare Lamoare Creek (LC3)	2017	12,210,453	5	0.10	<0.005	1.03	0.03
	2016	15,588,122	7.73	0.130	0.022	0.0088	0.0090
	2015	6,427,909	16.00	0.135	<0.030	0.40	0.030
Lamangka (LMK)	2017	40,734,067	3	0.04	<0.005	0.27	0.03
	2016	29,832,365	5.11	0.10	0.047	0.073	0.0095
	2015	36,960,298	<10	0.040	<0.030	0.23	0.0030
Petea Timur East Petea	2017	12,108,891	16	0.08	<0.005	1.02	0.08
	2016	8,782,338	20.39	0.16	0.02	0.029	0.0041
	2015	4,963,220	15.00	0.047	<0.030	0.88	0.050
Petea Barat West Petea	2017	29,182,579	22	0.04	<0.005	1.13	0.07
	2016	24,835,105	11.55	0.08	0.03	0.03	0.005
	2015	6,975,488	22.40	0.030	<0.030	0.75	0.040
Petea Timur Jauh Petea far East	2017	7,384,582	13	0.10	<0.005	1.05	0.03
Lorranine	2016	6.043,889	23.29	0.21	0.02	0.04	0.0033
Kathryn	2017	545,228	8	0.04	<0.005	0.40	0.02

Keterangan: Lokasi pengukuran di Lokasi Kathryn baru dimulai. Jumlah air terbuang tahunan di lokasi Kathryn belum dihitung.

Information: The measurements at Kathryn location has just begun. The amount of annual wasted water at Kathryn's site has not been calculated.

PT Vale memastikan kualitas olahan air limbah telah mematuhi baku mutu yang ditetapkan Pemerintah. Hingga akhir periode pelaporan Perusahaan tidak pernah menerima laporan perihal terpengaruhnya badan air oleh pembuangan kembali olahan air limbah, termasuk pengaruh terhadap keanekaragaman hayati di dalam badan air.

PT Vale ensures that the quality of wastewater preparation complies with the quality standards set by the Government. As of the end of the reporting period, the Company has never received any report related to water bodies, for disposal of wastewater, including the effects on biodiversity in water bodies.

Pada tahun 2017, tidak terdapat tumpahan bahan berbahaya yang memengaruhi lingkungan dari kegiatan operasional PT Vale.

In 2017, there was no spillage of hazardous materials that affected the environment from PT Vale's operations.

Rehabilitasi Lahan dan Reklamasi Pascatambang [MM1, MM10] Land Rehabilitation and Post Mining Reclamation

Pengungkapan Manajemen [103-2, 103-3]

Management Disclosure



Kebijakan:

- Peraturan Menteri ESDM No 7 Tahun 2014 Tentang Reklamasi dan Pascatambang

Policies:

- Minister of Energy and Mineral Resources Regulation No. 7 of 2014 on Reclamation and Post-mining



Komitmen:

- Luasan lahan tambang terbuka (*open cast*) disetujui oleh Kementerian ESDM setiap tahun
- Realisasi lahan reklamasi: Realisasi luasan lahan reklamasi tahun 2017 mencapai 57,74 ha, atau 76,6% dari target 75,4 ha
- Jumlah pohon ditanam tahun 2017 sebanyak 764 batang per hektar dengan realisasi 146% dari target

Commitment:

- The open cast area is approved by the ESDM Ministry every year
- Reclamation land realization: In 2017 actual land area reclamation reached 57.74 ha, or 76.6% of the target of 75.4 ha
- Number of trees planted in 2017 reached 764 per hectar or 146% realization of the target



Inisiatif Khusus Tahun 2017:

- Penerapan rencana RPT
- Pengelolaan kawasan lindung sesuai ketentuan berlaku

2017 Special initiatives:

- Implementation of an RPT plan
- Protected area management in accordance with applicable provisions



Sumber Daya:

- Material timbun berupa *overburden* dan lapisan tanah pucuk
- Kebun pembibitan untuk penyediaan bibit pohon
- Rencana Pascatambang yang telah disahkan Kementerian Energi dan Sumberdaya Mineral (ESDM)

Resources:

- Retain material in the form of overburden and topsoil
- Nursery for the provision of tree seedlings
- Post-mining plan approved by the Ministry of Energy and Mineral Resources (ESDM)



Penanggung Jawab:

- Fungsi Penambangan dan diawasi *Chief Operating Officer*

Person in Charge:

- Mining Function supervised by Chief Operating Officer

PT Vale berkomitmen melaksanakan rehabilitasi lahan dan reklamasi pascatambang sebagai bentuk kepatuhan terhadap Peraturan Menteri ESDM No.7 Tahun 2014 Tentang Reklamasi dan Pascatambang. Perusahaan melakukan reklamasi progresif dengan merehabilitasi lahan pada lokasi yang telah selesai ditambang.

PT Vale is committed to undertaking land rehabilitation and post-mining reclamation as a form of compliance with the Minister of Energy and Mineral Resources Regulation No.7/2014 on Reclamation and Post-mining. The company undertakes progressive reclamation by rehabilitating the land at the mine site.

