



Pencapaian 2016

Highlights 2016



**UNTUK
KETERBUKAAN**
FOR TRANSPARENCY



**Pelatihan Program
Anti-korupsi Karyawan**
Anti-corruption Program
Training for Employees

3,038 **Karyawan**
Employees



**Sosialisasi Kode Etik
dan Anti-korupsi
kepada Pemasok**
Dissemination of Code
of Ethics and Anti-
corruption to Suppliers

279 **Pemasok**
Suppliers



BAGI KEHIDUPAN
FOR LIFE

Uraian Description	Satuan Unit	2016	2015	2014
Kinerja Produksi Production Performance				
Produksi Nikel Nickel Production	MT	77,581	81,177	78,726
Cadangan Bijih Nikel Terbukti Proven Nickel Ore Reserves	Juta Ton Million Tons	93.50	96.93	108.0
Kinerja Ekonomi Economic Performance				
Total Pendapatan Total Revenue	Ribu USD Thousand USD	586,045	791,102	1,038,995
Total Distribusi Nilai Ekonomi Total Economic Value Distribution		(585,413)	(744,606)	(822,841)
Total Nilai Ekonomi Ditahan Total Economic Value Retained		632	46,496	216,154
Laba Bersih Net Profit		1,906	50,500	172,270
Pelibatan Pemasok Lokal Involvement of Local Suppliers				
Pelibatan Perusahaan Lokal Involvement of Local Companies	Unit	295	253	278



UNTUK BERKARYA
FOR WORK

Uraian Description	Satuan Unit	2016	2015	2014
Total Karyawan dan K3 Total Employees and OSH				
Total Karyawan Total Employees	Unit	3,101	3,103	3,122
Tingkat Kecelakaan Tercatat Recordable Injury Frequency Rate	%	0.95	0.67	0.81



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UNTUK
KESEJAHTERAAN
FOR WELFARE

Uraian Description	Satuan Unit	2016	2015	2014
Program Terpadu Pengembangan Masyarakat (PTPM) Integrated Community Development Program (PTPM)				
Jumlah Program/Kegiatan Number of Programs/Activities	Unit	292	667	529
Jumlah Dana Total Funds	Juta USD Million USD	3.4	4.2	3.7
Jumlah Penerima Manfaat Number of Beneficiaries	Desa Villages	38	38	38
	Individu Individuals	35,517	40,295	39,048
Donasi dan Pemberian Bantuan Tambahan Donation and Additional Assistance				
Jumlah Dana Total Funds	Ribu USD Thousand USD	385.5	N/A*	N/A*
Anggaran Tambahan Program Pemberdayaan** Additional Assistance for Empowerment Program**	Ribu USD Thousand USD	2,364	727.3	N/A

*Donasi dan Pemberian Bantuan sudah dilakukan, namun administrasi data masih tersebar sehingga data belum bisa disajikan.
* Donation and Assistance have been distributed, however data administration has not been consolidated to be presented.



BAGI LINGKUNGAN
FOR ENVIRONMENT

Uraian Description	Satuan Unit	2016	2015	2014
Pengendalian Emisi Emission Control				
Kadar SO ₂ SO ₂ Content	Baku Mutu 0.86 kg/kg Ni Quality Standard 0.86 kg/kg Ni	0.72	0.79	0.86
Total Emisi GRK Total GHG Emissions	Ton CO ₂ eq	46,780	36,533*	40,878*
Pemanfaatan Energi Energy Utilization				
Pemakaian Energi Energy Usage	GJ	26,525,186	28,552,293	26,613,595
Intensitas Energi Energy Intensity	GJ/ton Nikel	341.9	351.73*	338.05*
Intensitas Penggunaan HSFO HSFO Usage Intensity	Barrel/ton Nikel	20.72	21.34	20.89
Pengelolaan Lahan Land Management				
Luasan Lahan Yang Direhabilitasi Rehabilitated Land Area	Ha	51.04	74.09	78.13
Pengelolaan Limbah B3 B3 Waste Management				
Total Limbah B3 Dihasilkan dan Dikelola Total B3 Waste Generated and Managed	Ton	1,498.60	1,907.57	1,644.40
PROPER				
Peringkat Rating		Biru Blue	Biru Blue	Biru Blue
Penghargaan Awards				

SBA (Sustainability Business Award) - Category Sustainability in the Community

* Penyajian kembali

* Restatement

Etika dan Integritas

[G4-56]

Ethics & Integrity



Kode Etik harus dipatuhi, dicermati, dan diberlakukan bagi manajemen, karyawan, kontraktor, dan seluruh pihak yang bekerja untuk Perusahaan.

Prinsip-prinsip dasar Kode Etik dan Perilaku Vale:

- Menghargai kehidupan, dengan fokus pada tindakan pencegahan, terhadap kesehatan dan keselamatan, dan menghargai para karyawannya.
- Mengamati tata kelola perusahaan yang baik, serta obyektif dan ketepatan waktu dalam berkomunikasi dengan para pemegang saham, investor, dan pasar modal.
- Perlindungan, dukungan, dan kesadaran akan Hak Asasi Manusia diseluruh rantai pasokan sesuai dengan prinsip-prinsip Deklarasi Universal Hak Asasi Manusia.
- Mencapai tujuan bisnis dan bertanggungjawab dengan menghargai aspek sosial-ekonomi dan lingkungan di seluruh kegiatan Perusahaan.
- Berkontribusi bagi pengembangan masyarakat di mana kami beroperasi dan mendukung partisipasi aktif masyarakat.

The Code of Conduct should be complied, observed and applied to the management, employees, contractors and all parties who work for the Company.

The basic principles of Vale Code of Ethics and Conduct:

- Respect life, with a focus on prevention, health and safety, and appreciation for our employees.
- Observe good corporate governance, as well as be objective and timely in communicating with shareholders, investors, and capital markets.
- Protection, support, and awareness of Human Rights throughout the supply chain in accordance with the principles of the Universal Declaration of Human Rights.
- Achieve business goals and be responsible with respect to socio-economic and environmental aspects in all activities of the Company.
- Contribute to the community development where we operate and support the community's active participation.



Selain itu, Kode Etik dan Perilaku PT Vale memuat contoh perilaku yang diharapkan dan contoh perilaku yang tidak dapat ditolerir. Hal ini merupakan pedoman yang mencakup, antara lain tentang: prinsip-prinsip dasar anti-korupsi, benturan kepentingan, pelecehan; obat-obatan terlarang dan lain-lain. [G4-SO4]

Aksi Untuk Integritas

Pada tahun 2016, PT Vale mewujudkan komitmen kejujuran, kepercayaan, dan saling menghormati dengan menyelenggarakan "Aksi Untuk Integritas". Dalam aksi ini, seluruh jajaran pimpinan melakukan kampanye dalam bentuk tatap muka langsung antar tingkat pimpinan manajerial di Perusahaan dengan anggota timnya. [G4-SO4]

"Aksi Untuk Integritas" dihadiri oleh hampir seluruh karyawan PT Vale. Dalam acara ini, seluruh karyawan menyampaikan deklarasi konflik kepentingan, sebagai salah satu bentuk keterbukaan yang diharapkan oleh PT Vale kepada karyawannya. Deklarasi ini sesuai dengan kebijakan konflik kepentingan yang diterbitkan di tahun yang sama.

Anti-korupsi [G4-SO4]

Prinsip anti-korupsi sangat penting dilakukan sebagai salah satu bentuk komitmen pada tata kelola yang baik oleh PT Vale. Jika tidak dipatuhi, PT Vale dapat mengalami konsekuensi hukum, reputasi, penyitaan, bahkan penutupan operasi. Informasi ini penting untuk dilaporkan sebagai bentuk keterbukaan dan transparansi Perusahaan kepada pemangku kepentingan.

PT Vale terus melengkapi sarana untuk mendukung penerapan Program Anti-korupsi PT Vale, di antaranya dengan terus mengembangkan organisasi yang menaungi pelaksanaan kegiatan-kegiatan dan pengawasan yang terkait dengan Program Anti-korupsi PT Vale.

Vale Whistleblower Channel atau VWC telah diimplementasikan secara menyeluruh sebagai sarana pelaporan hal-hal terkait dugaan atau sangkaan adanya pelanggaran atas Kode Etik dan Perilaku PT Vale, termasuk perihal korupsi. Selain itu, sejak tahun 2015 Perusahaan telah memiliki *compliance officer* yang secara khusus mengawasi pelaksanaan anti-korupsi. Semua kegiatan di Perusahaan harus melalui *compliance officer* untuk memastikan kepatuhan pada prinsip etika dan integritas.

In addition, the Code of Ethics and Conduct of PT Vale contains examples of expected conduct and examples of intolerable conduct. It is a guideline that encompass, among other things: basic principles of anti-corruption, conflict of interest, harassment; drugs and others. [G4-SO4]

Action for Integrity

In 2016, PT Vale implemented the commitment of honesty, trust, and mutual respect by organizing "Action for Integrity". In this action, all lines of management conducted a campaign of face to face between the level of managerial leadership in the Company with team members. [G4-SO4]

"Action for Integrity" was attended by nearly all employees of PT Vale. In this event, all employees submit a declaration of conflict of interest, as a transparency expected by PT Vale to its employees. This declaration was made in accordance with conflict of interest policy issued in the same year.

Anti-corruption [G4-SO4]

The principle of anti-corruption is very important to be applied as a form of good governance commitment of PT Vale. If not complied with, PT Vale may face consequences in legal aspect, reputation, confiscation, even closure of operations. This information is important to report as a form of disclosure and transparency of the Company to stakeholders.

PT Vale continues to equip facilities to support Anti-corruption Program implementation of PT Vale, including by continuing to develop organizations that accommodate the implementation and supervision of Anti-Corruption Program activities of PT Vale.

Vale Whistleblower Channel or VWC has been implemented widely as a means of reporting matters concerning alleged or suspected violation of PT Vale Code of Ethics and Conduct, including corruption. In addition, since 2015 the Company has appointed a compliance officer who specifically oversees the implementation of anti-corruption program. All activities of the Company will go through a compliance officer to ensure compliance with the principles of ethics and integrity.

Beberapa standar kepatuhan anti-korupsi di PT Vale yang sangat komprehensif pada penerapannya sering mengalami tantangan ketika diterapkan, seperti kerumitan persyaratan dokumen dan juga proses yang memakan waktu cukup panjang. Terkait hal ini Direksi telah menginstruksikan untuk meninjau kembali dan memperbaiki proses yang ada. [G4-DMA]

Kebijakan Anti-korupsi dan Manual Kepatuhan Anti-korupsi PT Vale (secara bersama disebut sebagai "Program Anti-korupsi PT Vale") diterbitkan dan diberlakukan di seluruh area operasional PT Vale.

Program Anti-korupsi PT Vale berlaku sejak tahun 2015 dan berisi pokok-pokok peraturan yang harus dipatuhi oleh seluruh lapisan dalam Perusahaan, tidak terkecuali anggota Dewan Direksi dan Dewan Komisaris Perusahaan.

Pelatihan tatap muka guna pemahaman oleh seluruh karyawan Perusahaan atas Manual dan Kebijakan Anti-korupsi PT Vale dimulai sejak tahun 2015 dan berakhir pada tahun 2016 dengan partisipasi sejumlah 3.038 (99,51%) peserta karyawan di wilayah operasi Sulawesi.

Komunikasi kebijakan dan prosedur anti-korupsi kepada manajemen tata kelola tertinggi dengan jabatan Manajer Madya keatas telah diikuti oleh semua manajer. Komunikasi kebijakan dan prosedur anti-korupsi telah dilakukan kepada semua karyawan di wilayah operasi Sulawesi Selatan, Sulawesi Tengah, Sulawesi Tenggara, dan Kantor Pusat di Jakarta. Peserta pelatihan anti-korupsi selama 2016 belum dapat dikelompokkan berdasarkan wilayah karena cakupan kerja karyawan yang lebih dari satu area. [G4-SO4]

Some anti-corruption compliance standards at PT Vale that are very comprehensive in their application often face challenges when applied, such as the hassle of documentation requirements and time-consuming process. Therefore, the Board of Directors has instructed to review and improve the existing processes. [G4-DMA]

Anti-corruption Policy and Anti-corruption Compliance Manual of PT Vale (collectively referred to as "the Anti-corruption Program of PT Vale") was issued and applied throughout the area of operations of PT Vale.

Anti-corruption Program of PT Vale has been in effect since 2015 and contains the points of the regulations that must be complied by all members of the Company, including members of the Board of Directors and Board of Commissioners.

Face to face training to provide all employees with comprehension on the Anti-corruption Manual and Policy of PT Vale has started since 2015 and ended in 2016, which was attended 3,038 (99.51%) participants in the operational area of Sulawesi.

Communications of anti-corruption policy and procedures have been conducted to all employees in the operating areas of South Sulawesi, Central Sulawesi, Southeast Sulawesi and Head Office in Jakarta. The anti-corruption training participants during 2016 had not been grouped by region due to the employees' scope of work was more than one area. [G4-SO4]



Jumlah Peserta Sosialisasi dan Pelatihan <i>Anti-Bribery and Corruption</i> (ABC) [G4-SO4] Total Participants in Dissemination and Anti-Bribery and Corruption (ABC) Training			
Jabatan Position	Jumlah Total Karyawan Total Number of Employees	Jumlah Peserta Pelatihan Number of Training Participants	% Terhadap Jumlah Total % of Total
Direksi Director	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 Employee	2,861	2,847	99.51%
Jumlah Total	3,053	3,038	99.51%



Selain itu, komunikasi kebijakan dan prosedur juga dilakukan di tahun 2016 dengan tulisan-tulisan dalam jurnal internal PT Vale, tampilan pesan dalam laman internal yang dapat diakses secara elektronik, pengiriman bahan-bahan presentasi anti-korupsi kepada seluruh mitra, pemasok, dan kontraktor PT Vale. Hingga tahun 2016, pelatihan kepada mitra dan kontraktor baru dilaksanakan kepada mitra, pemasok, dan kontraktor di Sulawesi Selatan. Sosialisasi di Sulawesi Tenggara dan Sulawesi Tengah akan mulai dilakukan tahun 2017.

In addition, the communication of policy and procedure on anti-corruption was also conducted in 2016 through the pieces in PT Vale internal journal, the messages on internal website that can be accessed electronically, distribution of anti-corruption presentation materials to all contractors of PT Vale. By 2016, training of new partners and contractors are only provided to partners, suppliers, and contractors in South Sulawesi. Dissemination in Southeast Sulawesi and Central Sulawesi will start in 2017.



Jumlah Mitra dan Pemasok yang telah Mendapatkan Sosialisasi Anti-korupsi [G4-SO4]
Number of Partners and Suppliers Participated in Anti-corruption Dissemination

Mitra dan Pemasok Partners and Suppliers	Jumlah Mitra dan Pemasok Total Partners and Suppliers	Jumlah Mitra dan Pemasok yang telah Mendapatkan Sosialisasi Anti-korupsi Number of Partners and Suppliers Participated in Anti-corruption Dissemination	% Terhadap Jumlah Total Mitra dan Pemasok % of Total Partners and Suppliers
Lokal Local	744	279	38
Internasional International	841	0	0
Jumlah Total	1,585	279	18

Sejak Agustus 2015 hingga akhir tahun 2016, PT Vale telah mengkaji semua kasus dan memastikan tidak ada karyawan maupun mitra dan kontraktor yang dihadapkan pada hukuman pidana maupun sanksi lain, terkait tindakan dan/atau perbuatan korupsi.

Dana hibah sebesar Rp11,7 miliar yang diberikan PT Vale kepada Pemerintah Daerah Provinsi Sulawesi Tengah tahun 2016 sempat menimbulkan pertanyaan dari beberapa pihak karena disinyalir sebagai praktik korupsi. Namun, Perusahaan sudah melakukan klarifikasi kepada media dan pemangku kepentingan terkait bahwa proses ini sudah sesuai dengan ketentuan internal Perusahaan dan peraturan di Indonesia.

Vale Whistleblower Channel

VWC diawasi oleh berbagai pihak dan memiliki tindak lanjut yang tegas dan terencana. Hal-hal yang dapat dilaporkan meliputi penggelapan, korupsi, pencurian, pelanggaran kebijakan Perusahaan, konflik kepentingan, kecurangan laporan keuangan, penyuapan, pelecehan, diskriminasi, pelanggaran ketentuan lingkungan hidup, serta kesehatan dan keselamatan kerja (K3).

From August 2015 to the end of 2016, PT Vale reviewed all cases and determined that no employee, partner or contractor were required to be subject to criminal penalties or other sanctions, over corruption.

A grant of Rp11.7 billion was allocated by PT Vale to the Central Sulawesi Provincial Government in 2016 had raised questions from some parties due to suspicion of corruption. However, the Company has clarified to the media and relevant stakeholders that this process has been conducted according to the Company's internal provisions and regulations in Indonesia.

Vale Whistleblower Channel

VWC is overseen by various parties and have a firm and planned follow-up. The issues that can be reported include embezzlement, corruption, theft, violation of Company policies, conflict of interest, financial statement fraud, bribery, harassment, discrimination, environmental violations and occupational health and safety (OHS).

PT Vale menjamin kerahasiaan, kemandirian tanpa intervensi, ketidakberpihakan dan kekebalan dalam penanganan, penyelidikan, dan penyimpanan informasi yang diterima melalui VWC. Perusahaan tidak memberikan toleransi terhadap tindakan pembalasan atau retaliai dan menyatakan segala bentuk tindakan pembalasan sebagai suatu pelanggaran (*misconduct*).

Guna memastikan adanya perlindungan terhadap pelapor dan haknya, VWC menerima pelaporan tanpa nama (*anonym*). VWC dipastikan tidak memiliki kemampuan maupun kewenangan untuk melakukan *back tracking* data pelapor.

PT Vale ensures confidentiality, independence without intervention, impartiality and immunity in the handling, investigation, and storage of information received through the VWC. The Company does not tolerate reprisals or retaliation and declares any form of reprisal as a violation (misconduct).

To ensure the protection of the whistleblowers and their rights, VWC accept anonymous reporting. VWC is ensured not to have the ability nor the authority to back track the whistleblower's data.



Laporan yang disampaikan melalui VWC akan diterima oleh lembaga independen yang ditunjuk oleh pemegang saham PT Vale, yaitu Vale S.A., dan akan 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.

Penerimaan laporan akan ditindaklanjuti secara seksama tanpa campur tangan PT Vale. Laporan dapat secara bebas dilakukan terhadap seluruh lini PT Vale, mulai dari anggota Dewan Komisaris, Dewan Direksi dan seluruh lini pimpinan maupun karyawan. VWC memastikan proses penindakan dapat dilakukan sesuai dengan aturan yang ditetapkan karena adanya pengawasan dari pemegang saham PT Vale.

The reports that are submitted via VWC will be received by an independent agency appointed by shareholder of PT Vale, which is Vale S.A., and will be directly submitted to the Ethics and Conduct Office in Brazil, which is part of the Vale Global organization that specifically handles violations related to Vale and its subsidiaries in the world.

The incoming reports will be followed up thoroughly without interference from PT Vale. The reports can be freely submitted by all lines of PT Vale, ranging from members of the Board of Commissioners, Board of Directors, as well as line management and employees. VWC ensures the enforcement process can be carried out in accordance with the established rules due to oversight by PT Vale's shareholders.

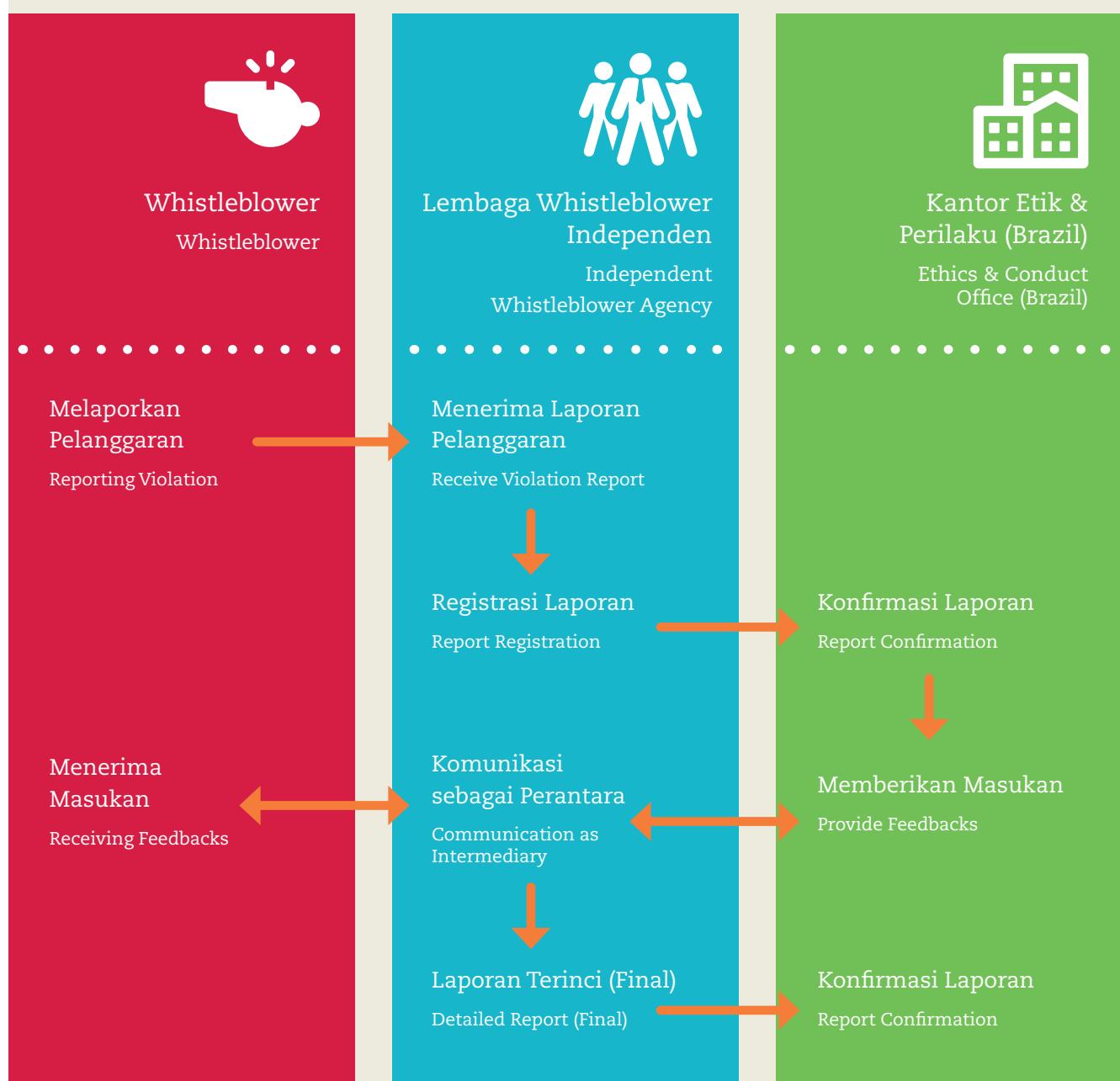


Kampanye VWC dilakukan dalam setiap kesempatan kepada seluruh karyawan dan pemangku kepentingan. PT Vale mendatangkan pimpinan Ethics and Conduct Office dari Brazil untuk memberikan penjelasan kepada pimpinan di Perusahaan di berbagai tingkatan mengenai proses investigasi yang dilakukan, perlindungan terhadap pelapor dan pengawasan pelaksanaan tindakan disiplin apabila laporan dapat dibuktikan.