Komitmen pada rehabilitasi lahan dan reklamasi pascatambang juga diwujudkan melalui alokasi provisi keuangan. Provisi keuangan masuk dalam komponen biaya lingkungan dalam Laporan Keuangan Perusahaan. Sesuai regulasi PT Vale memiliki regulasi rencana penutupan tambang di wilayah Sorowako, selain itu PT Vale juga meletakkan jaminan terhadap penutupan tambang. [MM10]

Commitment to land rehabilitation and post-mining reclamation is also realized through the allocation of financial provisions. Financial provisions were included in the environmental cost component in the Company's Financial Statements. PT Vale has regulated the mine closure plan in the Sorowako area, and PT Vale has also provided guarantees on mine closures. [MM10]

Keanekaragaman Hayati

Biodiversity

Sepanjang tahun 2017, PT Vale telah melakukan rehabilitasi lahan dan reklamasi pascatambang seluas 57,74 ha. Luasan tersebut mencakup 76,59% dari Rencana Kerja dan Anggaran Belanja (RKAB) 2017 seluas 75,39 ha. [304-3]

During 2017, PT Vale undertook post-mining land rehabilitation and reclamation covering an area of 57.74 ha. That area covers 76.59% of the Work Plan and Budget (RKAB) 2017 covering 75.39 ha. [304-3]

Secara keseluruhan sampai dengan akhir periode pelaporan, luas lahan yang telah direhabilitasi dan menjadi bagian dari reklamasi pascatambang (*progresive reclamation*) mencapai 4.089,34 ha. Adapun lahan terganggu akibat proses penambangan seluas 197,54 ha. Dengan demikian, luasan lahan tambang terbuka yang dioperasikan PT Vale pada akhir tahun 2017 mencapai 1.596,70 ha. Luasan tersebut masih berada dalam ketentuan Kementerian ESDM.

Overall by the end of the reporting period, the area of rehabilitated land and post-mining progressive reclamation was 4,089.34 ha. The land disturbed due to mining processes amounted to 197.54 ha. Thus, the area of open pit land operated by PT Vale by the end of 2017 reached 1,595.70 ha. The area is still within the terms of the ESDM Ministry.

Luasan Lahan Terganggu dan Direhabilitasi (ha) [304-3, MM1]

Area of Disturbed and Rehabilitated Land (ha)

Tahun Year	Total Luas Area Terganggu Pada Awal Tahun yang Belum Direhabilitasi Total Area of Unrehabilitated Disturbed Land in Beginning of Year	Jumlah Luas Area Terganggu pada Tahun Ini (2017) Total Area of Disturbed Land This Year (2017)	Jumlah Lahan yang Direhabilitasi Tahun Ini (2017) Total Area of Rehabilitated Land This Year (2017)	Total Luas Area Terganggu Pada Akhir Tahun yang Belum Direhabilitasi Total Area of Unrehabilitated Disturbed Land at End of Year
	(1)	(2)	(3)	1+2-3
2017	1,425.90	197.54	57.74	1,595.70
2016	1,191.80	286.16	51.04	1,425.90
2015	997.2	267.63	74.09	1,191.80

Proses reklamasi pascatambang meliputi tahapan penutupan tambang, penimbunan lahan pascatambang dan pelapisan tanah pucuk. Berikutnya, dilakukan pengendalian erosi, pembangunan drainase, pembangunan jalan revegetasi, penanaman pohon perintis dan endemik, perawatan dan pemeliharaan tanaman, pemantauan keberhasilan dan pemanfaatan. Masing-masing tahapan diikuti dengan program/kegiatan pendukung.

Post-mining reclamation processes include mine closure, post-mining landfill and topsoil coatings stages. Continued with, erosion control, drainage development, revegetation road development, pioneering and endemic tree planting, crop care and maintenance, and success and utilization monitoring. Each stage involves a supporting program/activity.

Tahapan Rehabilitasi Pascatambang Stages of Post Mining Rehabilitation

Tahapan Stages	Keterangan Description
Penutupan tambang Mine closure  1	<ul style="list-style-type: none"> Penghentian kegiatan penambangan Pemindahan peralatan penambangan Termination of mining activities Removal of mining equipment
Penimbunan lahan pascatambang Post-mining land backfilling  2	<ul style="list-style-type: none"> Material menggunakan <i>overburden</i> dari kegiatan penggalian sebelumnya Dilakukan sampai mendekati bentuk bentang alam sebelum kegiatan penambangan dilakukan Using <i>overburden</i> material from the previous excavation Carried out until it is close to the state of landscape before mining activities
Pelapisan tanah pucuk Topsoil layering  3	<ul style="list-style-type: none"> Material menggunakan tanah pucuk dari kegiatan pengupasan tanah pucuk sebelumnya Ketebalan lapisan sekitar 30 sentimeter Material using topsoil from the previous top soil stripping activities Layer thickness of approximately 30 centimeters
Pengendalian erosi Erosion control  4	Dibuat dengan struktur tanah bertingkat Contouring land structure
Pengairan lahan pascatambang Irrigation of post-mining land  5	Pembangunan drainase Drainage construction

Tahapan Stages	Keterangan Description
Penyiapan pemantauan dan perawatan Monitoring and maintenance preparation  6	Pembangunan jalan revegetasi Construction of revegetation road
Penanaman kembali Replanting  7	<ul style="list-style-type: none"> Penanaman tumbuhan perintis dan pohon endemik Bibit diperoleh dari pusat pembibitan Planting pioneer plants and endemic trees Seedlings are obtained from the nursery center
Perawatan dan pemeliharaan Care and maintenance  8	Penyiraman, pemupukan dan pemantauan berkala Penyiraman, pemupukan dan pemantauan berkala
Pemantauan keberhasilan Success monitoring  9	Pengumpulan data kondisi tumbuh setiap pohon yang ditanam Data collection of growing conditions for each planted tree
Pemanfaatan Utilization  10	Sebagai habitat dari beberapa hewan, seperti burung, reptil, serangga, mamalia dan lainnya. As a habitat of some animals, such as birds, reptiles, insects, mammals and others

Selama tahun 2017 telah dilakukan penanaman 764 pohon per hektar dengan realisasi 146% dari target 400 pohon per hektar. Bibit tanaman berasal dari kebun pembibitan sendiri dan terdiri dari beberapa jenis tanaman endemik, sebagai bagian dari kekayaan keanekaragaman hayati.