VWC campaign is carried out at every opportunity to all employees and stakeholders. PT Vale brings the leadership of Ethics and Conduct Office from Brazil to provide an explanation to the management at various levels on process of investigations conducted, whistleblower protection and supervision of disciplinary action implementation if the report can be proven.

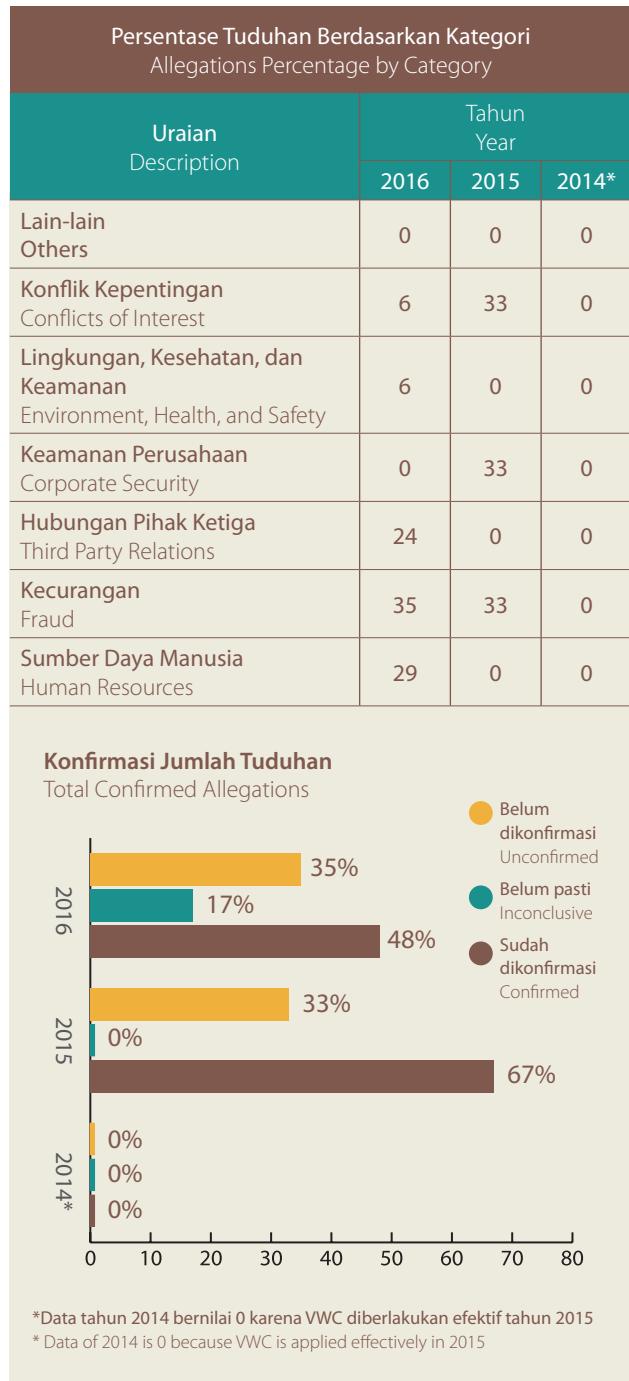
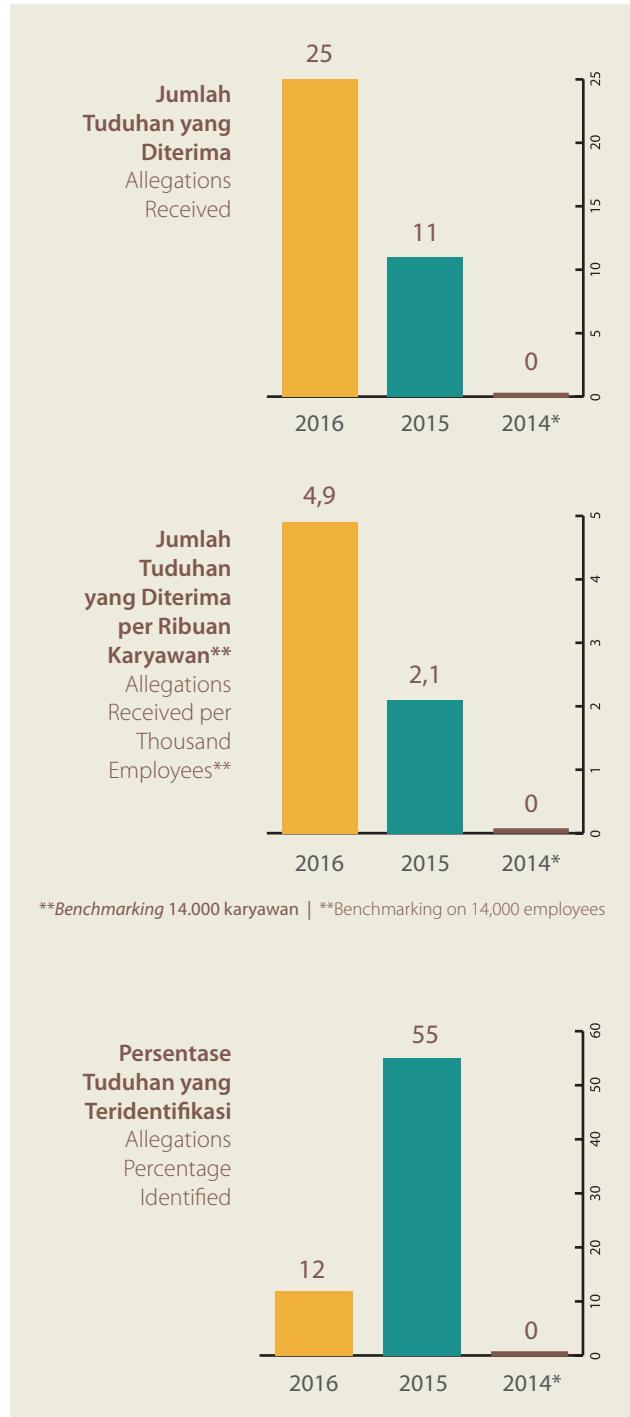
Mekanisme Penanganan Pelaporan VWC

VWC Reporting Mechanism



Statistik VWC

VWC Statistics



Data statistik VWC dilaporkan selama 2 tahun terakhir karena VWC baru diimplementasikan efektif tahun 2015.

VWC statistical data has been reported over the last 2 years due to implementation of VWC was only effective since 2015.



Kode Etik dan Perilaku Pemasok [G4-56]

Kode Etik dan Perilaku PT Vale telah dikampanyekan sejak akhir tahun 2014. Tahun 2016 Perusahaan memberlakukan dan mengkampanyekan penerapan Kode Etik dan Perilaku Pemasok kepada seluruh kontraktor Perusahaan.

Kepatuhan terhadap Kode Etik Pemasok mendorong para pemasok untuk melakukan kegiatan bisnis dengan PT Vale sesuai standar-standar tertinggi dari perilaku yang etis, anti-korupsi, dan patuh terhadap hukum yang berlaku. Hingga akhir periode pelaporan, sudah ada 279 (80%) mitra, pemasok, dan kontraktor terdaftar yang mengikuti kegiatan sosialisasi Kode Etik Pemasok. [G4-SO4]

Edukasi Kegiatan Penambangan Vale

Tahun 2016 PT Vale melakukan edukasi kegiatan penambangan kepada masyarakat dan media. Edukasi diberikan dalam upaya sosialisasi dan memberikan informasi mengenai kegiatan penambangan yang dilakukan.

Kegiatan edukasi kepada masyarakat dilakukan dengan mengadakan *site visit* ke lokasi-lokasi area tambang Perusahaan. Edukasi kepada masyarakat lebih dimaksudkan untuk memberikan pemahaman bahwa area tambang adalah kawasan yang tertutup, sehingga siapa pun tidak dapat begitu saja memasuki lokasi tanpa izin.

Salah satu bentuk edukasi yang dilaksanakan PT Vale pada tahun 2016 adalah larangan menggembalakan ternak di area tambang. Pada 16 Juni 2016, PT Vale bersama Pemerintah Kabupaten Luwu Timur mengeluarkan peringatan kepada publik bahwa ternak yang berkeliaran di area tambang sangat berbahaya bagi kegiatan operasi dan disebabkan oleh kelalaian pemilik ternak. Langkah ini dilakukan bekerja sama dengan Pemerintah Kabupaten Luwu Timur untuk membebaskan area tambang dari ternak yang berkeliaran. Hingga akhir 2016, langkah ini masih dalam proses.

Edukasi kepada media dilaksanakan dengan beberapa kegiatan, di antaranya kunjungan media ke area tambang dan fasilitas pengolahan. Pelaksanaan kegiatan ini juga menjadi salah satu bentuk keterbukaan informasi.

Edukasi kepada media ditujukan untuk memberikan informasi bahwa dalam melaksanakan kegiatan operasinya, PT Vale senantiasa mematuhi ketentuan hukum dan perundang-undangan yang berlaku di Indonesia. Termasuk dalam hal pemenuhan tanggung jawab sosial dan lingkungan.

Supplier Code of Ethics and Conduct [G4-56]

PT Vale Code of Ethics and Conduct has been campaigned since the end of 2014. In 2016, the Company imposed and campaigned the application of Supplier Code of Ethics and Conduct to all contractors of the Company.

Compliance with the Supplier Code of Conduct encourages suppliers to do business with PT Vale according to the highest standards of ethical conduct, anti-corruption, and compliance with applicable laws. Until the end of the reporting period, there were 279 partners, suppliers, and contractors, or nearly 80% of the total registered suppliers who attended dissemination of the Supplier Code of Conduct. [G4-SO4]

Education on Vale Mining Activities

In 2016, PT Vale held education on mining operations to the community and media. The education was given in the dissemination and provided information on mining activities conducted.

The education activities to the community were carried out by organizing a site visit to the Company's mining areas. Education to the community aimed to provide awareness that the mining area is a restricted area that anyone is not allowed to just enter the premises without permission.



One of the education forms conducted by PT Vale in 2016 was the prohibition of grazing cattle in the mine area. On June 16, 2016, PT Vale issued a warning to the public that cattle roaming in the mining area are very dangerous to the operation and caused by careless owners. The measures were taking place with the Government of East Luwu Regency to make the mining area cattle free. As of the end of 2016 this work is still in progress.

Education to the media was carried out in several activities, including media visits to the mine sites and processing facilities. These activities were held as a form of information transparency.

Education to the media aims to provide information that in carrying out its operations, PT Vale continues to comply with laws and regulations applicable in Indonesia. It included the fulfillment of social and environmental responsibility.

Tata Kelola Perusahaan Berkelanjutan

Sustainable Corporate Governance

Sesuai Undang-Undang No.40 Tahun 2007 Tentang Perusahaan Terbatas, struktur tata kelola PT Vale terdiri atas Rapat Umum Pemegang Saham (RUPS), Dewan Komisaris, dan Direksi. [G4-34]

- RUPS 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.

PT Vale mendelegasikan tugas dan fungsi program sosial di bawah Departemen Komunikasi dan Hubungan Luar yang memiliki empat divisi yaitu: [G4-34]

- Divisi Communications yang menjalankan fungsi komunikasi,
- Divisi Strategic Planning and Formalities yang 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, dan
- Divisi Stakeholder Relations yang menjalankan fungsi membangun hubungan baik dengan pemangku kepentingan terkait.

Penjelasan lain mengenai penerapan dan pelaksanaan GCG disampaikan dalam Laporan Tahunan 2016 PT Vale Indonesia Tbk., yang disusun terpisah dari Laporan ini.

Perusahaan memiliki fungsi khusus manajemen risiko sebagai bentuk prinsip kehati-hatian Perusahaan dalam mengelola risiko. Pembahasan mengenai manajemen risiko secara lengkap disampaikan di Laporan Tahunan 2016 PT Vale. [G4-14]

According to the Law No.40 of 2007 on Limited Liability Company, PT Vale's governance structure consists of a General Meeting of Shareholders (GMS), the Board of Commissioners and Board of Directors. [G4-34]

- GMS is the highest Company organ in the governance structure.
- Board of Commissioners is Company organ which has the oversight and advisory duty and responsibility to the Board of Directors in managing PT Vale.
- Board of Directors is Company organ that has duty and responsibility to manage PT Vale.

PT Vale delegate tasks and functions of social programs under the Ministry of Communications and External Relations who has four divisions, namely: [G4-34]

- Communications Division which perform the function of communication,
- Division of Strategic Planning and Formalities which perform the function of development, policy analysis, strategy development of social programs, planning and internal performance measurement, and to encourage the completion of the licensing process, COW, or operational cooperation agreements between PT Vale and the Government, as well as related parties other,
- Division of Social Development Program, implementation coordination functions PTPM includes education, health, economic, institutional, and other support patterns such as art and culture are included in the partnership program, and
- Stakeholder Relations Division who runs functioning building good relationships with stakeholders.

Other explanations regarding GCG application and implementation are presented in the Annual Report 2016 of PT Vale Indonesia Tbk., prepared separately from this report.

The Company has a risk management special function as a form of the Company's prudential principle in managing risk. The complete discussion of the risk management is presented in the Annual Report 2016 of PT Vale. [G4-14]



Tahap dan Prinsip Pembuatan Laporan

Reporting Stages and Principles

Proses Penentuan Isi dan Batasan Laporan [G4-18]

Dalam menyusun laporan ini, kami mempertimbangkan prinsip keterlibatan pemangku kepentingan, materialitas, konteks keberlanjutan, dan kelengkapan. Kami juga menjaga kualitas laporan dengan mempertimbangkan prinsip kejelasan, komparabilitas, keseimbangan, akurasi, keandalan, dan ketepatan waktu, dalam penyampaian batasan aspek material.

Untuk memastikan kesepuluh prinsip tersebut dipenuhi, PT Vale melibatkan beberapa pemangku kepentingan internal dan eksternal dalam proses penyusunan laporan. Selain pihak internal, kami juga melibatkan akademisi FGD dalam penentuan aspek material. Penyusunan laporan keberlanjutan juga melibatkan konsultan dan assuror independen dalam proses *assurance*.

Penetapan isi laporan didasarkan pada Pedoman Penulisan Laporan Keberlanjutan (Sustainability Reporting Guidelines) GRI G4, dengan proses sebagai berikut:

- Langkah pertama, mengidentifikasi aspek-aspek keberlanjutan yang relevan dengan karakteristik bisnis Vale dan menentukan batasan aspek material (*boundary*).
- Langkah kedua, membuat prioritas atas aspek-aspek keberlanjutan yang akan dilaporkan.
- Langkah ketiga, melakukan validasi atas aspek material yang telah menjadi prioritas tersebut. Validasi mendapat pengesahan dari Direksi, selaku pejabat tata kelola Perusahaan yang bertanggung jawab atas penyusunan dan penerbitan laporan ini.
- Langkah keempat, melakukan kajian ulang atas laporan tahun sebelumnya dengan memperhatikan saran dari pemangku kepentingan. Salah satu saran yang disampaikan adalah meningkatkan reliabilitas laporan dengan menggunakan penjamin (*assurance*) dan hal ini telah dilakukan.

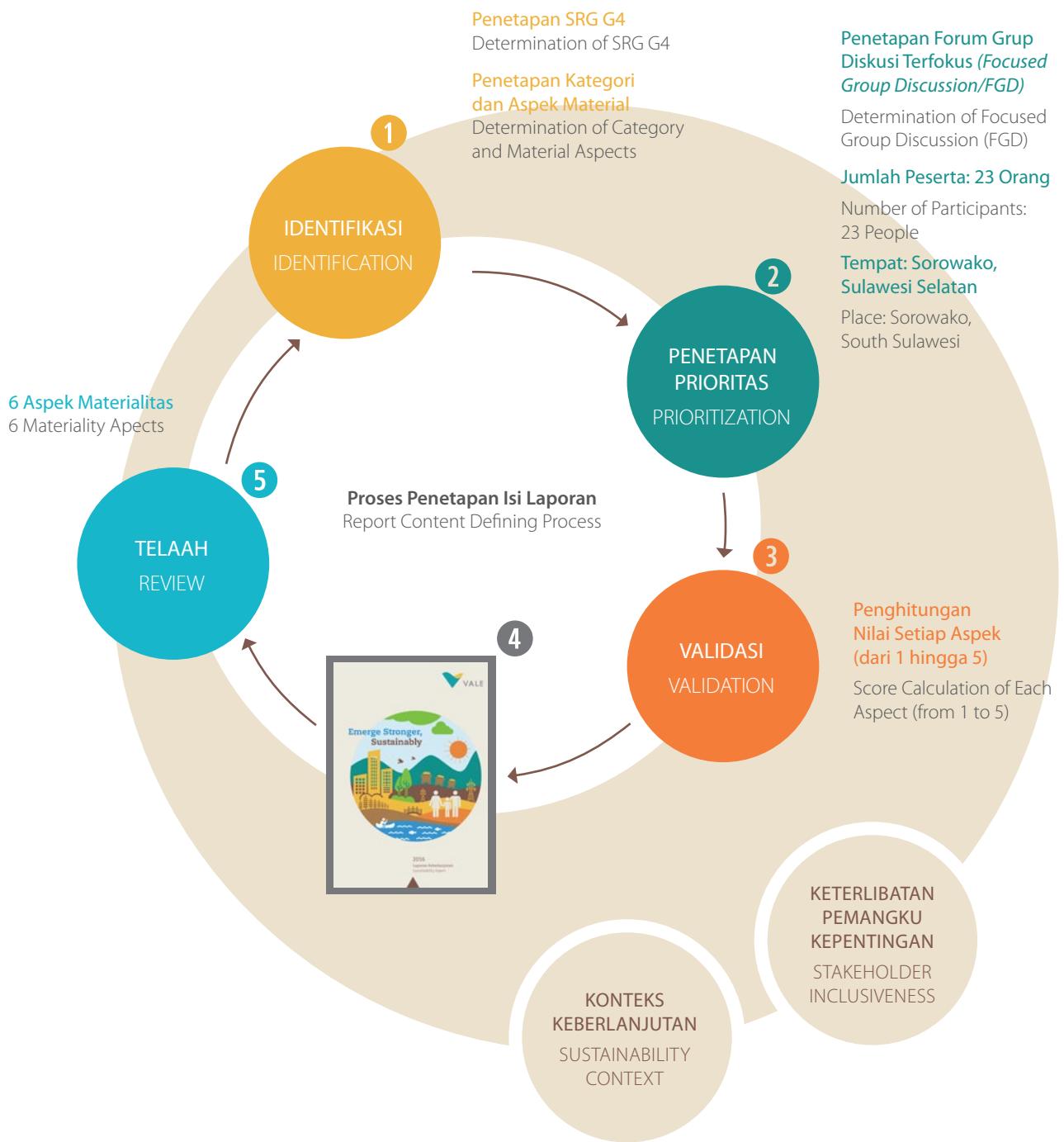
Report Content Defining Process and Boundaries [G4-18]

In preparing this report, we considered the principles of stakeholder inclusiveness, materiality, sustainability context, and completeness. We also maintained the quality of the report by taking into account the principles of clarity, comparability, balance, accuracy, reliability, and timeliness in presenting the boundaries of material aspects.

To ensure these 10 principles were met, PT Vale involved several internal and external stakeholders in the report preparation process. In addition to internal parties, we also involved academics in the FGD to define material aspects. The preparation of a sustainability report also involved consultants and independent assuror in the assurance process.

The report content defining is based on Sustainability Reporting Guidelines of GRI G4, with the following process:

- First step, identify the aspects of sustainability that are relevant to Vale's business characteristics and define the material aspect boundary.
- Second step, prioritize sustainability aspects to be reported.
- Third step, validate the material aspect that have been prioritized. The validation is approved by the Board of Directors, a corporate governance officer in charge of preparing and publishing this report.
- Fourth step, review the previous annual report by taking into account suggestions from stakeholders. One of the suggestions was to increase the report reliability by seeking third party's assurance that has been done on this report.



Materialitas laporan ditentukan dengan melibatkan pemangku kepentingan internal dan eksternal melalui *focused group discussion* (FGD) dan survei tatap muka (*face to face*). Dari kegiatan tersebut, PT Vale mengidentifikasi semua topik dalam konteks keberlanjutan dalam aspek material serta mengidentifikasi dampak signifikan setiap aspek pada pengambilan keputusan pemangku kepentingan.

Materiality of the report is determined by involving internal and external stakeholders through a focus group discussion (FGD) and face-to-face surveys. With these activities, PT Vale identifies all topics in sustainability context of material aspects and identifies significant impacts of every aspect in stakeholders' decision-making.



Untuk Keterbukaan
For Transparency





Agenda | Agenda:

Penentuan aspek material laporan Keberlanjutan 2016 yang menghasilkan 8 aspek material

Determining material aspects of Sustainability Report 2016 that resulted in eight material aspects

Peserta | Participants:

- ① Director of Communications and External Affairs (via videoconference)
- ② Senior Manager of Communications
- ③ Senior Coordinator of Publications, Reporting, & PR (via videoconference)
- ④ Communications Officer



Agenda | Agenda:

Penentuan aspek material laporan Keberlanjutan 2016 yang menghasilkan 8 aspek material

Determining material aspects of Sustainability Report 2016 that resulted in eight material aspects

Peserta | Participants:

- ① Akademisi | Academics
- ② Pengamat Laporan Keberlanjutan | Sustainability Report Observers



Agenda | Agenda:

Uji materialitas dan eksplorasi isu penting dari aspek material yang telah ditentukan sebelumnya

Materiality test and exploration of key issues of pre-determined material aspects



FDG Internal

19 Januari 2017

Kantor Pusat PT Vale, Jakarta

Internal FGD, January 13, 2017 at Head Office of PT Vale in Jakarta

Peserta | Participants:

- ① President Director (via videoconference)
- ② Vice President HR & Corporate Services (via videoconference)
- ③ Director & Chief Operating Officer (via videoconference)
- ④ Director of Communications and External Affairs (via videoconference)
- ⑤ Director of Mines (via videoconference)
- ⑥ Director of Process Plant (via videoconference)
- ⑦ Deputy COO, Director of Environment, Health & Safety (via videoconference)
- ⑧ Director of Strategic Business Development & Growth Project (via videoconference)
- ⑨ Director of Mining Safety Improvement Project (via videoconference)
- ⑩ Senior Manager of Compliance (via videoconference)
- ⑪ Senior Manager of Investor Relation & Corporate Office
- ⑫ Senior Manager of Communications
- ⑬ Senior Coord. Publications, Reporting, & PR

1. Anti-korupsi | Anti-corruption

2. Kinerja Ekonomi | Economic Performance

3. Kesehatan dan Keselamatan Kerja | Health and Safety

4. Emisi | Emissions

5. Energi | Energy

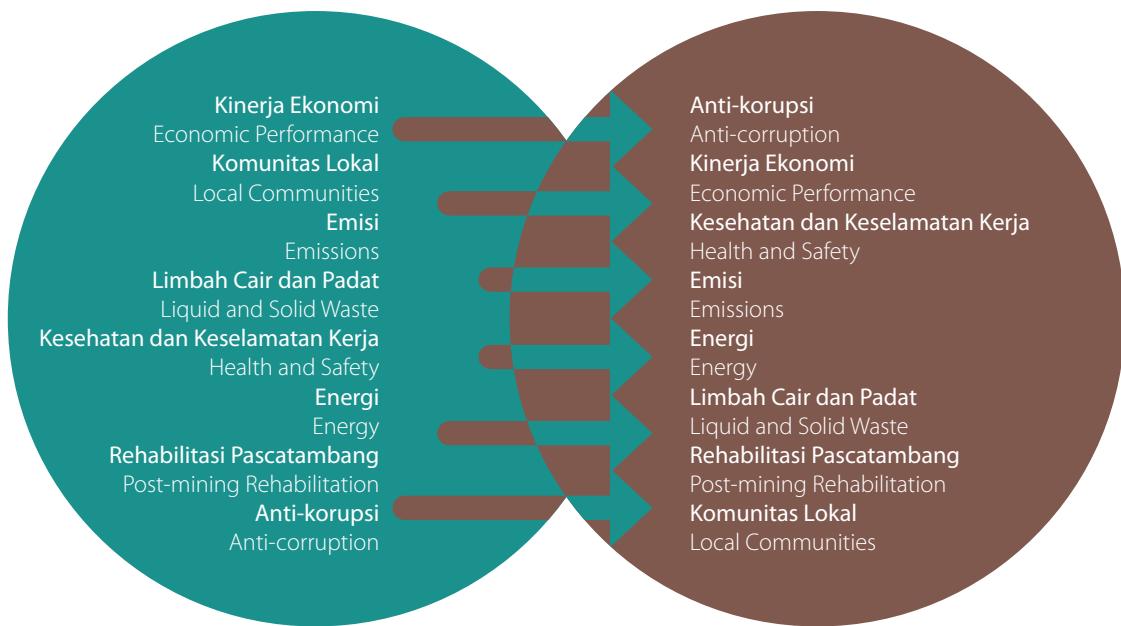
6. Limbah Cair dan Padat | Liquid and Solid Waste

7. Rehabilitasi Pascatambang | Post-mining Rehabilitation

8. Komunitas Lokal | Local Community

8 aspek
material laporan
keberlanjutan 2016
8 material aspects
of Sustainability
Report 2016

Perubahan Aspek Material [G4-23] | Change of Material Aspects



Batasan Aspek Material [G4-19] [G4-20] [G4-21]

Batasan aspek material menjelaskan dampak pengaruh setiap aspek material terhadap pemangku kepentingan, baik di dalam maupun luar Perusahaan.

Kegiatan di Blok Pomalaa dan Blok Bahodopi lebih sedikit dari area lainnya karena belum beroperasi. Oleh karena itu, data yang diambil dari kedua wilayah ini tidak sebanyak data dari area lainnya.

Material Aspect Boundaries [G4-19] [G4-20] [G4-21]

Boundaries of material aspects describe the impact of each material aspect on both internal and external stakeholders of the Company.

There were fewer activities in Pomalaa Block and Bahodopi Block than other areas because they have not yet operated. Therefore, there was fewer data collected from the two areas than other areas.

Aspek Material Material Aspect	Lingkup Pelaporan Scope of Reporting		Dampak Pada Pemangku Kepentingan Impact on Stakeholders	
	Kantor Pusat Jakarta Jakarta Head Office	Seluruh Area Operasi Sulawesi All Operating Areas of Sulawesi	Internal Internal	Eksternal External
Anti-korupsi Anti-corruption	✓	✓	Karyawan, pemimpin, kontraktor Employees, management, contractors	Sektor swasta dan publik, komunitas Private and public sectors, community
Kinerja Ekonomi Economic Performance	✓	✓		Sektor swasta dan publik, serikat karyawan, keluarga karyawan Private and public sectors, workers union, employees' families
Kesehatan dan Keselamatan Kerja Occupational Health and Safety	✓	✓		Sektor swasta dan publik, komunitas Private and public sectors, community
Emisi Emissions		✓		Sektor swasta dan publik, komunitas Private and public sectors, community
Energi Energy		✓		Sektor swasta dan publik, komunitas, masyarakat Private and public sectors, communities, society
Limbah Cair dan Padat Liquid and Solid Waste		✓		Sektor swasta dan publik, komunitas, lembaga penelitian Private and public sectors, communities, research institutions
Rehabilitasi Pascatambang Post-mining Rehabilitation		✓		
Komunitas Lokal Local Community		✓		



Terdapat pernyataan kembali (*restatement*) terkait intensitas energi dan total emisi tahun 2014 dan 2015 yang disebabkan oleh perbedaan perhitungan dan perubahan pada aspek material yang dipilih. Dibandingkan dengan tahun lalu, aspek material hanya mengalami perubahan skala prioritas. [G4-22][G4-23]

There were restatements regarding energy intensity and total of emission in 2014 and 2015 caused by different calculation and changes in material aspects that have been selected. Compared to the previous year, the material aspect only changed in the scale of priority. [G4-22][G4-23]

Pernyataan Penjaminan Independen Independent Assurance Statement

Pedoman yang digunakan dalam laporan ini adalah Sustainable Reporting Guideline yang dikeluarkan oleh Global Reporting Initiative versi 4 (GRI G4) dan Mining and Metals Sector Disclosures (MM). Laporan ini sesuai dengan *core option* pada Sustainability Reporting Guideline GRI G4. [G4-32]

Sama seperti tahun lalu, laporan ini telah disertakan dalam penjaminan (*assurance*) oleh pihak independen. Tahun ini, Perusahaan mendelegasikan proses *assurance* kepada SR Asia. Penjamin eksternal ini dipilih sesuai dengan kebijakan Perusahaan, yaitu tidak adanya benturan kepentingan dengan pihak manapun. Selama proses *assurance*, PT Vale menyiapkan semua dokumen yang sudah diverifikasi berdasarkan sampel yang diminta dan memberikan klarifikasi jawaban atas pernyataan terkait informasi pelaporan. Proses *assurance* dilaksanakan di Kantor Pusat Perusahaan di Jakarta dan dipantau langsung oleh Senior Manager Komunikasi. [G4-33]

This report refers to the Sustainable Reporting Guidelines issued by the Global Reporting Initiative version 4 (GRI G4) and the Mining and Metals Sector Disclosures (MM). This report is based on core option of GRI G4 Sustainability Reporting Guidelines. [G4-32]

Similar to last year, this report has been submitted for assurance by an independent party. This year, the Company delegated the assurance process to SR Asia. The external assuror has been selected in accordance with the Company's policy, on no involvement in conflicts of interest with any party. During the assurance process, PT Vale prepared all documents that have been verified by the requested samples and provide answers for clarification on statements of reporting information. The assurance was processed at the Head Office in Jakarta and was monitored directly by the Senior Manager of Communications. [G4-33]



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Independent Assurance Statement

The 2016 Sustainability Report of PT Vale Indonesia Tbk

Number: 002/000-174/III/2017/SR-Asia/Indonesia

Type : 1

Level : Moderate

SR Asia was engaged by **PT Vale Indonesia Tbk** or “the Reporting Organization”, to assure and provide an Independent Assurance Statement on its **2016 Sustainability Report**, or “the Report”. The Reporting Organization is a listed company operating in nickel mining and processing in Indonesia, and also a subsidiary of Vale international company. The Report presents sustainability performance data and information of the Reporting Organization only.

The development of the Report is based on the Sustainability Reporting Guidelines version 4 of the Global Reporting Initiative (GRI G4 Guidelines) and its Metal and Mining Sector Disclosures. The content and presentation of the Report is the sole responsibility of the Reporting Organization. SR Asia responsibility, as agreed with the management of the Reporting Organization, is to provide an independent assurance on the Report content and generate recommendations as described in the scope of assurance.

Our responsibility in performing our assurance work is to the management of the Reporting Organization only and in accordance with the terms of reference with the Reporting Organization. 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 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 2016.
2. Sustainability specific data and information related to the eight material aspects that have been identified by the Reporting Organization; which are anti-corruption, economic performance, health and safety, emissions, energy, effluent and solid waste, post-mining rehabilitation, and local community.
3. Visit the head quarter to review the data, information and indicators as specified.

Exclusion

The assurance scope excludes:

1. Aspects 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.



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3. Data and information in the public domain not covered in the reporting period.
 4. Company's statements and claims describing expression of opinion, belief, expectation, advertisement, and future planning.
 5. Financial performance data and information from the Reporting Organization's annual financial report other than those mentioned in the Report.
 6. Stakeholders' engagement, which may be involved in developing the Report.

Type and Level of Assurance

Our responsibility, in accordance with the agreement with management, was to carry out:

1. Type 1 of assurance service on the Report content with respect to the AA1000AS (2008) Assurance Standard and AA1000APS (2008) Accountability Principles Standard.
2. A moderate level of assurance procedure on the Report content and evidence, where the risks of information and conclusions of the Report being error is reduced, but not reduced to very low, but not zero.
3. Evaluation on publicly disclosed information, the system and process of the Reporting Organization has in place to ensure adherence to the principles.

Methodology

The Assurance Team performed initial assessment on the Report that was submitted by the Reporting Organization. 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 quarter of the Reporting Organization to discuss the Report with the management team comprising of representatives from corporate secretary and community development.
2. Evaluation of data and information against the standards, principles and indicators of AA1000AS (2008) and AA1000APS (2008) AccountAbility, GRI G4 and its Financial Services Sector Disclosures.
3. Assurance of performance indicators data, including tracing back data to the sources, especially on the indicators related to material aspects.

Adherence to AA1000APS (2008) and GRI G4

Inclusivity – The Reporting Organization has engaged with internal and external stakeholders to identify a wide range of stakeholder groups to be included in the Report. The Reporting Organization also presents its vision, mission, code of conduct, and policies in the Report that indicates commitment to be accountable for the economic, social and environmental impacts of its operations and decisions on the stakeholders as well as to engage stakeholders in its decision-making process. The commitment is integrated in the Reporting Organization and implemented through various approaches regarding the characteristics and types of relationship with the stakeholders.

Materiality – The Reporting Organization presents engagement and performance in various material aspects at different levels in the Report. The material aspects are anti-corruption, economic performance, health and safety, emissions, energy, effluent and solid waste, post-mining rehabilitation, and local community. Different functions of the Reporting Organization in the head quarter and on sites to some extent are engaged in the material aspects. The Assurance Team has assessed that adherence

to materiality principle is good; where the Reporting Organization also presents specific-sector issues in the Report properly.

Responsiveness – The Reporting Organization refers to the Vale's global strategy for sustainability. Therefore, the Reporting Organization has an adequate level of responsiveness to address international sustainability issues. The result of identification of material aspects, such as anti-corruption, local community, post-mining rehabilitation, emission, and effluent and solid waste, indicates the Reporting Organization's concerns on the stakeholders' interests at local and national level. The Reporting Organization also adopts a system called "Vale Whistleblower Channel" or "VWC", which is managed independently and globally, to respond grievances.

In "Accordance" with Core Option – The Report follows the core option of GRI G4 where at least one indicator of each material aspect is presented and discussed in the Report. Indicators of Metal and Mining Sector Disclosures are also addressed and appropriately presented by the Reporting Organization. The discussion on Disclosure of Management Approach (DMA) of material aspects in general is relatively sufficient in the Report.

GRI G4 Principles – 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) to some extent have been applied in developing the Report. The Report also clarifies data and information that cannot be presented in accordance with the principles due to management discretion or system and data administration issue.

Recommendation

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

1. The Reporting Organization is encouraged to develop sustainability strategy or blueprint at strategic level for the Indonesia setting. That should be initiated by adopting global strategy and issues and considering local and national context.
2. In order to reach at higher level of confidence on material aspects, the Reporting Organization is advised to provide more evidences on data and evaluation, such as board evaluation report or stakeholder engagement report. That will indicate also engagement of the highest governance body of the Reporting Organization in supervising performance of material aspects.
3. The Reporting Organization is advised to develop integrated and adequate system and data administration that can support the presentation of data in the Report in adherence to the standards and principles. That should also consider consistency of data sources, methodology of measurement and presentation.

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.



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The Assurance Team was consisted of a number of sustainability experts in ISO 26000, sustainability accounting standards of SASB, and the principles and standards of AA1000 AccountAbility, GRI Sustainability Reporting Guidelines, 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, 17th of March 2017



Birendra Raturi
International Director of
Social Responsibility Asia (SR Asia)



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Bagi Kehidupan

For Life





Menjaga Ketahanan Ekonomi

Maintaining Economic Resilience

Ketahanan ekonomi merupakan aspek material karena dasar penyelenggaraan operasi Perusahaan bertumpu pada kinerja ekonomi. Karena risiko yang ada dapat berdampak kepada kinerja keuangan, Perusahaan memiliki pendekatan manajemen keuangan dan manajemen risiko.

Tingkat produksi nikel dalam *matte* yang mengalami penurunan dibanding tahun 2015 disebabkan adanya kegiatan perawatan terhadap fasilitas produksi. Memasuki semester kedua tahun 2016, tingkat produksi kembali meningkat, seiring selesainya kegiatan perawatan.

Turunnya produksi nikel dalam *matte* dan belum membaiknya harga nikel di pasar dunia, berpengaruh pada kinerja keuangan PT Vale sepanjang tahun 2016. Kondisi tersebut disikapi dengan usaha efisiensi untuk menekan biaya produksi. Secara bersamaan Perusahaan juga memantau pengeluaran untuk menjaga ketersediaan kas.

Perusahaan tidak dapat mengontrol harga nikel karena mengikuti harga nikel dunia. Perusahaan melakukan pengendalian biaya/*cost improvement* melalui program *coal conversion* dan peninjauan kontrak mitra Perusahaan berdasarkan skala prioritas.

Total realisasi produksi nikel dalam *matte* tahun 2016 mencapai 77.581 MT, lebih rendah 3.596 MT dibanding tahun 2015 sebesar 81.177 MT. Target produksi nikel dalam *matte* untuk tahun 2017 mencapai 80.000 MT. Perusahaan tidak menetapkan target penjualan karena seluruh produksi nikel dalam *matte* dijual kepada Vale Canada Limited dan Sumitomo Metal Mining Co.,Ltd sesuai perjanjian penjualan. Kinerja ekonomi ini dipantau oleh Direktur Keuangan yang bertanggung jawab kepada Direktur Utama. [G4-DMA]

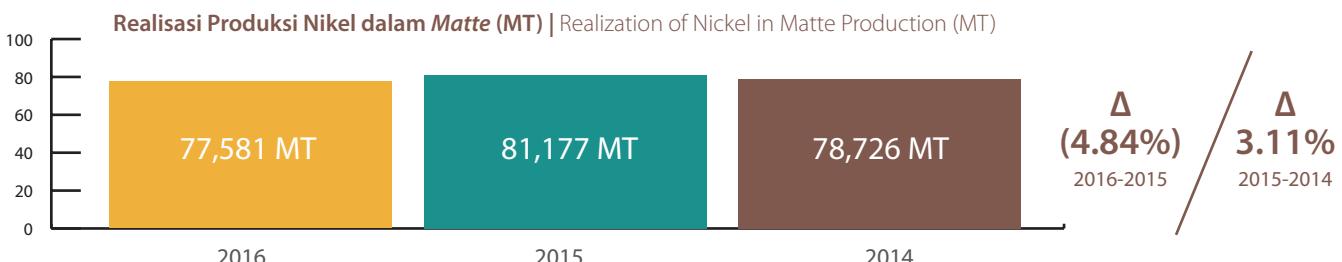
Economic resilience as material aspect because it is a basis of managing the Company's operations that lies on economic performance. As existing risks can impact the financial performance, the Company has a financial management and risk management approach.

The level of nickel in matte production decreased compared to 2015 due to maintenance of production facilities. Entering the second half of 2016, production levels increased again, following the completion of maintenance activities.

The fall in nickel in matte production and nickel prices that had not recovered in the world market, affected the financial performance of PT Vale throughout 2016. The condition was addressed by applying efficiency to reduce cost of production. Simultaneously, the Company also monitored expenditures to maintain the availability of cash.

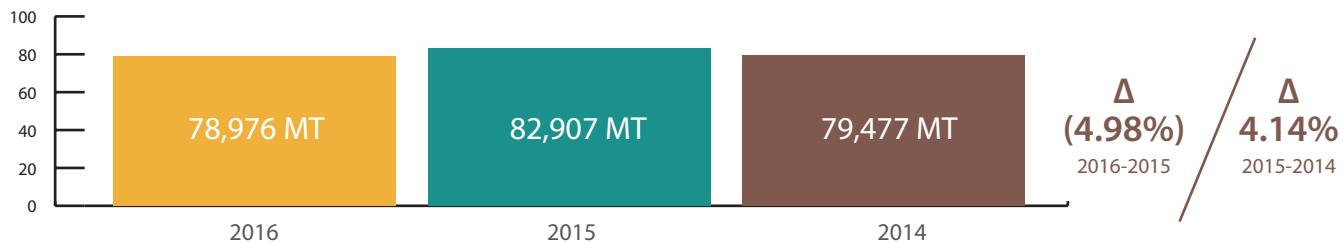
The Company can not control the price of nickel as it follows the world nickel prices. The Company applies cost control/cost improvement through coal conversion program and review of partners' contract based on scale of priority.