During 2017, 764 trees per hectare were planted, 146% of the target of 400 trees per hectare. Seedlings come from their own nursery and consisted of several endemic plants, as part of the richness of biodiversity.

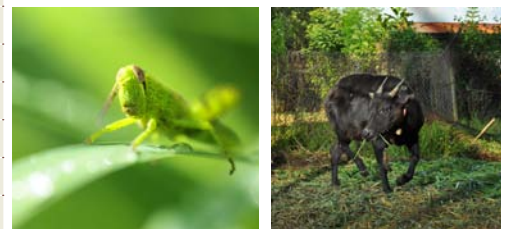
PT Vale memberikan perhatian khusus pada keanekaragaman hayati yang ada di sekitar wilayah operasi, khususnya di Sorowako. Dari total luas wilayah operasi yang mencapai 70.894 ha, seluas 41.822,95 ha atau 59% berada di kawasan hutan lindung. Perusahaan telah mengidentifikasi beberapa spesies fauna dengan status berdasarkan IUCN yang berada di dekat area operasi.

PT Vale pays special attention to the biodiversity that exists around the operating areas, particularly in Sorowako. Of the total 70,894 ha operations area, 41,822.95 ha or 59% is in protected forest areas. The Company has identified several species of fauna with a status based on the IUCN located near the operating area.

Spesies Dilindungi Pada Kawasan Pembukaan Lahan Tahun 2017 di Kawasan Dilindungi Menurut IUCN [304-4]

Species Protected In Land Clearing Areas in 2017 in Protected Areas According to IUCN

Nama Ilmiah Scientific name	Nama Lokal Local Name	Status Status
<i>Bubalus quarlesi</i>	Anoa Gunung	Endangered
<i>Bubalus depressicornis</i>	Anoa dataran rendah	Endangered
<i>Cervus timorensis</i>	Rusa	Vulnerable
<i>Ailurops ursinus</i>	Kuskus beruang	Vulnerable
<i>Strigocuscus celebensis</i>	Kuskus Sulawesi	Vulnerable
<i>Macrogalidia musschenbroekii</i>	Musang Sulawesi	Vulnerable
<i>Sus celebensis</i>	Babi hutan Sulawesi	Near Threatened
<i>Anhinga melanogaster</i>	Burung Pecuk-ular	Near Threatened
<i>Ichthyophaga humilis</i>	Burung Elang-ikan kecil	Near Threatened
<i>Ceyx fallax</i>	Burung Udang-merah Sulawesi	Near Threatened
<i>Cittura cyanotis</i>	Burung raja-udang pipi-ungu	Near Threatened



Keterangan: Berdasarkan hasil evaluasi 2007 dan akan dievaluasi kembali pada tahun 2018.

Note: Based on the 2007 evaluation results and will be re-evaluated in 2018

Perusahaan menyadari kegiatan penambangan sejak pembukaan lahan hingga penggalian bijih nikel berpotensi mengubah rona alam sehingga mempengaruhi habitat makhluk hidup di atasnya. Untuk itu, PT Vale memastikan dampak yang ditimbulkan terhadap keanekaragaman hayati dapat diminimalkan.

The Company is aware that mining activities from the opening of the field until the excavation of nickel ore, has the potential to change the natural landscape so as to affect the habitat of living creatures in it. To that end, PT Vale ensures that its biodiversity impact can be minimized.

Pada tahun 2017, PT Vale bersama IBCSD menandatangani perjanjian kerjasama penyusunan panduan pengelolaan keanekaragaman hayati di kawasan tambang yang juga melibatkan Yayasan Burung Indonesia. Kerjasama ini merupakan salah satu komitmen PT Vale terhadap inisiatif keberlanjutan, dan ditujukan untuk melihat potensi keanekaragaman hayati di kawasan tambang. [304-4]

In 2017, PT Vale together with IBCSD, signed a cooperation agreement for the preparation of biodiversity management guidance in the mining area which also involved the Indonesian Bird Foundation. This partnership is one of PT Vale's commitment to sustainability initiatives, and is aimed at understanding the biodiversity potential in the mining area. [304-4]



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Independent Assurance Statement The 2017 Sustainability Report of PT Vale Indonesia Tbk

Number : 003/000-174/III/2018/SR-Asia/Indonesia

Type : 1

Level : Moderate

PT Vale Indonesia Tbk, or “the Reporting Organization”, engaged Social Responsibility Asia (“SR Asia”) to assure and provide an Independent Assurance Statement on its **2017 Sustainability Report** (“the Report”). The Reporting Organization is an Indonesia publicly listed company operating in nickel mining and production. The Report only presents sustainability performance data and information that has been developed in respect to;

- (a) Sustainability Reporting Standards of the Global Reporting Initiative (“the GRI Standards”) and its Mining and Metals Sector Supplement (“MMSS”); and
- (b) Regulation of Indonesia Financial Services Authority No.51/POJK.03/2017 on the Implementation of Sustainable Finance for the Financial Services Organizations and the Listed and Public Companies (“POJK 51”).