Total realization of nickel in matte production in 2016 reached 77,581 MT, down 3,596 MT from 81,177 MT in 2015. Nickel in matte production target for 2017 was set to reach 80,000 MT. The Company did not set a sales target because the entire production of nickel in matte is sold to Vale Canada Limited and Sumitomo Metal Mining Co., Ltd. according to the sales agreement. The economic performance is monitored by the Finance Director who reports to President Director. [G4-DMA]



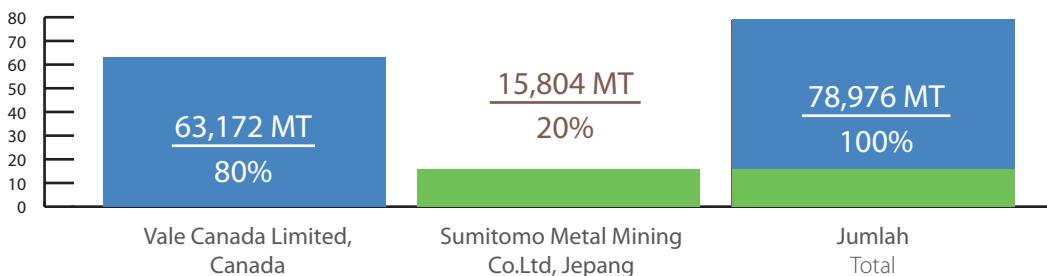


Realisasi Penjualan Nikel dalam Matte (MT) | Realization of Nickel in Matte Sales (MT)



Realisasi Penjualan Nikel dalam Matte Kepada Pelanggan [G4-8]

Target and Realization of Nickel in Matte Sales to Customer



Perolehan Pendapatan Pokok pada kurun waktu periode pelaporan berasal dari pertambangan dan pengolahan nikel dengan harga patokan dari London Metal Exchange (LME). Perhitungan nilai ekonomi yang didapat dan didistribusikan mencakup seluruh area operasional PT Vale.

Generated revenues in the reporting period were from nickel mining and processing with the reference price from the London Metal Exchange (LME). Calculation of economic value generated and distributed covered all operational areas of PT Vale.

Nilai Ekonomi Didapat dan Distribusikan (Ribu USD) [G4-EC1]
Economic Value Generated and Distributed (USD thousand)

Uraian Description	2016	2015	2014
Nilai Ekonomi Dihasilkan Economic Value Generated			
Pendapatan Revenue	584,143	789,745	1,038,082
Pendapatan Lain Other Revenue	1,902	1,357	913
Total Pendapatan Total Revenue	586,045	791,102	1,038,995
Distribusi Nilai Ekonomi Economic Value Distribution			
Biaya Operasi Operating Costs	(414,348)	(505,408)	(529,910)
Gaji Karyawan dan Tunjangan Employee Salary and Allowances	(77,171)	(76,167)	(86,965)
Pembayaran Kepada Penyandang Dana Payments to Providers of Capital	(6,950)	(6,080)	(106,883)
Pembayaran Kepada Pemerintah Payments to Government	(81,002)	(152,653)	(95,336)
Investasi Untuk Komunitas Community Investments	(5,942)	(4,298)	(3,747)
Total Distribusi Nilai Ekonomi Total Economic Value Distribution	(585,413)	(744,606)	(822,841)
Nilai Ekonomi Ditahan Retained Economic Value			
Jumlah Total	632	46,496	216,154

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

Note:
The economic performance of the Company is presented on a consolidated basis in accordance with the audited financial statements, therefore, is not presented by the region or area or product.



Kontribusi Terhadap Negara [G4-EC1] Contribution to the State			
Uraian Description	2016	2015	2014
Komponen Penerimaan Negara Bukan Pajak (PNBP) (000 USD) Components of Non-tax State Revenue (PNBP) (000 USD)			
Iuran Produksi Production Royalty	11,683.00	22,344.32	11,696.53
Iuran Tetap Wilayah Kontrak Karya Land Rent of Contract of Work Area	473.74	544.23	324.93
PNBP Lainnya Other Non-tax State Revenue	71.55	57.02	40.73
Jumlah Total	12,228.29	22,945.57	12,062.19
Komponen Pajak dan Retribusi (000 USD) Components of Taxes and Levies (000 USD)			
Pajak Pertambahan Nilai Value Added Tax	1,077.11	1,328.36	1,329.32
Pajak Bumi dan Bangunan Land and Building Tax	2,308.94	2,484.95	2,420.73
Pajak Penghasilan Karyawan Employee Income Tax	8,046.19	9,839.25	12,462.70
Pajak Penghasilan Badan Corporate Income Tax	33,831.70	90,149.36	40,391.43
Pajak, Retribusi dan Hibah Daerah* Regional Taxes, Levies and Grants*	15,185.74	18,100.67	19,146.56
Pemotongan Pajak Penghasilan Pihak Ketiga Third Party Income Tax Withholding	3,976.55	7,628.09	7,273.09
Bea Masuk Duty	4,347.90	176.82	250.03
Jumlah Total	68,774.13	129,708.03	83,273.86
PNBP + Komponen Pajak dan Retribusi (000 USD) PNBP + Tax Component and Levies (000 USD)			
Jumlah Total	81,002.42	152,653.60	93,336.05

*Sesuai ketentuan peraturan perundang-undangan, khususnya Peraturan Pemerintah No. 2 Tahun 2012 Tentang Hibah Daerah dan Undang-Undang No.23 Tahun 2014 tentang Pemerintah Daerah.

*According to the laws and regulations, particularly the Government Regulation No. 2 of 2012 on Regional Grant and Law No. 3 of 2014 on Regional Government.



Meningkatkan Efisiensi

Improving Efficiency



Efisiensi Menekan Biaya Produksi

Pencapaian PT Vale pada tahun 2016 tidak terlepas dari kebijakan efisiensi yang terus dilaksanakan. Proyek konversi batubara atau *coal conversion project* (CCP) merupakan efisiensi penggunaan *high sulfur fuel oil* (HSFO) dengan memanfaatkan batubara sebagai sumber energi pengganti pada tiga tanur pengeringan di pabrik pengolahan. Realisasi *Coal Conversion Project 1* (CCP1) sejak 2013 turut mengurangi biaya produksi akibat pemakaian bahan bakar yang berkontribusi pada lebih dari 35% beban produksi.

Pada tahun 2016, uji coba komersial dari CCP2 pada tanur pereduksi 3 turut mengurangi pemakaian HSFO dan meningkatkan konsumsi batubara sebesar 23% dibanding kuartal kedua. Memasuki kuartal ketiga, konversi batubara terus meningkat seiring kenaikan harga HSFO. Hal ini mendorong PT Vale melanjutkan uji coba komersial sampai meyakini bahwa konfigurasi telah mencapai kinerja yang optimal.

Efficiency Controls Production Costs

PT Vale's achievements in 2016 were attributed by efficiency policy that continued to be implemented. Coal conversion project (CCP) is the efficiency of high sulfur fuel oil (HSFO) use by utilizing coal as an energy source substitution at three drying kiln at the processing plant. Realization of Coal Conversion Project 1 (CCP1) since 2013, helped reduce production costs from fuel consumption that contributed to over 35% of production costs.

In 2016, the commercial trials of CCP2 at reduction kiln 3 also reduced HSFO consumption and increased coal consumption by 23% compared to the second quarter. Entering the third quarter, coal conversion continued to increase following increased HSFO prices. It prompted PT Vale to continue commercial trials up until the configuration is ensured to have achieved optimum performance.

Pelaksanaan dan Pencapaian Program CCP dan Sulphur Emission Reduction Program (SERP)

Implementation and Achievement of CCP and Sulphur Emission Reduction Program (SERP)

	2012	2013	2014	2015	2016
Proyek Project	<ul style="list-style-type: none"> Instalasi fasilitas injeksi sulfur padat di lokasi tanur reduksi Penyelesaian studi pola penyebaran SO₂ dan pemantauan emisi SO₂ secara online di pabrik pengolahan, komplek perkantoran, dan area pemukiman Installation of solid sulfur injection facilities at reduction kiln locations Completion of SO₂ distribution patterns study and SO₂ emissions online monitoring at processing plant, office complex and residential 	<ul style="list-style-type: none"> Konversi batubara CCP1 pada tanur pengering dan tanur pereduksi Coal conversion of CCP1 at nickel drying machines and reduction kiln 	<ul style="list-style-type: none"> Konversi batubara CCP1 pada mesin pengeringan nikel. Tingkat konversi penggunaan batubara mencapai 90% Coal conversion of CCP1 at nickel drying machines. The conversion rate of coal use reached 90% 	<ul style="list-style-type: none"> Emisi SO₂ yang dihitung sebesar 0.79 kg SO₂/kg Ni, turun dari emisi di tahun 2014 sebesar 0.86 kg SO₂/kg Ni Merah Adhitama (Emas) dan penghargaan "Pengelolaan Lingkungan Pertambangan Terbaik 2015" dari ESDM. 	<ul style="list-style-type: none"> Uji coba komersial CCP2 pada tanur pereduksi 3 CCP2 commercial trial at reduction kiln 3
Pencapaian Achievement	<ul style="list-style-type: none"> Emisi SO₂ mencapai 0.91 kgSO₂ per kgNi dan memenuhi baku mutu pemerintah sebesar 0.97 kg SO₂ per kg Ni SO₂ emissions reached 0.91 kgSO₂ per kgNi and met government quality standard of 0.97 kgSO₂ per kgNi 	<ul style="list-style-type: none"> Konsumsi HSFO berkurang menjadi 30.75 barrel per ton, dibanding tahun 2012 sebanyak 32.38 barrel per ton. HSFO consumption decreased to 30.75 barrels per ton, compared to 32.38 barrels per ton in 2012. 	<ul style="list-style-type: none"> Penurunan konsumsi bahan bakar dan pelumas, serta turunnya harga HSFO berkontribusi pada penurunan biaya bahan bakar dan pelumas sebesar 23%. Decrease in consumption of fuel and lubricants, as well as decline in HSFO prices contributed to lowering the cost of fuel and lubricants by 23%. 	<ul style="list-style-type: none"> SO₂ emissions were calculated of 0.79 kg SO₂/kg Ni, down from emissions in 2014 of 0.86 kg SO₂/kg Ni. Awarded with Adhitama (Gold) and "Best Environmental Management 2015" from Ministry of Energy and Mineral Resources. This achievement surpassed 78 mining companies participating in the assessment. 	<ul style="list-style-type: none"> Biaya produksi PT Vale Indonesia menempati nilai terendah kedua di antara Perusahaan Vale global. Hal ini ikut didorong oleh keberadaan PLTA The production cost of PT Vale Indonesia was the second-lowest among Vale global companies. It was also boosted by hydroelectric power plant





Kebijakan efisiensi PT Vale mendapat dukungan dari para karyawan dan departemen/fungsi kerja. Mereka terus mengembangkan berbagai inisiatif dan temuan untuk turut berkontribusi mengurangi biaya dan beban produksi.

PT Vale efficiency policies have the support of the employees and departments/ work functions. They continue to develop initiatives and findings to contribute in reducing production costs and expenses.



Bentuk Efisiensi dan Nilai Penghematan
Form of Efficiency and Saving Value

Bentuk Efisiensi Forms of Efficiency	Tujuan dan Nilai Penghematan Goals and Saving Values
<ul style="list-style-type: none">Konsolidasi pemantauan pergerakan dan pemulangan kontainer untuk mengurangi biaya keterlambatan pemulangan kontainer (<i>demurrage</i>)Consolidated monitoring of container to movement and return to reduce the cost of delay in returning the container (demurrage)	<ul style="list-style-type: none">Reduksi biaya penalti dari 77,000 USD per bulan menjadi 47,000 USD per bulanReduction of penalty fee from USD77,000 per month to USD47,000 per month
<ul style="list-style-type: none">Modifikasi metode pencucian pompa dan pipa HSFO di Mangkasa Point dengan pemisahan pompa HSDModification method of washing HSFO pumps and pipelines at Mangkasa Point with HSD pump separation	<ul style="list-style-type: none">250,000 USD per tahun. (Nilai bisa bertambah dengan asumsi harga HSD naik)USD250,000 per year. (Value may increase with the assumption that HSD price increases)
<ul style="list-style-type: none"><i>Road stabilizer</i> untuk pelaksanaan perawatan dan perbaikan jalan dengan cara mendaur ulang material jalan yang direhab untuk dapat dipergunakan kembaliRoad stabilizer for road maintenance and repair by recycling material for rehabilitated road to be reused	<ul style="list-style-type: none">Penghematan material rehabilitasi jalan 150,000 USD untuk setiap kali pelaksanaan perbaikan jalanRoad rehabilitation material saving of USD150,000 for every road repair implementation
<ul style="list-style-type: none">Modifikasi material <i>blow bar</i> dan <i>liner</i> pada alat penghancur material (<i>crusher</i>), sehingga tidak langsung dibuang dan dapat digunakan kembali saat ausModifications to the blow bar and liner material of crusher, so as not to be directly disposed and can be reused when worn out	<ul style="list-style-type: none">Nilai pembelian komponen tetap sama, sekitar 4,800 USD per unit <i>crusher</i>. Namun volume produksinya bisa dua kali lipat dari 6.000 ton material dan semula 3.000 tonThe value of purchases of components remained the same, approximately USD4,800 per crusher unit. However, production volume can be doubled to 6,000 tons of material from the original 3,000 tons
<ul style="list-style-type: none">Penggunaan material sisa proyek menjadi barang modal yang produktifThe use of waste material from projects into productive capital goods	<ul style="list-style-type: none">Sejak diterapkan pada tahun 2013 telah berhasil menghemat kas Perusahaan rata-rata 2.5 juta USD per tahunSince the implementation in 2013, the Company's cash saving has managed to reach an average of USD2.5 million per year

Keberlanjutan Rantai Pasokan

Seluruh produk PT Vale dijual kepada Vale Canada Limited dan Sumitomo Metal Mining Co.Ltd yang melakukan pemrosesan lebih lanjut sesuai kebutuhan industri. Kontraktor PT Vale turut dalam aktivitas utama penambangan (eksplorasi, penambangan, pengelolaan lingkungan, aktivitas pascatambang) dan pendukung (keamanan, katering, akomodasi, perawatan fasilitas, dan transportasi). Secara umum, kami memastikan rantai pasokan kami menerapkan prinsip-prinsip pembangunan berkelanjutan dalam melakukan bisnisnya. [\[G4-12\]](#)

Alur Rantai Pasokan dan TKDN

Alur rantai pasokan PT Vale meliputi eksplorasi, penambangan, dan pengolahan bijih nikel menjadi produk nikel dalam *matte* yang selanjutnya dieksport sesuai perjanjian penjualan. Pada tahapan-tahapan operasi dan produksi, Perusahaan bekerjasama dengan pemasok dan kontraktor serta menempatkan mereka pada pengelolaan rantai pasokan (*supply chain management* atau SCM).

Sejalan dengan strategi untuk berkontribusi pada pembangunan ekonomi di daerah operasi, PT Vale mengutamakan penggunaan produk dalam negeri melalui pelibatan para pemasok lokal dalam rantai pasokan. Pendekatan yang dilakukan adalah melalui program Promote National Interest (PNI), yang merupakan bentuk komitmen untuk menaikkan porsi pembelian barang dan penggunaan jasa dalam negeri. Hal tersebut sesuai Peraturan Menteri ESDM No.24 Tahun 2012 Tentang Penyelenggaraan Usaha Jasa Pertambangan Mineral dan Batubara, yang menargetkan angka TKDN pada tahun 2017 mencapai 62%. [\[G4-15\]](#)

PT Vale mendefinisikan perusahaan lokal sebagai:

- Perusahaan yang didirikan dan/atau berdomisili di empat wilayah pemberdayaan, meliputi Kecamatan Nuha, Towuti, Wasuponda, dan Malili.
- Perusahaan yang dimiliki perseorangan yang telah berdomisili di wilayah pemberdayaan selama sekurang-kurangnya 10 tahun.

Supply Chain Sustainability

All products of PT Vale are sold to Vale Canada Limited and Sumitomo Metal Mining Co.Ltd for further processing according to the industry needs. PT Vale's contractors participate in the main mining (exploration, mining, environmental management, post-mining activities) and support (security, catering, accommodation, maintenance of facilities, and transportation) activities. In general, we ensure our supply chain apply the principles of sustainable development in operating their business. [\[G4-12\]](#)

Flow of Supply Chain and DCL

Flow of PT Vale's supply chain includes exploration, mining, and processing of nickel ore into nickel in matte product that is exported under sale agreement. In the stages of operation and production, the Company cooperates with suppliers and contractors, and put them in supply chain management (SCM).

In line with its strategy to contribute to the economic development in the area of operations, PT Vale prioritizes the use of local products through the involvement of local suppliers in the supply chain. The approach is undertaken through Promote National Interest (PNI) program, which is a commitment to increasing the portion of domestic content level (DCL). It is in line with Minister of Energy and Mineral Resources Regulation No.24 of 2012 on the Implementation Mineral and Coal Mining Service Business, which sets a target of DCL in 2017 at 62%. [\[G4-15\]](#)

PT Vale defines a local company as:

- A company established and/or domiciled in four areas of empowerment, covering Nuha, Towuti, Wasuponda, and Malili districts.
- A privately-owned company that has been domicile in the area of empowerment for at least 10 years.



Local Business Initiative

Menghadapi kondisi ekonomi global yang kurang baik di tahun 2016, kami melanjutkan program efisiensi termasuk mengurangi volume pembelian barang dan penggunaan jasa secara keseluruhan. Hal ini juga berdampak pada pengurangan porsi pembelian barang dan penggunaan jasa pemasok lokal sehingga tidak mencapai target tahun 2016 yakni sebesar 22%. Adapun realisasi Program LBI hingga tahun 2016 mencapai 21% dari total pengadaan di luar kebutuhan strategis. Target pencapaian LBI tahun 2017 sebesar 24%.

Lokasi operasional PT Vale yang memiliki pemasok lokal meliputi Blok Sorowako. Di Blok Bahodopi dan Pomalaa, kami sedang melakukan proses prakualifikasi bagi pemasok lokal untuk barang maupun jasa. Proses prakualifikasi direncanakan selesai pada bulan Agustus 2017.

Local Business Initiative

In the face of unfavorable global economic conditions in 2016, we continued efficiency programs including reducing the volume of overall purchases of goods and use of services. It also resulted in a reduction in local suppliers' portion of the purchase of goods and use of services, which fell short of 2016 target of 22%. The realization of LBI Program in 2016 reached 21% of the total procurement of outside strategic needs. LBI achievement target in 2017 was set at 24%.

PT Vale's operational site that has local suppliers is Sorowako Block. In Bahodopi and Pomalaa blocks, we have been conducting the prequalification process for local suppliers of goods and services. The prequalification process was scheduled to complete in August 2017.

Peta Jalan dan Pencapaian Program LBI LBI Program Roadmap and Achievement

Inisiatif Initiatives

Plan (Excluding Bulk commodities)

Pencapaian
Achievement

14%

2013

16%

2014

15%

2015

20%

2016

21%

22%

2017

24%

LBI

Procurement Policy

Local Contractor Development

Local Contractor Engagement

Procurement Strategy

Inisiatif Tahun 2016 2016 Initiatives

- 1 Memaksimalkan utilisasi kontrak VHS (Vendor Held Stock) dan FPA (Forward Purchasing Agreement) secara kompetitif
- 2 Meningkatkan daya saing pemasok lokal melalui proses prakualifikasi

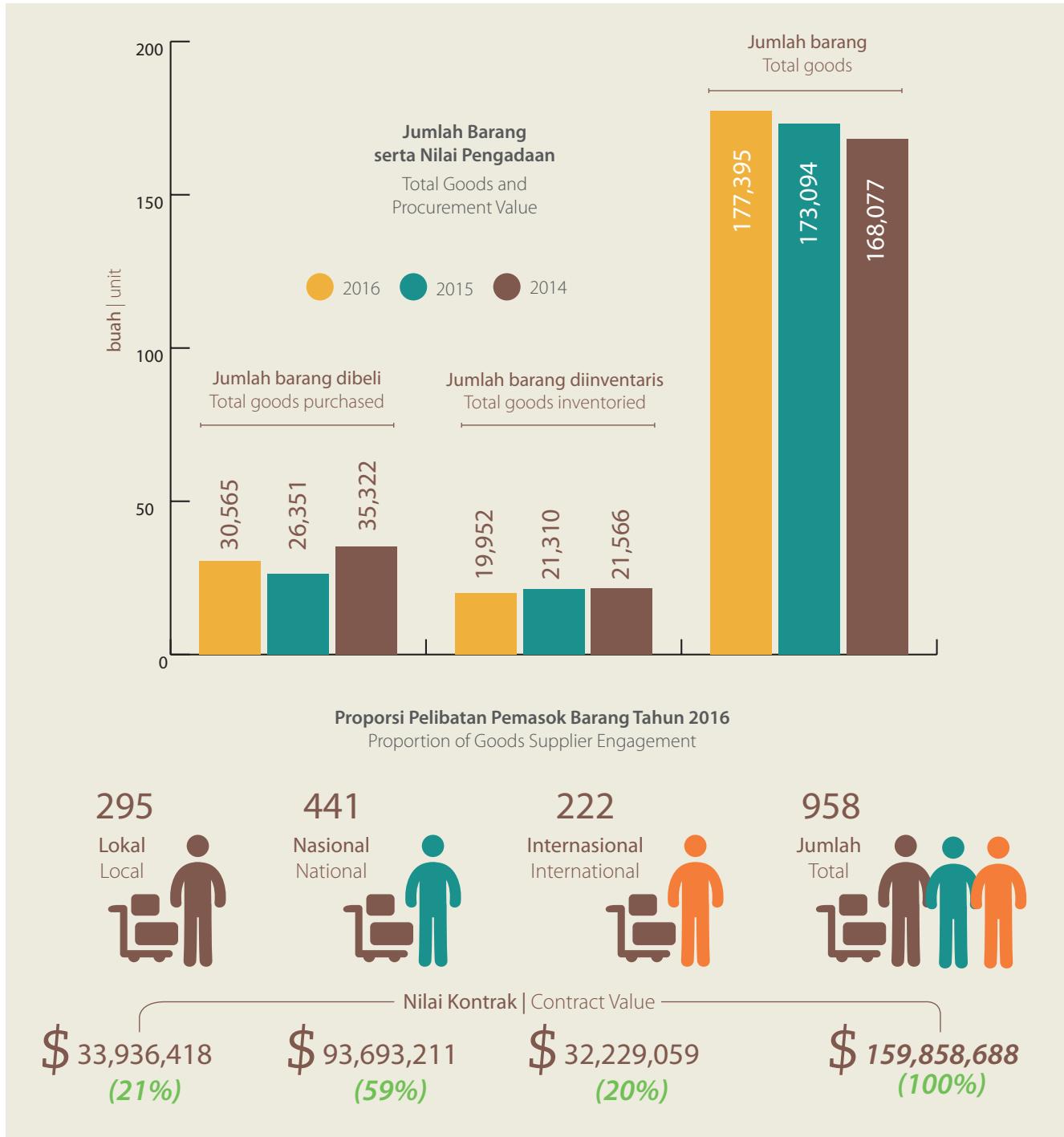
- 1 Maximizing utilization of VHS (Vendor Held Stock) contract and FPA (Forward Purchasing Agreement) competitively
- 2 Increasing local suppliers' competitiveness through pre-qualification process

Penerapan E-Procurement

Tahun 2016 PT Vale mulai menerapkan uji coba pengadaan barang dan jasa secara elektronik atau *e-procurement*. Penerapan *e-procurement* diyakini akan meningkatkan transparansi, kepatuhan, serta mencegah benturan kepentingan maupun pelanggaran.