SR Asia’s responsibility, as agreed with the management¹, is to provide an independent assurance on the Report content and generate recommendations as described in the scope of assurance. The content and presentation of the Report is the sole responsibility of the management. Our responsibility in performing assurance work is to the management only and in accordance with the terms of reference. We do not therefore accept or assume any responsibility for any other purpose or to any other person or organization. Any dependence that third party has placed on the Report is entirely on its own risk. The assurance report should not be taken as a basis for interpreting the Reporting Organization’s overall performance or sustainability except for the areas covered in the scope of assignment.

Scope of Assurance Service and Limitation

The scope of assurance service covers only the relevant aspects to the Reporting Organization, including:

1. Data and information related to the Report for the reporting period of 1st of January up to 31st of December 2017.
2. Sustainability specific data and information related to the nine material topics that have been identified by the management; which are economic performance, anti-corruption, occupational health and safety, emission, biodiversity, energy, effluent and waste, post mining rehabilitation, and local community.
3. Evaluation on publicly disclosed information, system, and process of the Reporting Organization has in place to ensure adherence to the principles.
4. Assurance on the disclosures based on type 1 and moderate level of assurance procedure; where the risks of information and conclusions of the Report being error is reduced, but not reduced to very low, but not zero.

¹ “The management” refers to the management of the Reporting Organization

Exclusion

The assurance scope excludes:

1. Topics, data and information of the Report other than those mentioned under the defining materiality section and discussion on defining Report content.
2. Data and information outside the reporting period and/or in the public domain not covered in the reporting period.
3. The management's statements and claims describing expression of opinion, belief, expectation, advertisement, and future planning.
4. Financial performance data and information from the Reporting Organization's documents other than those mentioned in the Report.
5. Stakeholders' engagement, which may be involved in developing the Report.

Methodology

Initially, the Assurance Team carried out preliminary assessment on the Report document, which was submitted by the management. As part of independent assurance, SR Asia engaged with its official partner in Indonesia to carry out broadly the following activities:

1. Visit the head office of the Reporting Organization to discuss the Report content with the management; to review the data, information and disclosures as specified the ensure there is no misrepresentation; to identify supporting documents or evidences; to test sample of data and information; and to assess the system and procedure for data collection and gathering as well as the preparation of the Report.
2. Evaluation of the presentation of data and information against the standards, principles, and indicators of AA1000AS (2008) and AA1000APS (2008) AccountAbility, GRI Standards and its MMSS, and POJK 51.
3. Interview and discussion with representatives of different functions; such as the environment, health and safety, operation, human resources development, community relations and development, and finance.

Adherence to AA1000APS (2008) and GRI Standards

Inclusivity – The Reporting Organization has commitment to engage internal and external stakeholders, and has identified different stakeholder groups to be included in the Report. Its vision, mission, code of conduct, and policies enable the management to be accountable to the economic, social, and environmental impact of its operations and decisions on the stakeholders, as well as to engage stakeholders in its decision-making process. The management's commitment is integrated and implemented through various approaches regarding the characteristics and types of relationship with the stakeholders.

Materiality – The Assurance Team has assessed that adherence to materiality principle is acceptable; where nine topics are considered material by the management. They are economic performance, anti-corruption, occupational health and safety, emission, biodiversity, energy, effluent and waste, post mining rehabilitation, and local community. The Reporting Organization also considers MMSS disclosures and POJK 51 requirements are material in the Report. Biodiversity – a material topic that is



not presented in the previous report, is considered material in this Report as a mining operation commonly having significant impact on biodiversity. At different level, the Report provides adequate data and information on sustainability performance of material topics. However, the management should discuss more about the performance target and evaluation, especially on anti-corruption and biodiversity, in the Report content.

Responsiveness – The Reporting Organization refers to the Vale’s global strategy for sustainability; therefore, the management has an adequate level of responsiveness to address international sustainability issues. The management also claims that different initiatives and community development programs are carried out in respect to the SDGs². The adherence to local regulations on particular topics and the engagement in a wide range of national associations and initiatives is sufficient; which indicates responsiveness of the management to highlight sustainability issues at national level.

In “Accordance” with Core Option – The Report follows the core option of GRI Standards where minimum one disclosure of each material topic is presented and discussed in the Report. In general, the disclosures of management approach for each material topic are well presented. When relevant, MMSS disclosures and POJK 51 requirements are addressed and appropriately described. Nevertheless, improvements on management targets on material topics are needed for future reporting.

GRI Standards Principles – In developing the Report content, to some extent, the management has applied the Principles for Defining Report Content (stakeholder inclusiveness, sustainability context, materiality, and completeness) and the Principles for Defining Report Quality (balance, comparability, accuracy, timeliness, clarity, and reliability). The Report identifies data and information that cannot be presented due to the management discretion, the absence of evidence, or the system and data administration issue, as required by GRI Standards or POJK 51. During the visit, supporting documents in overall were presented as the evidence. However, due to lack of presentation of evidence on financial data by the management, the level of accuracy and reliability on financial data is relatively lower than those of other performance data in the Report.

Recommendation

On the basis of our assurance methodology and procedure, it is our opinion that the Reporting Organization needs to improve the following:

1. Develop a reliable data and information management system for social and environmental performance measurement, by utilizing the information and communication technology. The system must be integrated across functions and should consider methodology of data measurement and presentation in adherence to the standards and principles.
2. Perform stakeholder engagement based on the AA1000 Stakeholder Engagement Standard (2015) and develop an annual stakeholder management report that becomes an evidence and basis to identify materiality topics in developing a sustainability report.
3. Identification of material topics should be started in the beginning of reporting period and concluded at the end of period, based on stakeholders’ engagement and feedbacks during the year.

² SDGs; Sustainable Development Goals are the 17 common goals, launched by the United Nations in 2015. Visit the following: <https://sustainabledevelopment.un.org/>



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4. Improve the disclosure of evidence documents, especially on financial data and information, to the Assurance Team in order to increase the level of accuracy and reliability of the Report content.
5. Discuss the performance target and evaluation of anti-corruption, biodiversity, and local communities in the future sustainability reporting.
6. As POJK 51 will be a mandatory to the Reporting Organization in 2020, the management is expected to response by presenting more data and information on sustainable finance in the Report, including the action plan for sustainable finance as the basis to develop sustainability report content.
7. Perform SDGs mapping and state the management's commitments when referring to particular goals.

Statement of Competency, Independency and Impartiality

SR Asia is a networking organization among reputable organizations in Asian countries and promoting sustainable development through various activities, such as policy studies and advocacy, CSR studies and reporting, capacity building, researches, and various other services in sustainable development and sustainability.

The Assurance Team was consisted of a number of sustainability experts focusing in ISO 26000, sustainability accounting standards of SASB, and the principles and standards of AA1000 AccountAbility, GRI Standards, and International Integrated Reporting (IR) Framework. The experts also have experiences in writing and reviewing sustainability reports and integrated reports of organizations from various industries.

SR Asia has ensured no member of the Assurance Team has any relationships with the Reporting Organization that could be perceived to affect the ability to provide an independent and impartial statement. SR Asia confirms that sufficient mechanism and professional codes of practices are designed and in place to ensure independency and free from bias and conflict of interest.

The assurance provider,

Jakarta, 9th of March 2018

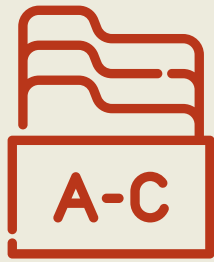
Birendra Raturi
International Director, SR Asia



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000-174

Social Responsibility Asia (SR Asia)

4F-CS-25, Ansal Plaza, Vaishali
Ghaziabad (NCR Region Delhi), Uttar Pradesh 201010, INDIA
Landline / Mobile: +91-120-4103023; +91-120-6452020 / +91-9810059109
E-mail: info@sr-asia.org Website: www.sr-asia.org



Referensi POJK No. 51/POJK.03/2017 dan Indeks Isi GRI ^[102-55]

POJK No. 51/POJK.03/2017 References and GRI Content Index

Referensi silang GRI Standard & POJK GRI Standard & POJK Cross References	Pengungkapan Description	Halaman dan/ laman Page numbers &/URLs	Tidak dicantumkan Omission	
GRI 101	Dasar 2016 Foundation 2016			
Pengungkapan Umum General Disclosures				
GRI 102: Pengungkapan Umum 2016 & POJK 51/OJK.03/2017 GRI 102: General Disclosures 2016 & POJK 51/OJK.03/2017	102-1	Nama Organisasi Name of The Organization	22	Pengungkapan ini lengkap This disclosure cannot be omitted
	102-2	Kegiatan, merek, produk, dan jasa Activities, brands, products, & services	22, 25	
	102-3	Lokasi Kantor Pusat Location of Headquarter	22	
	102-4	Lokasi Operasi Location of operations	23	
	102-5	Kepemilikan Saham dan Bentuk Hukum Ownership and Legal Form	22	
	102-6	Pasar yang dilayani Markets Served	25	
	102-7	Skala Organisasi Scale of the organization	25	
	102-8	Informasi mengenai karyawan dan pekerja lain Information on employees and other workers	23	
	102-10	Perubahan signifikan pada organisasi dan rantai pasokannya Significant changes to the organization and its supply chain	23	
	102-13	Keanggotaan asosiasi Membership of associations	25	
	102-14	Pernyataan dari pembuat keputusan senior Statement from senior decision-maker	8	
	102-16	Nilai, prinsip, standar, dan norma perilaku Values, principles, standards, and norms of behavior	13, 21	
	102-18	Struktur tata kelola Governance structure	30, 31	
	102-40	Daftar kelompok pemangku kepentingan List of stakeholder groups	41	
	102-42	Mengidentifikasi dan memilih pemangku kepentingan Identifying and selecting stakeholders	41	
	102-43	Pendekatan terhadap keterlibatan pemangku kepentingan Approach to stakeholder engagement	41	
	102-44	Topik utama dan masalah yang dikemukakan Key topics and concerns raised	41	
102-56	Assurance oleh pihak eksternal External assurance	19		