E-Procurement Implementation

In 2016, PT Vale started to implement pilot procurement of goods and services electronically or e-procurement. Implementation of e-procurement is believed to increase transparency, compliance, and prevent any conflict of interest or violation.





Perbandingan Keunggulan E-Procurement dengan Proses Konvensional

Comparison of e-Procurement and Conventional Process Advantages



Proses Konvensional Conventional Process

- Pengambilan dan penyerahan dokumen dilakukan secara tatap muka
Collection and delivery of documents is done face to face
- Pengumuman di media cetak
Announcements in print media
- Daerah cakupan pemberitahuan terbatas
Limited coverage area of announcement
- Terdapat kesempatan pelanggaran dan kolusi
Opportunities for violations and collusion
- Kurang transparan
Less transparent



e-Procurement

- Pendaftaran dan penyerahan dokumen dilakukan melalui internet
Registration and submission of documents is done via the internet
- Pengumuman melalui internet (situs) Perusahaan
Announcements via the Internet (website) of the Company
- Daerah cakupan pemberitahuan sangat luas
Very broad coverage area of announcement
- Peluang pelanggaran dan kolusi dapat diminimalkan
Opportunities of violations and collusion can be minimized
- Lebih transparan
More transparent

Tantangan dan Kendala

Tantangan utama dalam meningkatkan pembelian barang dalam negeri adalah mempertemukan persyaratan yang ditetapkan PT Vale dengan kemampuan produsen dalam negeri sebagai pemasok. Kendala yang harus dihadapi meliputi aspek produk, harga, komunikasi/promosi, dan tempat.

Tantangan penerapan *e-procurement* adalah mendorong para vendor untuk menyesuaikan dengan sistem aplikasi teknologi informasi yang digunakan. Hal ini tidak mudah mengingat selama bertahun-tahun para vendor sudah terbiasa dengan sistem konvensional.

Challenges and Obstacles

The main challenge in increasing domestic content level (DCL) is to match the requirements set by PT Vale with the ability of domestic producers as suppliers. While the obstacles to be faced include aspects of the product, price, communication/promotion and place.

The challenge of implementing e-procurement is encouraging vendors to adapt to the information technology application system that is used. It is not easy given the vendors have been familiar with the conventional system for years.



Untuk Berkarya For Work





0
(zero)
Fatalitas
Fatality

Instruksi Terkait Akuntabilitas untuk Keselamatan Kerja dan Perilaku INS-003-VIEHS mengatur bahwa kepatuhan K3 sebagai bagian dari penilaian kinerja (KPI) individu.

Instruction Regarding Accountability for Occupational and Behavioral Safety INS-003-VIEHS that stipulates OHS compliance is part of the individual performance assessment.

74.77%

Tingkat Kepatuhan IMS–Environment Health and Safety Management System
IMS–Environment Health and Safety Management System
Level of Compliance

84%

Partisipasi Contractor Safety Management System (CSMS)
Contractor Safety Management System (CSMS) Participation

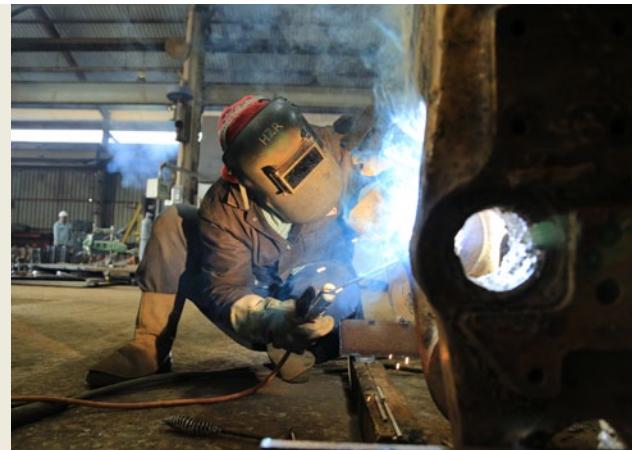
136*

Partisipasi Rencana Aksi Keselamatan Individu
Personal Safety Action Plan (PSAP) Participation



* Terhadap target
* Against target





Akuntabilitas Keselamatan Kerja

Kesehatan dan Keselamatan Kerja merupakan aspek yang penting bagi Perusahaan karena karakteristik operasi yang memiliki risiko tinggi. Karyawan adalah salah satu mitra terpenting sehingga Perusahaan terus berusaha mencapai kondisi nirbahaya.

Informasi signifikan yang disampaikan dalam laporan ini adalah akuntabilitas keselamatan kerja yang merupakan aspek material. PT Vale menempatkan kesehatan dan keselamatan kerja (K3) sebagai hal yang harus dipatuhi semua pihak tanpa kecuali untuk menghormati harkat dan martabat manusia.

Sistem keselamatan yang baik serta tingkat disiplin operasional yang tinggi sangat diperlukan untuk mencapai *zero harm/nihil celaka*. Direksi melalui Instruksi Terkait Akuntabilitas untuk Keselamatan Kerja dan Perilaku INS-003-VIEHS mengatur bahwa kepatuhan K3 sebagai bagian dari penilaian kinerja (KPI) individu. Hal tersebut dilakukan dengan menempatkan kepatuhan K3 pada KPI atau target yang setiap tahunnya ditetapkan sesuai dengan tujuan Perusahaan. [G4-14]

Selama tahun 2016, zero fatality sudah dicapai dan sesuai dengan target, namun kehilangan hari kerja yang disebabkan oleh sakit masih harus ditingkatkan. Kinerja K3 ini menjadi bagian tugas dan tanggung jawab Divisi Environment, Health & Safety (EHS), di bawah Deputy Chief Operational Officer (COO), Direktur EHS, dan Kepala Teknik Tambang (KT).

Occupational Safety Accountability

Occupational Health and Safety is an important aspect for the Company due to its high risk operating characteristics. Employees are one of the most important partners, therefore the Company keeps striving towards zero harm.

Significant information presented in this report is the accountability of occupational safety which is a material aspect. PT Vale put the occupational health and safety (OHS) as issues that must be complied by all parties without exception to respect human dignity.

Good safety system as well as a high level of discipline are required to achieve zero harm. Board of Directors through Instruction Regarding Accountability for Occupational and Behavioral Safety INS-003-VIEHS that stipulates OHS compliance is part of the individual performance assessment. It is applied to include OHS compliance in KPI or targets that have been set each year in accordance with the Company's goals. [G4-14]

During 2016, zero fatality has been achieved and in accordance with the target, but the loss of working days due to illness remained to be improved. OHS performance was a part of duties and responsibilities of the Division of Environment, Health & Safety (EHS), under the Deputy Chief Operational Officer (COO), EHS Director and Technical Mine Manager.



Perusahaan juga memiliki sejumlah program kesehatan bagi keluarga pekerja, di antaranya edukasi NAPZA, sosialisasi pencegahan stres kerja, edukasi kesehatan saat karyawan menjalani Medical Check Up, pelatihan pertolongan pertama dan bantuan hidup dasar, sosialisasi dan edukasi pencegahan dan penanganan TB-HIV dirangkaikan edukasi kesehatan reproduksi, edukasi kanker payudara dan kanker serviks, pencegahan demam berdarah, pencegahan chikungunya dan virus zika, senam jantung sehat, publikasi edukasi via email, edukasi perilaku hidup bersih dan sehat melalui publikasi, pembekalan *spokeperson* kesehatan di setiap departemen.

[\[G4-DMA\]](#)

Lebih dari 60% karyawan yang beraktivitas di lapangan memiliki risiko kecelakaan yang lebih tinggi dibanding karyawan yang bekerja di dalam ruangan. Perusahaan telah mengidentifikasi pekerjaan yang memiliki risiko tinggi, yaitu 18 pekerjaan terkait keselamatan kerja dan 3 pekerjaan terkait kesehatan kerja. [\[G4-LA7\]](#)

The Company also has a number of health programs for the employees' families, including education on NAPZA (Narcotics, alcohol, psychotropic drugs and other addictive substances), dissemination on prevention of occupational stress, health education when employees undergo a medical check up, training in first aid and basic life support, dissemination and education of prevention and management of TB-HIV coupled with reproductive health education, education on breast cancer and cervix cancer, dengue fever prevention, chikungunya and zika virus prevention, healthy heart exercise, educational publications via email, education on hygienic and healthy living through publications, health *spokeperson* training at every department. [\[G4-DMA\]](#)

More than 60% of total employees working outdoor have a higher risk of work accidents compared to employees working indoor. The Company has identified high risk jobs, namely 18 jobs related to occupational safety and 3 jobs related to occupational health. [\[G4-LA7\]](#)

Pekerjaan dengan
Risiko Tinggi Kecelakaan
Kerja atau Penyakit
akibat Kerja [G4-LA7]



Terkait Keselamatan *Safety Related*



Bekerja di Ketinggian *Working at Heights*

- 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 Serius
Fatality/Severe Injury

Mengoperasikan *Mobile Equipment* Operating Mobile Equipment

- Mengimplementasikan standar MHS 02
Implementing MHS 02 standard
- Melakukan *training & inspeksi* terkait bahaya *Mobile Equipment*
Conducting training & inspection on hazards of Mobile Equipment

 Meninggal/Cedera Serius
Fatality/Severe Injury

Mengoperasikan Kendaraan *Operating Vehicles*

- Mengimplementasikan standar MHS 03
Implementing MHS 03 standard
- Melakukan *training* dan audit terkait Pengoperasian kendaraan
Conducting training & audit on Operating Vehicles

 Meninggal/Cedera Serius
Fatality/Severe Injury



Melakukan Isolasi *Isolating*

- Mengimplementasikan standar MHS 04
Implement MHS 04 standard
- Melakukan *training* pekerjaan isolasi
Conduct training on isolation jobs
- Melakukan audit terkait bahaya Isolasi
Conduct audit on the hazards of isolation

 Meninggal/Cedera Serius
Fatality/Severe Injury



Pengangkatan dan Beban *Lifting and Load*

- Mengimplementasikan standar MHS 05
Implement MHS 05 standard
- Melakukan *training* untuk pekerjaan pengangkatan
Conduct training on lifting jobs
- Melakukan audit terkait bahaya pekerjaan pengangkatan
Conduct audit on the hazards of lifting jobs

 Meninggal/Cedera Serius
Fatality/Severe Injury



Peledakan *Blasting*

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

 Meninggal/Cedera Serius
Fatality/Severe Injury



Jobs with High
Risk of Accidents
or Occupational
Disease [G4-LA7]



Terkait Kesehatan Kerja Occupational Health Related



Bekerja Di Dekat Gas Berbahaya

Working Near
Hazardous Gases

- Melakukan *Higiene Industrial Risk Assesment*
Conducting Industrial Hygiene Risk Assessment
- Melakukan *direct monitoring* dan *online monitoring*
Direct monitoring and online monitoring
- Menyiapkan prosedur kerja yang aman
Preparing safe work procedures
- Penggunaan APD yang sesuai
Wearing appropriate PPE



Keracunan Gas Berbahaya
Hazardous Gas Poisoning



Bekerja Dekat Kebisingan Tinggi

Working Near High
Intensity Noise

- Melakukan *Higiene Industrial Risk Assesment*
Conduct Industrial Hygiene Risk Assessment
- Melakukan *monitoring*
Conduct monitoring



Kehilangan kepekaan pendengaran total
Total loss of hearing sensitivity



Bekerja Dengan Paparan Panas

Working With
Exposure To Heat

- Melakukan *Higiene Industrial Risk Assesment*
Conduct Industrial Hygiene Risk Assessment
- Melakukan *monitoring*
Conduct monitoring



Heat Stress
Heat Stress



Penerapan Sistem Keselamatan yang Terintegrasi

Perusahaan berupaya menerapkan sistem Keselamatan Kerja dengan mengacu ke Peraturan Perundang-Undangan dan Sistem Keselamatan PT Vale. Pencapaian penerapan Sistem Keselamatan tahun 2016 mencapai 74,77% dan akan terus ditingkatkan guna menghadirkan lingkungan operasional Perusahaan yang aman dan efisien.

Beberapa langkah yang ditempuh adalah dengan mengevaluasi praktik-praktik terbaik K3 dan menuangkannya dalam Perjanjian Kerja Bersama (PKB), revisi Standard Bahaya Utama (Major Hazard Standard-MHS), dan aturan pendukung lainnya seperti Baku (*Golden Rules*), serta melakukan evaluasi risiko/manajemen risiko melalui program Pencegahan Kejadian Serius dan Fatal.

Integrated Safety System Implementation

The Company pursues to implement the Occupational Safety system by referring to Laws and Regulation and PT Vale Safety System. The achievement of Safety System implementation in 2016 reached 74.77% and will continue to be improved to create the Company's safe and efficient operational environment.

Some of the steps are to evaluate OHS best practices and put it in the Collective Labor Agreement (CLA), the revised Major Hazard Standard (MHS), and other supporting rules such as Golden Rules, as well as risk evaluation/risk management through Serious and Fatal Incident Prevention Program.

Beberapa Uraian K3 dalam Perjanjian Kerja Bersama (PKB) dan Pelaksanaannya OHS Description in the Collective Labor Agreement (CLA) and Implementation	
Kegiatan yang dilaksanakan Implemented Activities	Topik Kesehatan dan Keselamatan Kerja dalam PKB 2016-2019 Bab 8 dan Bab 10 Occupational Health and Safety Topics in CLA 2016-2019 Chapter 8 and Chapter 10
Alat perlindungan diri Personal protective equipment	① PPE ② Respiratory Protection ③ Hearing Conservation
Komite bersama K3 OHS Joint Committee	P2K3
Partisipasi perwakilan pekerja dalam pelaksanaan inspeksi, audit K3 dan investigasi peristiwa kecelakaan kerja Participation of employee representatives in the implementation of inspection, OHS audit and work accident investigations	① Incident Investigation ② EMQNET Refreshing Training
Pendidikan dan pelatihan K3 OHS education and training	① POP ② POM ③ Risk Assesment ④ Working at Height ⑤ Confined Space Sentry ⑥ JSA ⑦ Rigging ⑧ LV Driving Assesment ⑨ Heat Stress
Mekanisme keluhan Grievance Mechanism	Sosialisasi PKB CLA Dissemination
Hak untuk menolak pekerjaan berbahaya Right to refuse dangerous work	Sosialisasi PKB CLA Dissemination
Inspeksi berkala Regular inspections	① Safety Observation & Inspection ② JCC ③ EHS Inspection



Pemberlakuan PKB telah mendapatkan pengesahan dari Kementerian Ketenagakerjaan melalui Surat NO.KEPP. 56/PHIJSK-PKKAD/PKB/IV/2015. Pengaturan perihal penerapan dan kepatuhan K3 bagi seluruh karyawan serta kepatuhan terhadap ILO Convention 155 tercakup dalam PKB. Seluruh karyawan PT Vale (100%) menandatangani kesepakatan yang tercakup dalam PKB. Hingga akhir tahun 2016, PT Vale masih melakukan perundingan PKB dengan perwakilan karyawan. Perundingan PKB dilakukan setiap dua tahun sekali. [G4-11] [G4-15]

Upaya lain yang dilakukan PT Vale untuk meningkatkan akuntabilitas keselamatan kerja dan perilaku: [G4-LA7]

- **Aktivasi EHS Competency Management System (CMS).** Penerapan aplikasi ini akan mempermudah proses pendataan 7.000 karyawan dengan 16.000 permohonan GIP, *training*, dan Simper karyawan serta kontraktor menjadi lebih efisien karena mengurangi penggunaan kertas.
- **Penerapan Sistem Manajemen Keselamatan Pertambangan (SMKP),** yang diberlakukan Pemerintah mulai Desember 2015 bagi perusahaan penambangan mineral dan batubara. Penerapan SMKP diatur dalam Peraturan Menteri ESDM No. 38 Tahun 2014 Tentang Penerapan Sistem Manajemen Keselamatan Pertambangan Mineral dan Batubara.

The CLA is in effect after being approved by the Ministry of Manpower through Decree NO.KEPP. 56/PHIJSK-PKKAD/PKB/IV/2015. The provisions on OHS application and compliance for all employees and compliance with ILO Convention 155 is included in the CLA. All employees of PT Vale (100%) signed an agreement stipulated in the CLA. Until the end of 2016, PT Vale was still negotiating CLA with employee representatives. The CLA negotiation is carried out every two years. [G4-11] [G4-15]

Other efforts undertaken by PT Vale to increase the accountability of occupational and behavioral safety: [G4-LA7]

- **Activation of EHS Competency Management System (CMS).** Implementation of this application will facilitate data collection process of 7,000 employees with 16,000 applications for GIP, training, and Simper (company driver's license) for employees and contractors to become more efficient because it reduces the use of paper.
- **Application of Mining Safety Management System (SMKP),** which has been enforced by the Government since December 2015 on mineral and coal mining companies. Application of SMKP is set out in the Minister of Energy and Mineral Resources No. 38 of 2014 on the Safety Management System Implementation of Mineral and Coal Mining.

Indikator dan Target KPI K3 OHS KPI Indicator and Target	
Indikator (Lagging Indicator)	Target Target
Total Recordable Injury Frequency Rate (TRI FR) Total Recordable Injury Frequency Rate (TRI FR)	0.95
Total Recordable Injury Severity Rate (TRI SR) Total Recordable Injury Severity Rate (TRI SR)	0.00
Jumlah Kejadian Berpotensi Tinggi/Kritis Total Potential High/Critical Incidents	27
Penyakit Akibat Kerja Occupational Disease	0 (tidak ada) 0 (none)
Indikator (<i>Leading Indikator</i>) Indicator (<i>Leading Indicator</i>)	Target Pencapaian (dari Jumlah) (%) Achievement Target (of Total) (%)
Program Safety Observasi & Inspeksi (SOI) Safety Observation & Inspection (SOI) Program	118.9
Analisis Risiko Aktivitas Individu Personal Activity Risk Analysis (PARA)	71.4
Pemenuhan Rekomendasi Buku Tambang Fulfillment of Mine Manual Recommendations	100

Pencapaian Lain Kinerja Pelaksanaan K3 Other OHS Implementation Performance Achievement			
Uraian Description	Kegiatan Activities	Tingkat Partisipasi (%) Participation Rate (%)	
		2016	2015
Budaya Keselamatan Safety Culture	Rencana Aksi Keselamatan Individu Personal Safety Action Plan (PSAP)	136*	>90
	Analisis Risiko Aktivitas Individu Personal Activity Risk Analysis (PARA)	27	27
<i>Contractor Safety Management System (CSMS)</i> Contractor Safety Management System (CSMS)		84.0	79.9
Program Pencegahan Fatalitas Fatality Prevention Program		60.8	87.0
Standardisasi K3 [G4-15] 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 Managemen Terintegrasi – EHS MS Integrated Management System – EHS MS 		

* Tingkat partisipasi melebihi target.

Participation rate exceeds the target.

** PARA baru dipantau pencapaiannya mulai tahun 2016.

PARA achievement monitoring began in 2016.



Mengacu pada protokol audit IMS Vale Global, pada tahun 2016 tingkat kepatuhan *IMS–Environment Health and Safety Management System* di PT Vale mencapai 74,77%, naik dari tahun 2015 sebesar 63,69%.

Selama tahun 2016, tidak ada kasus kecelakaan kerja yang bersifat fatal.

Referring to the IMS Global Vale audit protocol, in 2016 the level of compliance with *IMS–Environment Health and Safety Management System* at PT Vale reached 74.77%, up from 63.69% in 2015.

During 2016 there were no cases of fatal work accidents.