Referensi silang GRI Standard & POJK GRI Standard & POJK Cross References	Pengungkapan Description	Halaman dan/ laman Page numbers &/URLs	Tidak dicantumkan Omission	
GRI 102: Pengungkapan Umum 2016 GRI 102: General Disclosures 2016	102-9	Rantai pasokan Supply chain	32, 54	Pengungkapan ini lengkap This disclosure cannot be omitted
	102-11	Pendekatan atau Prinsip Pencegahan Precautionary Principle or approach	32, 78	
	102-12	Inisiatif eksternal External initiatives	25	
	102-41	Perjanjian perundingan kolektif Collective bargaining agreements	23	
	102-45	Entitas yang termasuk dalam laporan keuangan dikonsolidasi Entities included in the consolidated financial statements	18	
	102-46	Menetapkan isi laporan dan Batasan topic Defining report content and topic Boundaries	16	
	102-47	Daftar topik material List of material topics	18	
	102-48	Penyajian kembali informasi Restatements of information	15	
	102-49	Perubahan dalam pelaporan Changes in reporting	15	
	102-50	Periode pelaporan Reporting period	14	
	102-51	Tanggal laporan terbaru Date of most recent report	14	
	102-52	Siklus pelaporan Reporting cycle	14	
	102-53	Kontak untuk pertanyaan mengenai laporan Contact point for questions regarding the report	15	
	102-54	Klaim bahwa pelaporan sesuai dengan Standar GRI Claims of reporting in accordance with the GRI Standards	15	
	102-55	Indeks isi GRI GRI content index	19, 102	
	POJK 51/OJK.03/2017 POJK 51/OJK.03/2017	2	Ikhtisar kinerja aspek keberlanjutan An overview of the sustainability performance aspect	
5.a		Tugas bagi Direksi dan Dewan Komisaris terkait kinerja keberlanjutan Board of Directors and Board of Commissioners duties on sustainability performance	30	
5.b		Pengembangan kompetensi anggota Direksi terkait kinerja keberlanjutan Competencies development for sustainability on members of the Board of Directors	30	
5.c		Penjelasan mengenai prosedur Perusahaan Publik dalam mengendalikan risiko keberlanjutan Company procedures in controlling the risk of sustainability	30	
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6.c.1		Komitmen Perusahaan untuk memberikan produk dan/atau jasa yang setara kepada konsumen The Company's commitment to provide products and / or services equivalent to consumers	32	
6.f.1		Inovasi dan pengembangan Produk Berkelanjutan Innovation and development of Sustainable Products	51-52	
POJK 51/OJK.03/2017 POJK 51/OJK.03/2017	6.f.2	Jumlah dan persentase produk dan jasa yang sudah dievaluasi keamanannya bagi pelanggan Number and percentage of products and services that have been evaluated for the customer's safety	55	

Referensi silang GRI Standard & POJK GRI Standard & POJK Cross References	Pengungkapan Description		Halaman dan/ laman Page numbers &/URLs	Tidak dicantumkan Omission
POJK 51/OJK.03/2017	6.f.3	Dampak positif dan dampak negatif yang ditimbulkan dari Produk dan/atau Jasa dan proses distribusi Positive and negative impact of Product and / or Services and distribution process	74, 75	
	6.f.4	Jumlah produk yang ditarik kembali dan alasannya Number of products withdrawn and the reason	25	
	6.f.5	Survei kepuasan pelanggan Survey of customer satisfaction	15	
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MATERIAL TOPICS				
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	103-2	Pendekatan manajemen dan komponennya The management approach and its components	46	
	103-3	Evaluasi pendekatan manajemen Evaluation of the management approach	46	
GRI 201: Kinerja Ekonomi 2016 GRI 201: Economic Performance 2016	201-1	Nilai ekonomi langsung yang dihasilkan dan didistribusikan Direct economic value generated and distributed	48, 49	
POJK 51/OJK.03/2017	6.b.1	Perbandingan target dan kinerja produksi, portofolio, pembiayaan, pendapatan dan laba rugi Comparison of targets and performance of production, portfolio, financing, income and profit and loss	47	
	6.b.2	Perbandingan target dan kinerja portofolio, target pembiayaan, atau investasi pada proyek yang sejalan dengan Keuangan Berkelanjutan Comparison of portfolio targets and performance, financing targets, or investments in projects in line with Sustainable Finance.	15	
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GRI 103: Pendekatan Manajemen GRI 103: Management Approach 2016	103-1	Penjelasan topik material dan Batasannya Explanation of the material topics	18	Pengungkapan ini lengkap This disclosure cannot be omitted
	103-2	Pendekatan manajemen dan komponennya The management approach and its components	32	
	103-3	Evaluasi pendekatan manajemen Evaluation of the management approach	32	
GRI 205: Antikorupsi GRI 205: Anticorruption	205-2	Komunikasi dan pelatihan terkait kebijakan antikorupsi Communication and training about anticorruption policies	35	
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GRI 103: Pendekatan Manajemen GRI 103: Management Approach 2016	103-1	Penjelasan topik material dan Batasannya Explanation of the material topics	18	Pengungkapan ini lengkap This disclosure cannot be omitted
	103-2	Pendekatan manajemen dan komponennya The management approach and its components	60	
	103-3	Evaluasi pendekatan manajemen Evaluation of the management approach	60	