Tingkat dan Jumlah Peristiwa Kecelakaan Kerja*					
Area Area	Tingkat Kecelakaan Kerja Workplace Accident Rate	Gender (2016)	Jumlah Peristiwa Number of Incidents		
			2016	2015	2014
Sorowako	Ringan** Medical Aid	13 Laki – laki 13 Male	13	7	9
	Sedang dan Berat*** Lost Time Injury & Disabling Injury	1 Perempuan, 3 Laki - laki 1 Female, 3 Male	4	3	4
	Fatal Fatality	0	0	1	1
Bahodopi	Ringan** Medical Aid	0	0	0	0
	Sedang dan Berat*** Lost Time Injury & Disabling Injury	0	0	0	0
	Fatal Fatality	0	0	0	0
Pomaala	Ringan** Medical Aid	0	0	0	0
	Sedang dan Berat*** Lost Time Injury & Disabling Injury	0	0	0	0
	Fatal Fatality	0	0	0	0
Jumlah Total		0	17	11	14

* Jumlah mencakup kontraktor | Total numbers include contractors

** Ringan: Pengobatan medis dan bantuan pertama pada kecelakaan | Medical treatment and first aid case

*** Sedang dan berat: Pembatasan kerja dan kehilangan jam kerja | Restricted work case and lost work case



* Jumlah mencakup kontraktor | Total numbers include contractors

Pemberantasan Narkoba dan HIV/AIDS

PT Vale memberi perhatian kepada upaya bersama untuk mencegah dan menanggulangi penyalahgunaan narkotika dan obat berbahaya (narkoba) serta penanggulangan HIV/AIDS. Kesungguhan Perusahaan menanggulangi HIV/AIDS telah mendapatkan penghargaan dari Kementerian Tenaga Kerja dan Transmigrasi, atas upaya dalam pencegahan dan penanggulangan HIV/AIDS di tempat kerja.

Upaya penanggulangan HIV/AIDS yang dilaksanakan PT Vale kini mencakup edukasi pencegahan dan Voluntary Counseling and Testing (VCT), penanggulangan/pengobatan HIV dan penyakit-penyakit penyerta seperti penyakit paru atau tuberculosis (TB). Bermitra dengan Dinas Kesehatan Kabupaten Luwu Timur, PT Vale melalui Rumah Sakit Inco PT Vale telah membentuk Kelompok Kerja (Pokja) TB-HIV.

Pembentukan Pokja TB-HIV didasari penelitian bahwa TB merupakan infeksi oportunistik bagi orang dengan HIV/AIDS. Infeksi oportunistik adalah penyakit yang jarang terjadi pada orang sehat tapi menyebabkan infeksi pada individu yang memiliki gangguan pada sistem kekebalan. Tingkat penderita HIV/AIDS yang terinfeksi TB mencapai rata-rata 49%.

Pokja TB-HIV pada tahun 2016 menggelar pertemuan para pengelola program penanggulangan HIV/AIDS se-Luwu Timur. Para pengelola program HIV/AIDS berasal dari 15 Puskesmas yang tersebar di 11 Kecamatan di Luwu Timur.

Melangkah Bersama di Tengah Keberagaman [G4-10]

Perusahaan menjamin kesempatan dalam berkariir yang setara bagi semua karyawan, terlepas dari gender, suku, agama, dan ras. Perusahaan memprioritaskan penciptaan lapangan pekerjaan bagi penduduk lokal. Hal ini tercermin melalui proporsi karyawan lokal yang mencapai 85% dari total seluruh karyawan. Tidak pernah ada tenaga ahli yang dikontrak Perusahaan secara perorangan maupun/karyawan musiman yang bekerja untuk Perusahaan. Tidak ada konsep kelompok minoritas karena Perusahaan memberikan perlakuan yang sama kepada seluruh karyawan.

Combating Drugs and HIV/AIDS

PT Vale pays attention to the joint efforts in preventing and mitigating abuse of narcotics and dangerous drugs as well as HIV/AIDS. The Company's seriousness to mitigate HIV/AIDS has resulted in the acceptance of an award from the Ministry of Manpower and Transmigration, for the efforts in the prevention and mitigation of HIV/AIDS in the workplace.

The effort of HIV/AIDS mitigation conducted by PT Vale has now included education on prevention and Voluntary Counseling and Testing (VCT), prevention/treatment of HIV and comorbid diseases such as lung disease or tuberculosis (TB). In partnership with the Health Agency of East Luwu, PT Vale via RS Inco hospital has established a TB-HIV Working Group (WG).

The formation of TB-HIV Working Group is based on research that TB is an opportunistic infection for people living with HIV/AIDS. Opportunistic infections are diseases that rarely occur in healthy people but cause infections to individuals who have immune system disorder. The prevalence of HIV/AIDS patients infected with TB reached an average of 49%.

TB-HIV Working Group in 2016 held a meeting of the managers of HIV/AIDS mitigation program in East Luwu. The HIV/AIDS mitigation program managers came from 15 community health centers spread across 11 districts in East Luwu.

Moving Together in Diversity [G4-10]

The Company guarantees equal opportunity in career for all employees, regardless of gender, ethnicity, religion, and race. The Company prioritizes job creation for local residents. This was reflected by the proportion of local employees that reached 85% of total employees. The Company has never hired any specialists or employees under individual/seasonal contract. There is no concept of minority group because the Company gives equal treatment to all employees.



Jumlah dan Komposisi Karyawan Berdasarkan Status Kepegawaian [G4-10]

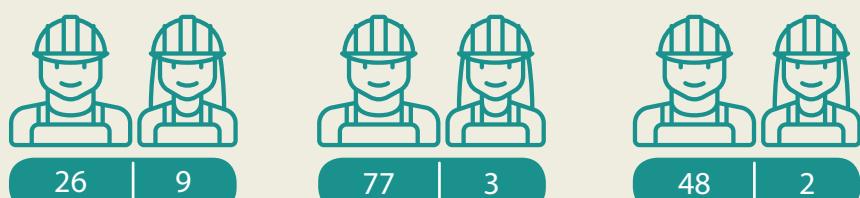
Number and Composition of Employees by Employment Status



Karyawan Tetap
Employment Status



Karyawan Kontrak
Contract Employees



Jumlah
Total



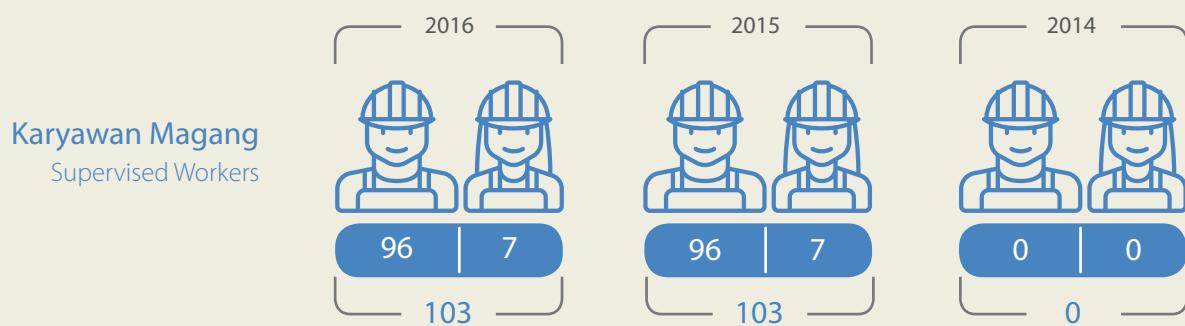
Jumlah dan Komposisi Karyawan Berdasarkan Jabatan dan Gender

Number and Composition of Employees by Position and Gender

Jabatan Position	2016			2015			2014
	Jumlah Total	Pria Male	Wanita Female	Jumlah Total	Pria Male	Wanita Female	
Direktur Directors	4	3	1	3	2	1	4
Manajer Senior Senior Manager	12	11	1	12	11	1	15
Manajer Madya Middle Manager	52	50	2	55	53	2	46
Penyelia Supervisor	118	111	7	120	112	8	462
Spesialis Specialist	216	187	29	230	201	29	119
Teknisi Technician	2,699	2,473	226	2,683	2,465	218	2,476

Jumlah dan Komposisi Karyawan Magang [G4-10]

Number and Composition of Employees Internship [G4-10]



Komposisi Karyawan Berdasarkan Lokasi Kerja [G4-10]

Composition of Employees by Work Location

Lokasi Location	2016		2015		2014	
	Pria Male	Wanita Female	Pria Male	Wanita Female	Pria Male	Wanita Female
Sulawesi Tengah Central Sulawesi	0	0	0	0	0	0
Sulawesi Tenggara South East Sulawesi	1	0	1	0	1	26
Sulawesi Selatan South Sulawesi	2,601	241	2,595	235	2,606	238
Luar Sulawesi Outside Sulawesi	233	25	248	24	241	26
Jumlah Total	2,835	266	2,844	259	2,858	264
	3,101		3,103		3,122	

Jumlah dan Komposisi Karyawan Berdasar Jabatan, Gender, dan Usia [G4-10]

Number and Composition of Employees by Position, Gender, and Age

Jabatan Position	Jenis Kelamin Gender		Usia Age		
	Pria Male	Wanita Female	Pria Male	Wanita Female	Pria Male
Direktur Director	3	1	0	2	2
Manajer Senior Senior Manager	11	1	0	6	6
Manajer Madya Middle Manager	50	2	0	45	7
Supervisor Supervisor	111	7	0	105	13
Spesialis Specialist	187	29	9	183	24
Staf Staff	561	95	21	584	51
Teknisi/Operator Operator	1,912	131	162	1,756	125



Vale Global telah melakukan survei karyawan pada tahun 2016 melalui digital berbasis aplikasi teknologi informasi, berbeda dengan survei sebelumnya yang dilakukan dengan mengisi kuisioner di kertas.

Partisipasi karyawan Vale global pada survei tahun 2016 mencapai 87%, sementara untuk PT Vale 96%. Dari survei yang telah dilakukan, rencana tindakan perbaikan akan direncanakan pada tahun 2017. Beberapa di antaranya bahkan telah dilaksanakan:



Perbaikan kantin Siloku di komplek *Plant Site* Sorowako
Siloku canteen renovation at Sorowako Plant Site complex.

Vale Global has conducted digital employee survey in 2016 through information technology based applications, in contrast to the previous survey carried out by filling out a questionnaire on paper.

Participation of Global Vale employees in the 2016 survey reached 87%, while for PT Vale was 96%. From the survey conducted, corrective actions are planned to be implemented in 2017. Some of them have been implemented:



Perbaikan fasilitas pendukung seperti toilet dan *pantry*.
Supporting facilities renovation such as toilets and pantry.



Perbandingan Survei Karyawan Vale Global
Comparison of Vale Global Employee Survey

Uraian Description	2016	2013	2011
Tingkat Partisipasi Participation Rate	Vale Global	87%	78%
	PT Vale	96%	91%
Rencana Tindakan Action Plan	Jumlah Total	TBD*	82
			57

* TBD: Dalam proses putusan. Akan ditentukan kuartal pertama 2017.

* TBD: To be decided. Actions to be determined in Q1 2017.

Pada tahun 2016, PT Vale juga menyelenggarakan survei internal untuk mengetahui pemahaman para karyawan terhadap nilai-nilai Perusahaan. Hasil survei menunjukkan banyak karyawan paham dan telah dapat mengimplementasikan nilai-nilai Perusahaan dengan tepat. Namun, beberapa berpendapat bahwa Nilai-nilai Perusahaan hanya diterapkan di tempat kerja saja. Catatan ini menjadi perhatian PT Vale untuk mengintensifkan sosialisasi pemahaman sehingga Nilai-nilai Perusahaan benar-benar diterapkan pada perilaku di dalam maupun di luar tempat kerja.

Sejak tahun 2007 hingga 2016, tidak pernah terjadi demonstrasi ataupun pemogokan yang melebihi satu minggu. [MM4]

In 2016, PT Vale also conducted an internal survey to identify employees' awareness of the Company's values. The survey results showed that many employees have been able to understand and implement the Company's values appropriately. However, some employees deemed that the Company Values only apply in the workplace. This has become a note for PT Vale to intensify the dissemination of awareness so that the Company Values are applied as behaviors both within and outside the workplace.

Since 2007 to 2016, there have never been any demonstrations or strikes that lasted more than a week. [MM4]

Lembaga Sertifikasi Profesi

Sejak tahun 2013 PT Vale telah memiliki Lembaga Sertifikasi Profesi (LSP) yang diakui Badan Nasional Sertifikasi Profesi (BNSP). Sampai dengan akhir periode pelaporan ada 940 standar kompetensi kerja yang telah diakui dan disahkan. Keberadaan LSP juga didukung keberadaan 181 *assessor* di berbagai lini kerja Perusahaan.

Keberadaan LSP PT Vale mendapat akreditasi sebagai LSP Pihak Pertama (P1) dan menjadi lembaga sertifikasi profesi pertama di bidang industri pertambangan di Indonesia.

Selanjutnya, LSP akan membantu manajemen dalam mengembangkan kompetensi karyawan dengan standar kompetensi yang jelas, terukur, dan teruji secara nasional.

Sejauh ini LSP memfokuskan pada peninjauan kompetensi teknis pekerja non staf di lingkungan PT Vale. Total ada 2.043 pekerja non staf yang melakukan pekerjaan di bidang mekanik pemeliharaan alat berat, teknisi elektrik, instrumentasi, mekanik pemeliharaan pabrik, petugas pergudangan, petugas pemadam kebakaran, operator alat berat, operator pabrik peleburan, dan operator *utilities*.

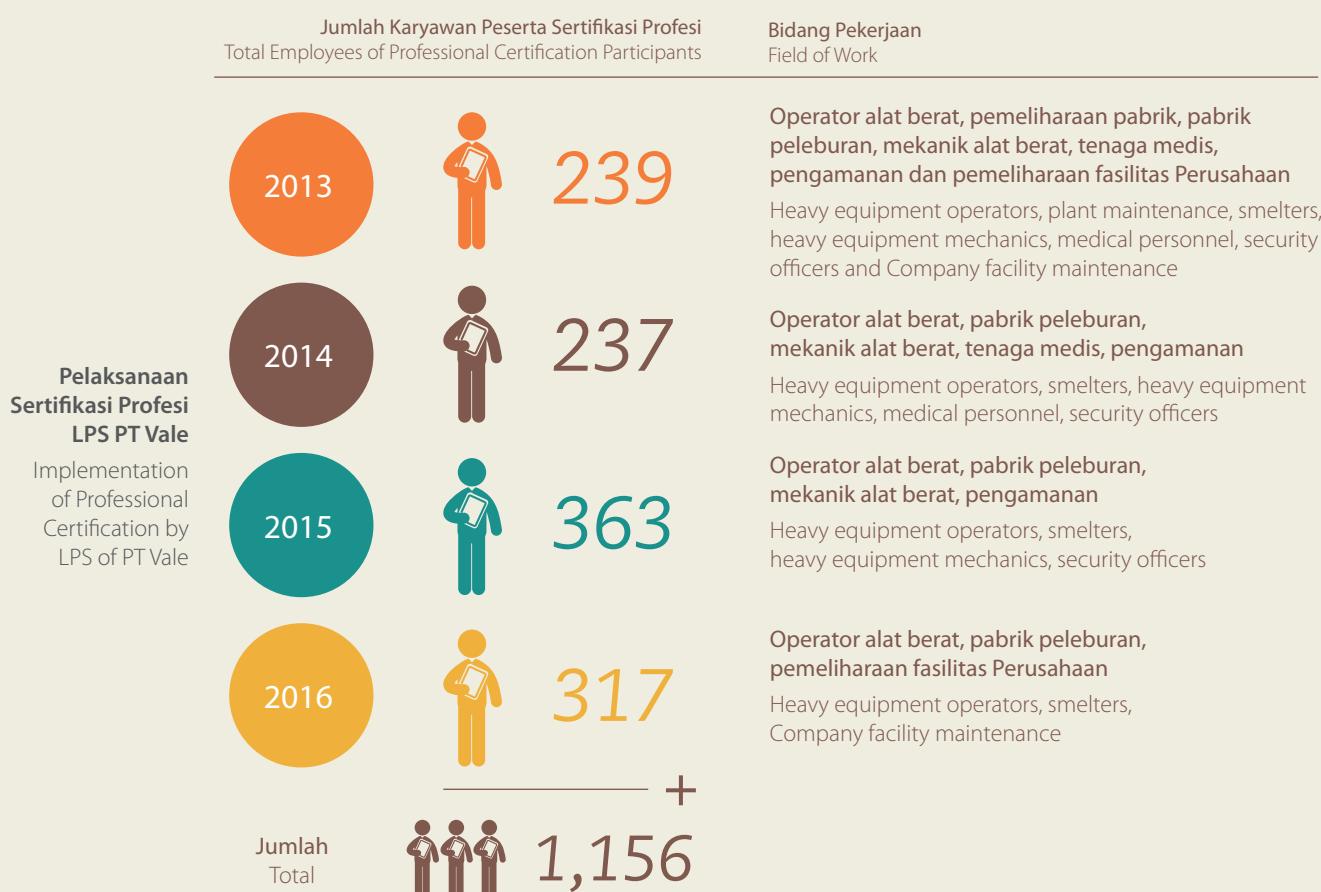
Professional Certification Agency

Since 2013 PT Vale has already established the Professional Certification Agency (LSP), which is recognized by the National Agency for Professional Certification (BNSP). As of the end of the reporting period there were 940 job competency standards that have been recognized and endorsed. The LSP is also supported by 181 assessors in various lines of work of the Company.

PT Vale LSP has been accredited as LSP First Party (P1) and became the first professional certification agency in the mining industry in Indonesia.

Furthermore, LSP will assist management in developing employee competency with clear, measurable, and nationally verified competence standards.

LSP has so far focused on the technical competence review of non-staff employees at PT Vale. A total of 2,043 non-staff employees who work as heavy equipment maintenance mechanics, electrical, instrumentation, mechanical plant maintenance technicians, warehouse personnel, firefighters, heavy equipment operators, smelters operators, and operator of utilities.





Untuk Berkarya
For Work





Bagi Lingkungan For The Environment

PT Vale menerapkan pengelolaan lingkungan dengan mengacu pada Vale *Integrated Management System* (IMS). IMS merupakan mekanisme yang berdasarkan prinsip kehati-hatian dalam mengelola dampak lingkungan.

PT Vale implements environmental management with reference to Vale Integrated Management System (IMS). IMS is a mechanism based on the prudential principle in managing environmental impact.





\$
8.1

million

Biaya
Lingkungan
Environmental
Cost



Teknologi *gravity settler*
di PT Vale Indonesia yang
pertama diterapkan untuk
industri pertambangan

First gravity settler
technology applied to
the mining industry



1,200,000

Akumulasi batang
pohon ditanam

Accumulation of numbers
of trees planted



Menerima Sustainable
Business Award
Kategori Sustainability
in the Community

Achieved Sustainable Business
Award Category Sustainability
in the Community

100%

Wilayah operasi memiliki
rencana pascatambang

Operational area has
established post-
mining plans





Perusahaan menerapkan prinsip kehati-hatian dalam setiap kegiatan operasional. Oleh karena itu, Analisis Mengenai Dampak Lingkungan (AMDAL) selalu disertakan dalam seluruh perencanaan kegiatan penambangan, tidak terkecuali untuk rencana pembangunan pabrik di Morowali, Sulawesi Tengah dan peningkatan kapasitas produksi nikel di Luwu Timur, Sulawesi Selatan. Penyusunan AMDAL mengacu pada Peraturan Menteri Lingkungan Hidup No.5 Tahun 2012 dan No.17 Tahun 2012. [G4-14]

Mekanisme Pengelolaan Lingkungan Hidup [G4-14]

Environmental Management Mechanism

Jabatan Position	Legalitas Legality	Periodisasi Periodization
Analisis Mengenai Dampak Lingkungan (AMDAL) Analysis on Environmental Impact (AMDAL)	Peraturan Pemerintah Nomor 27 Tahun 2012 Tentang Izin Lingkungan Government Regulation No. 27 of 2012 on Environmental Permit	Di Awal Proyek At the Beginning of Project
Rencana Pemantauan Lingkungan (RPL) Environmental Monitoring Plan (RPL)		Setiap 6 Bulan Every 6 Months
Rencana Pengelolaan Lingkungan (RKL) Environment Management Plan(RKL)		Setiap 6 Bulan Every 6 Months
Penilaian PROPER PROPER Assessment	Peraturan Menteri LH Nomor 3 Tahun 2014 Tentang PROPER Ministry of Environment Regulation No. 3 of 2014 on PROPER	Setiap Tahun Annually

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

The Company applies the prudent principle in any operational activities. Therefore, the Analysis on Environmental Impact (AMDAL) is always included in all planning of mining activities, including for plans to build a factory in Morowali, Central Sulawesi and increase nickel production capacity in East Luwu, South Sulawesi. AMDAL preparation refers to the Minister of Environment Regulation No.5 of 2012, and No. 17 of 2012. [G4-14]

PT Vale has established biodiversity management plan covering the entire area (100%) of our mining operations. This plan is set out in the Approval No. 188.4/66/II/BAPEDALDA. [MM2]



Pengendalian dan Reduksi Emisi SO₂

Pengendalian emisi merupakan salah satu bentuk kepedulian Perusahaan terhadap lingkungan. Isu ini penting karena mempengaruhi pengambilan keputusan pemangku kepentingan dan telah diatur oleh pemerintah melalui Peraturan Menteri Lingkungan Hidup No.4/2014 tentang Baku Mutu Emisi dan Keputusan Gubernur No. 69/2010. Perusahaan memitigasi risiko lingkungan dengan mengukur konsentrasi emisi secara berkala, memasang penangkap debu *electrostatic precipitator* (ESP) pada tanur pengering dan tanur pereduksi, serta penangkap debu (*bag house*) pada tanur peleburan.

Komitmen PT Vale dalam mengurangi dampak yang ditimbulkan dari kegiatan operasi penambangan serta pengolahan bijih nikel diwujudkan antara lain melalui pengendalian dan reduksi emisi, yakni emisi SO₂. Informasi ini penting disampaikan dalam laporan ini dan menjadi aspek material karena dapat mempengaruhi pengambilan keputusan para pemangku kepentingan.