Referensi silang GRI Standard & POJK GRI Standard & POJK Cross References	Pengungkapan Description	Halaman dan/ laman Page numbers &/URLs	Tidak dicantumkan Omission
GRI 103: Pendekatan Manajemen GRI 103: Management Approach 2016	403-2 Jenis kecelakaan kerja dan tingkat kecelakaan kerja, penyakit akibat pekerjaan, hari kerja yang hilang, dan ketidakhadiran, serta jumlah kematian terkait pekerjaan Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	61	Informasi tidak tersedia untuk 403-2 [Absentee Rate, Lost Day Rate, Occupational Disease Rate]. Pengelolaan sistem informasi dalam penyesuaian. Informasi ini akan dilaporkan di SR 2019. Information unavailable for 403-2 [Absentee Rate, Lost Day Rate, Occupational Disease Rate, Injury Frequency breakdown by gender, and injury rate in corporate office]. Data collection system is under standardization. This data will be available in SR 2019.
GRI 103: Pendekatan Manajemen GRI 103: Management Approach 2016	403-3 Para pekerja dengan risiko kecelakaan atau penyakit berbahaya tinggi terkait dengan pekerjaan mereka Workers with high incidence or high risk of diseases related to their occupation	63	Informasi tidak tersedia untuk 403-3 [Pekerja dengan risiko tinggi terkena penyakit]. Informasi tersebut akan diungkapkan pada 2019. Information unavailable for 403-3 [Workers with high risk of diseases]. The information will be disclosed in 2019.
POJK 51/OJK.03/2017	6.c.2.c Lingkungan bekerja yang layak dan aman Decent and safe working environment	64	
G4 Mining & Metal Sector Supplement 2013 G4 Suplemen Sektor Pertambangan dan Logam 2013	MM4 Demonstrasi atau Pemogokan Lebih dari Satu Minggu Demonstrations or Strikes Lasting More Than a Week	64	
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GRI 103: Pendekatan Manajemen 2016 GRI 103: Management Approach 2016	103-1 Penjelasan topik material dan Batasannya Explanation of the material topics	18	Pengungkapan ini lengkap This disclosure cannot be omitted
	103-2 Pendekatan manajemen dan komponennya The management approach and its components	80	
	103-3 Evaluasi pendekatan manajemen Evaluation of the management approach	80	
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	305-7 Nitrogen oksida (NOX), sulfur oxides (SOX), dan emisi udara lainnya Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	81, 82	
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	103-2 Pendekatan manajemen dan komponennya The management approach and its components	94	
	103-3 Evaluasi pendekatan manajemen Evaluation of the management approach	94	

Referensi silang GRI Standard & POJK GRI Standard & POJK Cross References		Pengungkapan Description	Halaman dan/ laman Page numbers &/URLs	Tidak dicantumkan Omission
GRI 305 : Emisi 2016	304-3	Habitat dilindungi atau dipulihkan Habitats protected or restored	95	
GRI 305 : Emissions 2016	304-4	Spesies dilindungi dalam Daftar Merah IUCN IUCN Red List species	97	
GRI 305 : Emisi 2016 GRI 305 : Emissions 2016	MM2	Persentase wilayah kerja yang memiliki Perlindungan terhadap keanekaragaman hayati Percentage of sites with Protection of biodiversity.	79	
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	103-2	Pendekatan manajemen dan komponennya The management approach and its components	83	
	103-3	Evaluasi pendekatan manajemen Evaluation of the management approach	83	
GRI 302: Energi 2016 GRI 302: Energy 2016	302-1	Konsumsi energi dalam organisasi Energy consumption within the organization	84, 85, 88	
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	6.d.3.b	Upaya dan pencapaian efisiensi energi, termasuk sumber energi terbarukan Efforts and achievements of energy efficiency, including renewable energy sources	86	
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GRI 103: Pendekatan Manajemen 2016 GRI 103: Management Approach 2016	103-1	Penjelasan topik material dan Batasannya Explanation of the material topics	18	Pengungkapan ini lengkap This disclosure cannot be omitted
	103-2	Pendekatan manajemen dan komponennya The management approach and its components	90	
	103-3	Evaluasi pendekatan manajemen Evaluation of the management approach	90	
GRI 306: Limbah dan Effluen 2016 GRI 306: Waste & Effluents 2016	306-1	Pelepasan air berdasarkan kualitas dan tujuan Water discharge by quality and destination	93	
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POJK 51/OJK.03/2017	6.d.2	Penggunaan material yang ramah lingkungan Use of environmentally friendly materials	15	
	6.e.5.a	Jumlah limbah dan efluen yang dihasilkan berdasarkan jenis The amount of waste and effluent produced by type	91, 92	
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	103-2	Pendekatan manajemen dan komponennya The management approach and its components	94	