Mengurangi potensi polusi udara, pengendalian dan reduksi emisi juga menjadi bentuk partisipasi PT Vale dalam upaya bersama menghadapi perubahan iklim. Hal ini sejalan dengan Tujuan Pembangunan Berkelanjutan (Sustainable Development Goal atau SDG).

Selama tahun 2016, intensitas emisi partikulat dari proses pengolahan sebesar 13%. Tahun 2017 akan berfokus pada penggantian sistem penangkap debu ESP pada Tanur reduksi #4 (*Reduction kiln #4*). Penggantian ini diharapkan emisi partikulat dapat dikendalikan dengan lebih baik. Kinerja ini dipantau langsung oleh Fungsi Environmental Health and Safety dan menjadi tanggung jawab Chief Operational Officer (COO). [G4-DMA]

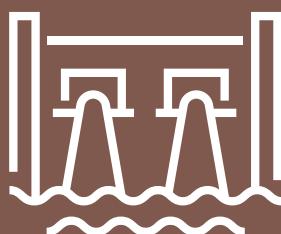
Control and Reduction of SO₂ Emissions

Emission control is one of the Company's concern for the environment. This issue is important because it affects the stakeholders' decision-making and has been regulated by the government through regulation of Ministry of Environment No.4/2014 on Standards of Emission and Governor Decree No. 69/2010. The Company mitigates environmental risks by measuring the emission concentration regularly, installing dust catcher electrostatic precipitator (ESP) at dryers and kilns and bag house at the smelting furnace.

PT Vale's commitment to reduce the impact of mining operations and nickel ore processing is realized, among others, through the control and reduction of emissions, which is emissions of SO₂. The information is important to be presented in this report and is a material aspect because it can influence the stakeholders' decision-making.

As it reduces air pollution potential, emission control and reduction are also PT Vale's form of participation in the joint effort against climate change. It is in line with the Sustainable Development Goals (SDGs).

During 2016, particulate emission intensity of processing was 13%. In 2017, the focus will be on the replacement of the ESP dust catcher system at Reduction kiln #4. This replacement is expected to better control particulate emissions. The performance is directly monitored by Environmental Health and Safety Function and are the responsibility of Chief Operational Officer COO. [G4-DMA]



Pengoperasian PLTA Karebbe mereduksi 500.000 ton CO₂ eq per tahun.

The operation of hydroelectric power plant Karebbe reduced 500,000 tons CO₂ eq per year.

Pengukuran emisi dilakukan dengan memperhatikan standar ambang batas baku mutu yang ditetapkan Pemerintah dalam: [G4-EN21]

- Peraturan Menteri Lingkungan Hidup No. 4 Tahun 2014
- Peraturan Menteri Lingkungan Hidup No. 7 Tahun 2007
- Peraturan Menteri Lingkungan Hidup No. 21 Tahun 2008

Pengendalian Emisi SO₂ dan Partikulat [G4-EN21]

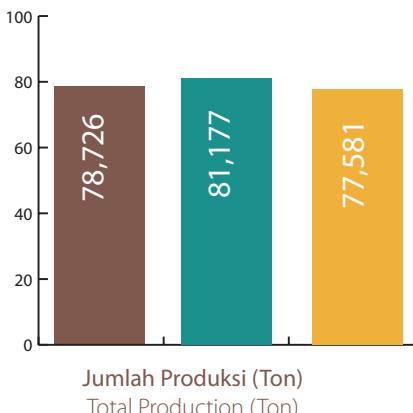
Sesuai dengan Peraturan Menteri Lingkungan Hidup No. 4 Tahun 2014 baku mutu emisi SO₂ ditentukan berdasarkan intensitas emisi yang dihitung dengan perhitungan neraca massa dengan membandingkan berat SO₂ yang diemisikan dengan berat produk yang dihasilkan (ton SO₂/ton produk). Seluruh sulfur input yang berasal dari sulfur murni, bahan bakar, dan batu bara diperhitungkan dalam neraca massa. Upaya yang dilakukan selama tahun 2016 untuk mengendalikan dan mengurangi emisi SO₂ adalah:

- memperbaiki pengontrolan penambahan sulfur yang lebih sistematis dan konsisten
- modifikasi sistem penambahan sulfur di kiln agar lebih efisien
- meningkatkan *recovery* produk nikel

Pengeluaran emisi SO₂ telah memenuhi ambang batas baku mutu yang ditentukan Pemerintah. Jenis emisi yang relevan dengan kegiatan Perusahaan yaitu SO₂. Metode yang digunakan dalam menghitung emisi adalah neraca massa dengan mengacu pada manual perhitungan intensitas emisi SO₂.

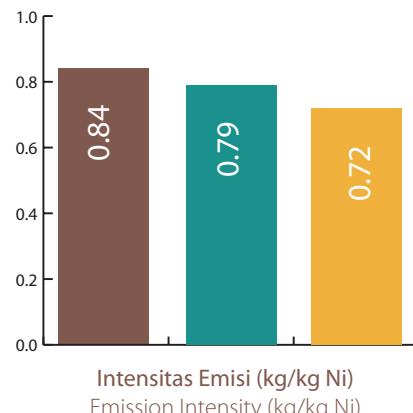
Jumlah dan Intensitas SO₂ [G4-EN21]

Total of SO₂ Emission and Intensity

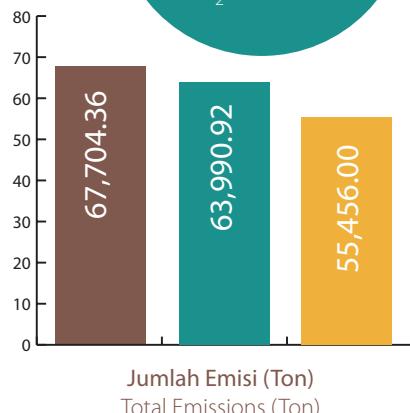


Baku Mutu SO₂: 0.86 kg/kg Ni
SO₂ Quality Standard: 0.86 kg/kg Ni

● 2014 ● 2015 ● 2016



9%
Penurunan
Emisi SO₂
9% Decrease in
SO₂ Emission

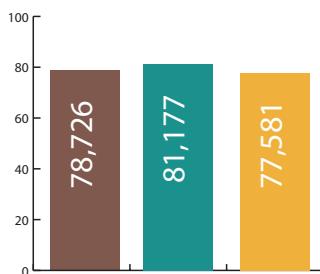




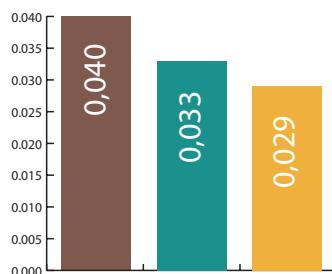
Perusahaan terus menjaga agar kualitas udara ambien memenuhi baku mutu dengan melakukan pengukuran berkala terhadap konsentrasi partikulat.

Jumlah dan Intensitas Partikulat [G4-EN21]

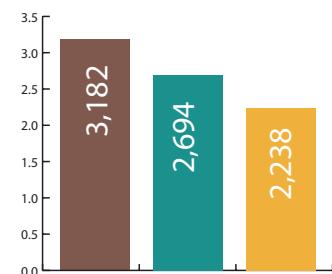
Total of Particulate and Intensity



Jumlah Produksi (Ton)
Total Production (Ton)



Intensitas Emisi (kg/kg Ni)
Emission Intensity (kg/kg Ni)



Jumlah Emisi (Ton)
Total Emissions (Ton)

Baku Mutu Partikulat: 0.22 mg/Nm³
Particulate Quality Standard: 0.22 mg/Nm³

● 2014 ● 2015 ● 2016

Pengembangan Energi Alternatif

Karakteristik operasi PT Vale mengkonsumsi energi cukup besar dibandingkan industri lain. Perusahaan berinisiatif untuk memenuhi sebagian besar kebutuhan energi dengan menggunakan energi terbarukan. Hingga akhir tahun 2016, 94% energi untuk aktivitas operasi berasal dari PLTA. Sisanya berasal dari pembangkit listrik berbahan bakar minyak (BBM) yakni *high sulphur fuel oil* (HSFO), *high speed diesel* (HSD), dan batubara.

Kebutuhan energi untuk proses produksi nikel dalam *matte* dipenuhi antara lain dari pemanfaatan pembangkit listrik tenaga air (PLTA) dan biodiesel. Informasi energi penting disampaikan dalam laporan ini karena Pemanfaatan PLTA dan biodiesel telah menjadi bagian pengembangan sumber energi alternatif dan peningkatan efisiensi.

Tahun 2016, PT Vale berhasil mengurangi konsumsi energi sebesar 7,09% dibandingkan dengan tahun sebelumnya. PT Vale mencanangkan target 1% efisiensi energi untuk area penambangan di tahun 2017. Sementara di area pengolahan, Perusahaan tidak menargetkan efisiensi energi sehubungan dengan upaya menjaga kualitas produksi dan fasilitas pabrik pengolahan. Capaian dan target ini menjadi tanggung jawab Chief Operating Officer (COO) yang pelaksanaannya menjadi tugas Fungsi Maintenance and Utilities.

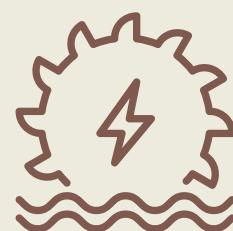
Alternative Energy Development

PT Vale's operating characteristics consumes considerable energy compared to other industries. The Company took the initiative to meet most energy needs with the use of renewable energy. By the end of 2016, 94% of the energy for operating activities originated from hydroelectric power plant (PLTA). The rest originated from oil fuel-fired power plants (BBM), namely *high sulfur fuel oil* (HSFO), *high speed diesel* (HSD), and coal.

Energy requirements for nickel in matte production process are met, among others, from utilizing hydroelectric power plant (HEPP or PLTA) and biodiesel. Energy information is deemed important to be presented in this report because utilization of PLTA and biodiesel has become part of the development of alternative energy sources and improved efficiency.

In 2016, PT Vale managed to reduce energy consumption by 7,09% from the previous year.

Furthermore, PT Vale has set energy efficiency target at 1% for mining area in 2017. While in the processing area, the Company did not set any target on energy efficiency due to efforts to maintain the quality of production and processing plant facilities.



Secara bertahap, PT Vale berupaya meningkatkan konsentrasi BBN dalam biodiesel hingga 20%, sejalan ketentuan dalam Peraturan Menteri ESDM No.12 Tahun 2015. [G4-DMA]

Konsumsi Energi [G4-EN3]

PT Vale menggunakan dua jenis pembangkit listrik, yakni pembangkit listrik listrik tenaga air (PLTA) sebagai sumber energi terbarukan dan pembangkit termal yang menggunakan BBM. Perusahaan sepenuhnya menggunakan pembangkit listrik untuk kegiatan pengolahan dan tidak melakukan penjualan energi.

Penghitungan total konsumsi energi berasal dari pemakaian energi di lingkungan PT Vale, termasuk energi yang digunakan oleh peralatan berat yang dioperasikan kontraktor. Laporan ini belum menyertakan penghitungan terpisah konsumsi energi yang digunakan masing-masing perusahaan kontraktor.

Penghitungan energi dilakukan dengan metode penjumlahan volume sumber energi yang digunakan, dan kemudian dikonversi ke dalam satuan energi (gigajoule atau GJ). Total energi terpakai selama tahun 2016 mencapai 26.525.185,67 gigajoule (GJ), turun 2.027.106,73 GJ atau 7,09% dibanding tahun 2015 sebanyak 28.552.292,40 GJ. Penurunan energi terpakai disebabkan seiring penurunan produksi.

Kenaikan harga HSFO pada semester kedua tahun 2016 berdampak pada penurunan pemakaian HSFO dan penggantian dengan batubara, sebagai bagian proyek konversi batubara (*coal conversion project* atau CCP) tahap pertama. Perusahaan juga melanjutkan uji coba proyek konversi batubara tahap kedua pada tanur ketiga. Perusahaan tidak menggunakan energi untuk pendinginan atau penguapan.

Penghematan energi tahun 2016 berasal dari pengalihan sumber tak terbarukan menjadi terbarukan. Pasokan listrik dari energi terbarukan mampu mengurangi pemakaian 400.000 barrel HSFO dan 64.000 barrel HSD.

Gradually, PT Vale seeks to increase the concentration of biofuel (BBN) in biodiesel up to 20%, in line with provisions of Minister of Energy and Mineral Resources Regulation No.12 of 2015. [G4-DMA]

Energy Consumption [G4-EN3]

PT Vale uses two types of power plants, the hydroelectric power plant as a source of renewable energy and thermal power plants that use fuel oil. The Company fully utilizes the power plants for processing operations and does not make any sales of energy.

Total energy consumption is calculated from internal energy use of PT Vale, including the energy used by heavy equipment operated by contractors. This report has not included the calculation of the energy consumption used by each contractor.

The energy is calculated by the summation method of volume of energy sources, and then are converted into energy unit (gigajoules or GJ). Total energy consumption during 2016 reached 26,525,185.67 gigajoules (GJ), down 2,027,106.73 GJ or 7.09% compared to 28,552,292.40 GJ in 2015. The decline of energy consumption was due to decline in production.

Increased HSFO prices in the second half of 2016, has made PT Vale reduce use of HSFO and replaced it with coal, as part of the coal conversion project (CCP) first phase. The Company also continued the pilot of the coal conversion project second phase at the third furnace. The Company does not use energy for cooling or vaporization.

Energy saving in 2016 was from the conversion of non-renewable to renewable sources. Power supply from renewable energy managed to reduce the consumption of HSFO by 400,000 barrels and HSD by 64,000 barrels.



Volume Pemakaian Energi (GJ) [G4-EN3] Energy Consumption Volume (GJ)				
Jenis Energi Energy Type	Peruntukan Usage	2016	2015	2014
Sumber Energi Tak Terbarukan Non-renewable Energy Resources				
Batubara Coal	Pembakar Dryer kiln	4,687,359.34	5,363,150.13	4,965,504.00
High Speed Diesel HSD	Pembakar Kendaraan Dryer kiln Vehicle	2,967,140.34	3,298,526.39	2,489,287.16
High Sulphur Fuel Oil* HSFO	Pembakar Pemanas Dryer kiln Boiler Vehicle	9,781,774.74	10,537,303.28	10,001,924.30
Bensin Gasoline	Kendaraan Vehicle	15,158.07	17,346.28	17,031.55
PLTD Diesel Power Plant	Tenaga listrik untuk pabrik pengolahan Power for processing plant	56,589.83	205,909.23**	22,496.33
Sumber Energi Terbarukan Renewable Source				
PLTA Hydroelectric Power Plant	Tenaga listrik untuk pabrik pengolahan Power for processing plant	9,004,921.51	9,117,241.51	9,109,116.31
PLTA (melalui PLN) Hydroelectric Power Plant (through PLN)	Listrik untuk komunitas Power for community	12,241.84	12,816.01	8,235.68
Jumlah Total		26,525,185.67	28,552,292.40	26,613,595.40

Keterangan:

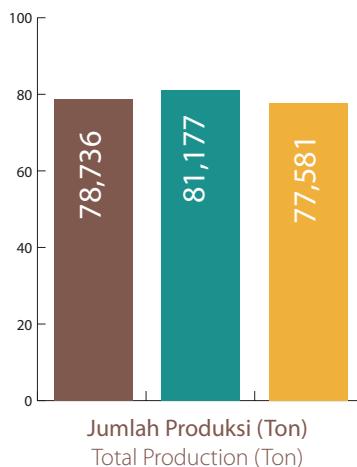
- * Perhitungan yang disajikan tidak termasuk pemanas
- ** Kenaikan terjadi salah satunya karena dampak El Nino sehingga penggunaan PLTD bertambah

Note:

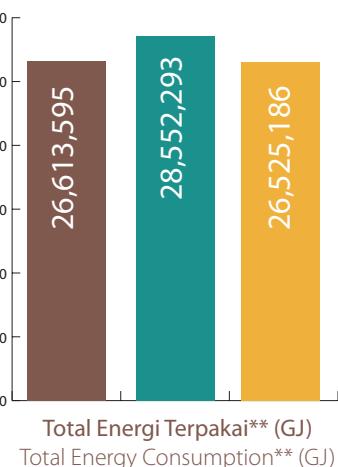
- * Calculation presented excluded boiler
- ** Increase was caused, among others, by impact of El Nino which increased the use of diesel

Volume Pemakaian Batubara dan HSFO Coal and HSFO Consumption Volume				
Jenis Bahan Bakar Energy Type	Satuan Unit	2016	2015	2014
Batubara Coal	DMT	198,671	227,314	210,460
High Sulphur Fuel Oil** HSFO	Barrel	1,608,068	1,732,273	2,644,360

Total pemakaian energi untuk setiap ton produksi nikel dalam *matte* atau Intensitas Energi pada tahun 2016 mencapai 343,36 GJ/Ton. Pengukuran intensitas energi mencakup Perusahaan dan kontraktor. Besaran tersebut lebih rendah 2% dibanding tahun 2015 sebesar 351,73 GJ/Ton. Hal ini dicapai karena adanya efisiensi untuk menekan tingkat pemakaian energi.



** Pernyataan kembali
Restatement



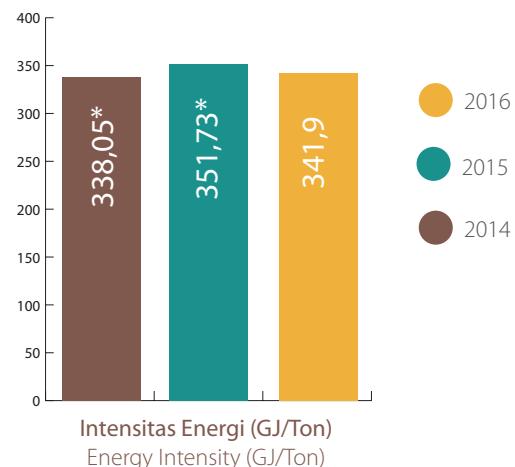
** Konsumsi energi bersumber dari dalam Perusahaan, yaitu BBM, listrik, PLTD, dan PLTA.
Energy consumption sources from within the Company are fuel, power, diesel power plant (PLTD) and hydroelectric power plant (PLTA).

Total biaya energi sebesar 28% dari komponen biaya produksi nikel dalam *matte*. PT Vale terus berupaya menekan pemakaian energi dengan melakukan berbagai langkah efisiensi, di antaranya:

- Melanjutkan uji coba CPP2 pada tanur 3 untuk menggantikan pemakaian HSFO dengan batubara, sebagai antisipasi kenaikan harga HSFO.
- Optimalisasi energy dari PLTA dibanding penggunaan bahan bakar dari thermal generation.

Upaya efisiensi yang dilakukan PT Vale mampu menekan biaya produksi nikel dalam *matte* per Metrik Ton sebesar 14% dari tahun 2015, menjadi sebesar USD6,539/ton.

Total energy consumption for each ton of nickel in matte production or energy intensity in 2016 reached 343.36 GJ/ton. Measurement of energy intensity covers the Company and contractors. It was 2% lower than 351.73 GJ/ton in 2015. This is achieved because of their efficiency to reduce the level of energy consumption.



Total energy use was 28% of nickel in matte production cost. PT Vale continues to control energy consumption through a variety of efficiency measures, including:

- Continuing CPP2 pilot of furnace 3 to replace the use of coal, in anticipation of HSFO price hike.
- Energy optimization from hydroelectric power plant compared to fuel use form therma generation.

Efficiency efforts undertaken by PT Vale managed to lower production cost of nickel in matte per metric ton by 14% from 2015, to USD6,539/ton.

Biaya Produksi Production Cost				
Uraian Description	Biaya (Juta USD) Cost (Million USD)	%	Biaya (Juta USD) Cost (Million USD)	%
BBM dan Pelumas Fuel and Lubricants	95	17	153	23
Bahan Pembantu Indirect Materials	141	26	155	23
Biaya Depresiasi, Amortisasi, dan Deplesi Depreciation, Amortization, and Depletion Cost	123	23	121	18
Lainnya Others	188	34	235	36
Jumlah Total	548	100	664	100



Pengembangan Energi Terbarukan: **PEMBANGKIT LISTRIK TENAGA AIR (PLTA)**

Sejak tahun 1979, PT Vale mengembangkan PLTA yang merupakan bentuk energi terbarukan dengan mengoperasikan unit PLTA Larona. Dua unit PLTA lain, yakni PLTA Balambano dan PLTA Karella, dibangun tahun 1999 dan tahun 2011. Total kapasitas terpasang ketiga unit PLTA tersebut adalah 365 megawatt (MW).

Renewable Energy Development: **HYDROELECTRIC POWER PLANT**

Since 1979, PT Vale has developed hydroelectric power plant (PLTA) as a renewable energy form by operating PLTA Larona. Two other hydroelectric power plants, PLTA Balambano and PLTA Karella, were built in 1999 and 2011. The total installed capacity of the three hydroelectric power plants is 365 megawatts (MW).



94% konsumsi energi dari PLTA

94% of energy consumption from hydroelectric power plants

Volume pemakaian energi listrik dari PLTA pada tahun 2016 mencapai 9.004.921,51 GJ atau 33,9% dari total konsumsi energi. Pemakaian energi listrik dari PLTA turun dibanding tahun 2015 sebesar 9.117.242 GJ. Hal ini disebabkan oleh produksi *calcine* yang lebih rendah, oleh karena itu kebutuhan energi menjadi lebih rendah.