Referensi silang GRI Standard & POJK GRI Standard & POJK Cross References		Pengungkapan Description	Halaman dan/ laman Page numbers &/URLs	Tidak dicantumkan Omission
GRI 103: Pendekatan Manajemen 2016 GRI 103: Management Approach 2016	103-3	Evaluasi pendekatan manajemen Evaluation of the management approach	94	Pengungkapan ini lengkap This disclosure cannot be omitted
G4 Mining & Metal Sector Supplement 2013 G4 Suplemen Sektor Pertambangan dan Logam 2013	MM1	Jumlah tanah terganggu atau direhabilitasi Amount of land disturbed or rehabilitated	94, 95	
	MM3	Jumlah overburden, rock, tailings, dan sludges dan risiko asosiasi mereka Total amounts of overburden, rock, tailings, and sludges and their associated risks	91	
	MM8	Pertambangan Kecil dan Liar di Sekitar Wilayah Operasi Artisanal and Small-scale Mining	75	
	MM9	Wilayah Tempat Relokasi Pemukiman Terjadi Sites Where Resettlements Took Place	75	
	MM10	Jumlah dan Persentase operasi yang telah memiliki rencana penutupan tambang Number and percentage of operations with closure plans	94, 95	Informasi tidak tersedia untuk MM10 (Persentase area). Informasi akan diungkapkan pada 2019. Information unavailable for MM10 [Percentage of area]. The information will be disclosed in 2019.
POJK 51/OJK.03/2017	6.d.1	Biaya Lingkungan Hidup yang dikeluarkan Environmental costs incurred	95	
	6.e.2	Kegiatan atau wilayah operasional yang menghasilkan dampak lingkungan hidup Activities or operational areas that have an impact to the surrounding environment	79	
POJK 51/OJK.03/2017	6.e.6	Jumlah dan materi pengaduan Lingkungan Hidup yang diterima dan diselesaikan Number and material of the environment complaints received and completed	74	
Komunitas Lokal Local Communities				
GRI 103: Pendekatan Manajemen 2016 GRI 103: Management Approach 2016	103-1	Penjelasan topik material dan Batasannya Explanation of the material topics	18	Pengungkapan ini lengkap This disclosure cannot be omitted
	103-2	Pendekatan manajemen dan komponennya The management approach and its components	67, 73	
	103-3	Evaluasi pendekatan manajemen Evaluation of the management approach	67	
GRI 413: Komunitas Lokal 2016 GRI 413: Local Communities 2016	413-1	Operasi dengan keterlibatan masyarakat lokal, penilaian dampak, dan program pengembangan Operations with local community engagement, impact assessments, and development programs	68, 69, 70, 73	Informasi tidak tersedia untuk 413-1 (studi dampak sosial terhadap gender). Informasi akan diungkapkan pada 2019 Information unavailable for 413-1 [gender impact assessment]. The information will be disclosed in 2019.
	413-2	Operasi dengan dampak negatif yang signifikan terhadap masyarakat lokal Operations with significant negative impacts on local communities	72, 73	
G4 Mining & Metal Sector Supplement 2013 G4 Suplemen Sektor Pertambangan dan Logam 2013	MM5	Perjanjian dengan penduduk asli Agreement with indigenous people	74, 75	
	MM6	Perselisihan Mengenai Lahan Land Use Disputes	75	
	MM7	Mekanisme Pengaduan Perselisihan Penggunaan Lahan Land Use Grievance Mechanism	73	
POJK 51/OJK.03/2017	6.e.3.b	Mekanisme dan jumlah pengaduan masyarakat yang diterima dan ditindaklanjuti The mechanism and number of public complaints received and acted upon	74	
	6.e.3c	TJSL pada tujuan pembangunan berkelanjutan meliputi jenis dan capaian kegiatan program pemberdayaan masyarakat Social and environmental responsibility on sustainable development objectives includes the types and achievements of community empowerment program activities.	68	

Lembar Umpan Balik

Feedback Form



Laporan Keberlanjutan 2017 PT Vale Indonesia Tbk memberikan gambaran kinerja keuangan dan keberlanjutan. Kami mengharapkan masukan, kritik dan saran dari Bapak/Ibu/Saudara.

PT Vale Indonesia's Sustainability Report 2017 provides an overview of financial and sustainability performance. We are looking forward to receive any inputs, critics and suggestions from you.

1 Laporan ini mudah dimengerti.

This report is comprehensible.

Tidak Setuju Disagree Netral Neutral Setuju Agree

2 Laporan ini sudah menggambarkan informasi positif dan negatif Perusahaan.

The report has described positive and negative information of the Company.

Tidak Setuju Disagree Netral Neutral Setuju Agree

3 Topik material apa yang paling penting bagi anda:

(nilai 1= paling penting s/d 4 = paling tidak penting)

Material topic(s) which is(are) the most important to you:

(score 1=most important up to 4 = Least important)

- Kinerja Ekonomi Economic Performance []
- Antikorupsi Anticorruption []
- Kesehatan dan Keselamatan Kerja (K3) Occupational Health and Safety []
- Emisi Emission []
- Keanekaragaman Hayati Biodiversity []
- Energi Energy []
- Limbah Cair dan Padat Effluent & Waste []
- Rehabilitasi Pascatambang Post-mining Rehabilitation []
- Komunitas Lokal Local Community []

4 Mohon berikan saran/usul/komentar anda atas laporan ini.

Kindly provide your inputs/suggestions/comments about this report

.....

.....

Profil Anda Your Profile

Nama Lengkap Full Name :

Pekerjaan Occupation :

Nama Lembaga/Perusahaan Institution/Company's Name :

Golongan Pemangku Kepentingan Stakeholders Group:

- Pemerintah Governance Masyarakat Community
- Perusahaan Corporate Industri Industry LSM NGO
- Lainnya, mohon sebutkan ... Others, please state ...

.....



Mohon kirimkan kembali lembar umpan balik kepada :

Please return this feedback form to:

PT Vale Indonesia, Tbk

The Energy Building, 31st Floor
Jl. Jenderal Sudirman Kav. 52-53
Jakarta 12190, Indonesia

Tel: +62 21 524 9000

Fax: +62 21 524 9020

E-mail: ptvicommunications@vale.com





2017
Laporan Keberlanjutan
Sustainability Report

PT Vale Indonesia Tbk
The Energy Building, 31st Floor
Jl. Jenderal Sudirman Kav. 52-53
Jakarta 12190, Indonesia
Tel: +62 21 524 9000
Fax: +62 21 524 9020
www.vale.com/indonesia

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