Perusahaan menyalurkan 10,7 MW listrik ke PT PLN untuk didistribusikan kepada masyarakat. PT PLN melakukan pembayaran dengan harga yang disepakati, untuk kemudian dihibahkan kepada pemerintah daerah. **[G4-EN3]**

The volume of power consumption from hydroelectric power plants in 2016 reached 9,004,921.51 GJ or 33.9% of total energy consumption. The use of power from hydroelectric power plants decreased compared to 9,117,242 GJ in 2015. This was due to lower calcine production, therefore needing less energy.

The Company supplies 10.7 MW of electricity to PT PLN to be distributed to the community. PT PLN pays at the agreed price, which is then handed to the local governments as grants. **[G4-EN3]**

10,7 MW listrik PLTA untuk masyarakat

10.7 MW power from hydroelectric power plant for community

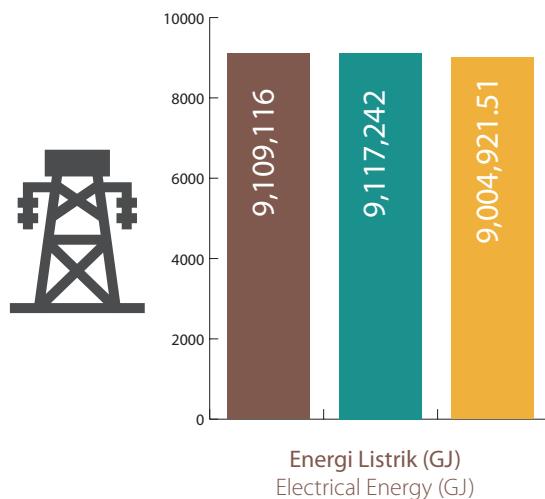
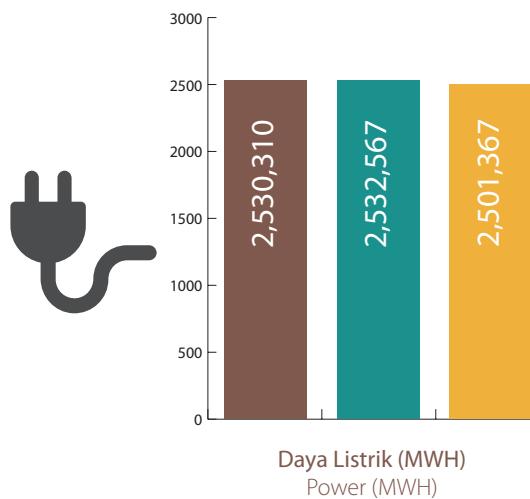


Unit dan Kapasitas PLTA Hydroelectric Power Plant Units and Capacity			
Unit PLTA Hydroelectric Power Plant Units	Tahun Operasi Year of Operation	Sumber Air Water Source	Kapasitas (MW) Capacity (MW)
PLTA Larona	1879	Sungai Larona Larona River	165
PLTA Balambano	1999		110
PLTA Karella	2011		90
Jumlah Total			365

Pemanfaatan Energi dari PLTA

Energy Uses from Hydroelectric Power Plant

● 2016 ● 2015 ● 2014



Pengembangan Energi Terbarukan: Biodiesel

PT Vale melanjutkan program penggunaan biodiesel yang merupakan pencampuran bahan bakar diesel dan bahan bakar nabati (BBN) yakni Fatty Acid Methyl Ester (FAME) dengan konsentrasi 15%. Biodiesel digunakan sebagai bahan bakar untuk kendaraan bermotor operasional Perusahaan.

Total volume pemakaian biodiesel pada tahun 2016 sebesar 76.8 juta liter, naik signifikan dibanding tahun 2015 yang mencapai 28 juta liter. Kenaikan yang sangat signifikan disebabkan karena di tahun 2016 seluruh kendaraan bermotor dan alat berat Perusahaan yang menggunakan diesel sebagai bahan bakar sudah menggunakan biodiesel.

Development of Renewable Energy: Biodiesel

PT Vale continued biodiesel utilization program, which will be a mixture of diesel fuel and Fatty Acid Methyl Ester (FAME) biofuel (BBN) with a concentration of 15%. Biodiesel is used as a fuel for the Company's operational motor vehicles.

Total volume of biodiesel consumption in 2016 amounted to 76.8 million liters, up significantly compared to 2015, which was 28 million liters. The increase was very significant because in 2016 all motor vehicles and heavy equipment of the Company that use diesel oil as fuel have already been using biodiesel.



PLTA mereduksi:
The Hydroelectric Power Plant reduced:

- **400.000 barrel HSFO**
400,000 barrel HSFO
- **64.000 KL HSD**
64,000 KL HSD
- **50.000 MT CO₂ eq/tahun**
50,000 MT CO₂ eq/year



Pengelolaan Limbah

Waste Management

Pengelolaan limbah dipilih menjadi aspek material dalam laporan ini karena informasi ini penting bagi pemangku kepentingan untuk mengetahui bagaimana PT Vale mengelola dampak negatif dari hasil proses penambangan dan pengolahan bijih nikel.

Proses pengelolaan limbah berbahaya dan beracun dilakukan sesuai dengan Peraturan Pemerintah No.101/2014 dan Peraturan Menteri Lingkungan Hidup No. 9 Tahun 2006 tentang Baku Mutu Air Limbah bagi Usaha dan/atau Kegiatan Pertambangan Bijih Nikel. Kepatuhan atas pengelolaan limbah dilakukan oleh Fungsi Health, Safety, and Environment untuk dipastikan berjalan dengan baik dan diawasi oleh Direktur EHS.

Perusahaan memonitor dan memastikan pengelolaan limbah secara berkala. Perusahaan melibatkan Laboratorium terakreditasi dalam mengukur konsentrasi parameter mutu limbah cair terhadap baku mutu. Pada tahun 2016 total limbah padatan (Total Suspended Solid/TSS) yang dihasilkan naik sebesar 738,4 ton terhadap tahun 2015, hal ini disebabkan karena kenaikan jumlah debit limbah cair sebanyak 3 kali lipat seiring dengan kenaikan curah hujan, perluasan perambahan areal tangkapan air dan penambahan jumlah titik penaatan. Kenaikan ini dipastikan tidak berpengaruh signifikan terhadap lingkungan. Konsentrasi rata-rata kandungan TSS dari seluruh titik penaatan pada tahun 2016 adalah sebesar 11,04 mg/liter terhadap baku mutu 200 mg/liter. Tidak ada pengaduan masyarakat mengenai limbah Perusahaan. [\[G4-DMA\]](#)

Waste management is selected as a material aspect in this report because this information is important for stakeholders to know how PT Vale manages the negative impact resulting from the mining and processing of nickel ore.

The process of managing toxic and hazardous waste is carried out in accordance with Government Regulation No. 101/2014 and Regulation of the Minister of Environment No. 9 of 2006 on Wastewater Quality Standard for Business and/or Nickel Ore Mining Activities. Compliance with waste management is conducted by the Health, Safety, and Environment function to ensure it runs properly and supervised by the Director of EHS.

The Company monitors and ensures the waste management regularly. The Company involved accredited laboratory to measure the concentration parameters of effluent quality to quality standard. In 2016, Total Suspended Solids (TSS) generated increased by 738.4 tons, compared to 2015, which was caused by three-fold increase in the volume of effluent discharge due to increased rainfall, expanding encroachment of water catchment area and increased points of compliance. This increase was confirmed to have no significant effect on the environment. The average concentration of TSS content of all points of compliance in 2016 was 11.04 mg/liter against the quality standard of 200 mg/liter. There were no community complaints about the Company's waste. [\[G4-DMA\]](#)

Pengelolaan Limbah Padatan [\[G4-EN23\]\[MM3\]](#)

Limbah padatan dari kegiatan penambangan terdiri dari *overburden* dan lapisan tanah pucuk (*top soil*). Kegiatan pengolahan biji nikel menghasilkan limbah *furnace slag* dan *converter slag*.

PT Vale mengelola sendiri *converter slag* karena masih memiliki nilai ekonomi untuk diolah kembali sebagai material daur ulang proses pengolahan bijih nikel. Sementara itu, sejak Oktober tahun 2014 berdasarkan PP 101 *furnace slag* dikategorikan sebagai LB3 kategori bahaya-2 dengan kode limbah B403. Saat ini PT. Vale telah mendapat izin untuk tempat penyimpanan sementara, sedangkan izin pemanfaatan lainnya sedang dalam proses pengurusan.

Solid Waste Management [\[G4-EN23\]\[MM3\]](#)

Solid waste from mining operations consists of overburden and topsoil. Nickel ore processing activities generate waste furnace slag and converter slag.

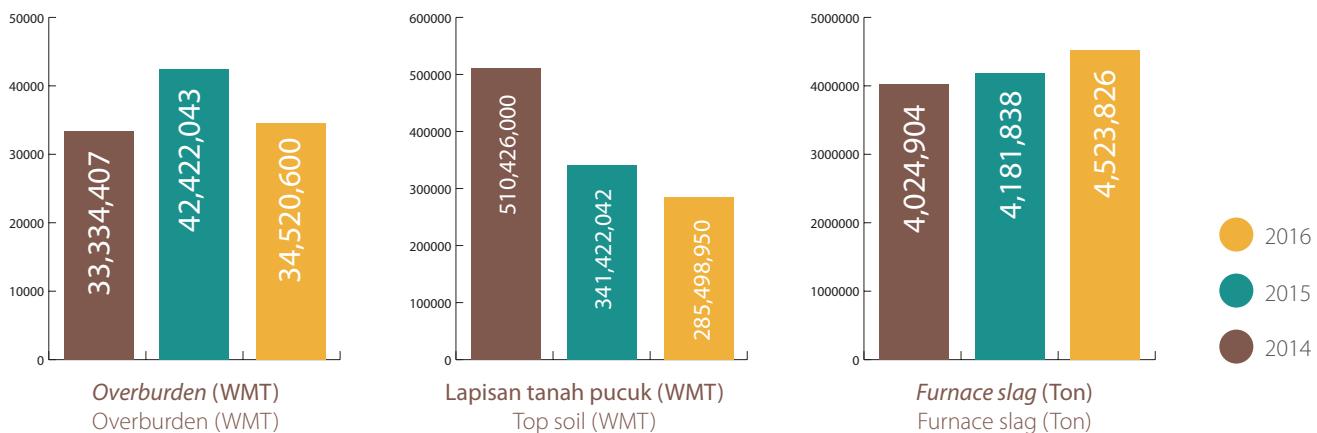
PT Vale manages its own converter slag because it still has economic value to be reused as recycled material in nickel ore processing. Meanwhile, since October 2014 under Government Regulation No. 101 furnace slag has been listed as LB3 under hazard-2 category with waste code B403. Currently, PT. Vale has received permit for a temporary storage area, while the other utilization permits were in process.



Jenis Limbah Padatan Dihasilkan dan Skema Pengelolaannya [MM3] Types of Generated Solid Waste and Management Scheme		
Kegiatan Activity	Jenis Limbah Padatan Solid Waste Types	Pengelolaan Limbah Waste Management
Penambangan bijih nikel Nickel ore mining	<ul style="list-style-type: none"> Overburden Lapisan tanah pucuk Top soil 	<ul style="list-style-type: none"> Ditimbun di area penimbunan (<i>disposal pit</i>) Stockpiled in disposal pit Material timbun proses reklamasi pascatambang Backfill material for post-mining reclamation process
Pengolahan bijih nikel Nickel ore processing	<ul style="list-style-type: none"> Furnace Slag 	<ul style="list-style-type: none"> Ditimbun untuk selanjutnya digunakan untuk material pengeras jalan tambang Stockpiled for later use as hauling road paving material

Jenis dan Volume Limbah Padatan [MM3]

Types and Volume of Solid Waste



Jumlah dan Metode Pengelolaan Limbah Padatan yang Dihasilkan dari Kegiatan Pengolahan dan Penunjang [G4-EN23] Number and Method of Solid Waste Management from Processing and Supporting Operations					
Jenis Type	Bentuk Form	Metode Pengelolaan Management Method	Jumlah yang Diolah (ton) Processed Quantity (tons)		
			2016	2015	2014
Limbah 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	14,220	13,733	16,043.1
	Limbah <i>scrap/logam</i> Scrap/metal waste		5,638	5,624	5,706
Limbah 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	1,200.1	1,470.4	1,578.8
	Terak tanur listrik Furnace slag	Dimanfaatkan untuk menunjang operasi tambang Reused to support mine operations	4,523,826	4,181,838	4,024,904
	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)	206.1	332.4	209.5



Jumlah dan Metode Pengelolaan Limbah Padatan yang Dihasilkan dari Kegiatan Pengolahan dan Penunjang [G4-EN23] Number and Method of Solid Waste Management from Processing and Supporting Operations						
Jenis Type	Bentuk Form	Metode Pengelolaan Management Method	Jumlah yang Diolah (ton) Processed Quantity (tons)			2014
			2016	2015	2014	
Limbah B3 Hazardous and Toxic Waste	Bahan kimia kadaluwarsa Expired date chemical reagent	Dikirim ke PPLI Sent to PPLI	3.3	11.3	15.8	
	Baterai dan aki bekas Used battery	Dikirim ke PPLI Sent to PPLI	56.5	60.6	10.2	
	Cat dan bahan kimia Paints and chemicals	Dikirim ke PPLI Sent to PPLI	1.6	5.9	1.0	
	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	1.4	2.1	1.2	
	Asbes Asbestos	Dikirim ke PPLI Sent to PPLI	10.1	12.7	6.7	
Jumlah Total			4.545.163,1	4.203.089,8	4.048.476,3	

Converter slag yang berpotensi menjadi limbah digunakan kembali oleh Perusahaan sebagai material produksi.

Converter slag waste can potentially be reused by the Company as production material.

Pengelolaan dan Pengolahan Limbah Cair [G4-EN22]

Limbah cair (*effluent*) yang dihasilkan dari kegiatan operasi penambangan dan pengolahan bijih nikel dikelola melalui mekanisme peningkatan kualitas air dari *effluent*. Pengelolaan ditujukan untuk mengurangi kandungan total padatan tersuspensi (*total suspended solid* atau TSS), serta beban pencemaran logam Kromium (Cr^{6+}) yang terlepas dari lapisan lateritik. Air yang telah dikelola tidak ada yang digunakan kembali oleh pihak lain.

Pengolahan dilakukan dengan mekanisme pengendapan melalui kolam pengendapan berkapasitas 3,5 juta m² dan perlakuan kimiawi untuk mereduksi kandungan Cr^{6+} . Selain itu juga dilakukan pemantauan berkala untuk mengetahui kualitas air hasil pengolahan. Perusahaan menggunakan laboratorium yang terakreditasi untuk memastikan penggunaan metode dan asumsi yang paling sesuai.

Effluent Management and Treatment [G4-EN22]

Effluent generated from operating activities of nickel ore mining and processing is managed through the mechanism of water quality improvement from effluent. The management is intended to reduce the amount of total suspended solids (TSS), as well as the pollution load of metal chromium (Cr^{6+}), separated from lateritic layer. There was no treated water reused by other parties.

The treatment is done by settling mechanism through settling ponds with a capacity of 3.5 million m² and chemical treatment to reduce the content of Cr^{6+} . Regular monitoring is also conducted to determine the water quality from processing results. The Company uses an accredited laboratory to ensure the use of the most appropriate methods and assumptions.

Hasil Pengukuran Kualitas Air Limbah [G4-EN22] Effluent Quality Measurement Results							
Lokasi Pengukuran Measurement Location	Tujuan Badan Air Penerima Water Bodies Destination	Tahun Years	Jumlah yang Diolah (ton) Processed Quantity (tons)				
			Jumlah air terbuang* (Liter) Total discharged water* (Liters)	TSS 200 ppm	Cr Total 0.5 ppm	Cr ⁶⁺ 0.1 ppm	Fe 5 ppm
Anak Sungai Lamoare Lamoare Creek (LC3)	Danau Matano Lake Matano	2014	6,525,922	21.00	<0.030	0.0320	0.4063
		2015	6,427,909	16.00	0.135	<0.030	0.4083
		2016	15,588,121.64	7.73	0.13	0.0221	0.00881
Lamangka (LMK)	Danau Mahalona Lake Mahalona	2014	62,528,228	17.50	0.049	<0.030	0.3139
		2015	36,960,298	<10	0.040	<0.030	0.2327
		2016	29,832,365.07	5.11	0.10	0.047	0.07351
Petea Timur East Petea	Danau Matano Lake Matano	2014	4,628,641	25.38	0.042	<0.030	0.6074
		2015	4,963,220	15.00	0.047	<0.030	0.8822
		2016	8,782,337.70	20.39	0.16	0.02	0.02902
Petea Barat West Petea	Danau Matano Lake Matano	2014	14,000,934	44.00	0.079	<0.030	0.4055
		2015	6,975,488	22.40	0.030	<0.030	0.7563
		2016	24,853,105	11.55	0.08	0.03	0.03
Petea Timur Jauh Petea far East	Danau Matano Lake Matano	2016	6,043,888.89	23.39	0.21	0.02	0.04
Lorrainne	Danau Matano Lake Matano	2016	Belum Menggunakan AWLR (Automatic Water Level Record) AWLR (Automatic Water Level Record) has not been applied	1.66	0.02	0.003	0.09
							0.01

Keterangan: Pencatatan menggunakan Automatic Water Level Record

*Tidak ada air terbuang dari kegiatan operasi yang tidak terencana

Note: Recording uses Automatic Water Level Record

* No unplanned water discharge from operating activities

Tingkat padatan terlarut (*total suspended solids*) tertinggi di Danau Matano adalah sekitar 44 ppm di tahun 2014, yaitu jauh di bawah baku mutu Permen LH No.9 Tahun 2006 sebesar 200 ppm. Kebersihan air danau ini menunjukkan bahwa PT Vale telah berhasil melindungi danau selama masa operasi lebih dari 40 tahun.

Pada tahun 2016 PT Vale mengoperasikan Lamella Gravity Settler (LGS) yang merupakan instalasi baru pengolahan limbah. Penerapan LGS juga sejalan dengan Peraturan Menteri Lingkungan Hidup No.9 Tahun 2006 Tentang Baku Mutu Air Limbah Bagi Usaha dan/atau Kegiatan Pertambangan Bijih Nikel.

The highest level of total suspended solids in Lake Matano was around 44 ppm in 2014, which was far below the quality standard threshold of Minister of Environment Regulation No. 9 of 2006 at 200 ppm. The cleanliness of the lake water indicated that PT Vale has managed to conserve the lake during its operations of more than 40 years.

In 2016, PT Vale operated Lamella Gravity Settler (LGS), which was a new installation of waste treatment. LGS application is also in line with the Regulation of Minister of Environment No. 9 of 2006 on Quality Standard of Effluent for Businesses and/or Nickel Ore Mining Activities.



Fasilitas LGS mulai dibangun pada bulan April 2014 dan beroperasi dengan penuh tahun 2016. Sebuah ujicoba dilakukan tahun 2015 dengan melibatkan tim dari Badan Penerapan dan Pengkajian Teknologi (BPPT). Dari hasil pemantauan operasi diketahui bahwa kinerja LGS dalam mengolah limbah lebih efektif dibandingkan pengolahan dengan metode kolam pengendapan konvensional (*settling pond*). Selain efektivitas yang lebih baik, keunggulan teknologi LGS adalah dapat memperkecil kebutuhan luas fasilitas pengendapan hingga 5 kali lipat dibandingkan dengan kolam konvensional. [G4-EN22]

Hingga akhir periode pelaporan PT Vale tidak pernah menerima laporan perihal terganggunya keanekaragaman hayati di dalam badan air yang menjadi tujuan pembuangan olahan air limbah.

LGS facility began construction in April 2014 and was fully operational by 2016. A trial was conducted in mid-2015, involving a team from the Agency for Assessment and Application of Technology (BPPT). Results of the operations monitoring found that LGS performance in effluent treatment was more effective than treatment with conventional method of settling pond. In addition to better effectiveness, LGS technology advantage managed to reduce the width of area required for settling facility by up to 5 times compared to conventional pond. [G4-EN22]

Until the end of the reporting period, PT Vale never received any report on disturbance to biodiversity in water bodies that were the destination of treated effluent discharge.

Penerapan teknologi Lamella Gravity Settler di PT Vale Indonesia adalah yang pertama diterapkan untuk industri pertambangan.

The Lamella Gravity Settler technology at PT Vale Indonesia was the first applied to the mining industry.





Reklamasi dan Rehabilitasi Pascatambang

[G4-14, MM1, MM10]

Post-Mining Reclamation and Rehabilitation

Rehabilitasi pascatambang merupakan bagian penting dari proses penambangan yang dilaksanakan PT Vale dan oleh karenanya informasi ini menjadi aspek material yang perlu disampaikan dalam laporan ini.

Sejalan dengan Vale Integrated Management System (IMS), luasan lahan tambang terbuka (*open cast*) tidak boleh melebihi 1.450 ha pada akhir tahun 2016. Pembukaan lahan tambang selalu diiringi dengan reklamasi dan rehabilitasi lahan yang telah selesai ditambang (pascatambang) (*progressive reclamation*), dengan penanaman tumbuhan lokal yang merupakan bagian dari kekayaan keanekaragaman hayati.

Perusahaan sudah memiliki rencana pascatambang untuk wilayah operasi Sorowako (100% wilayah yang beroperasi) yang merujuk pada Peraturan Menteri ESDM No 7 Tahun 2014 Tentang Reklamasi dan Pascatambang. Kegiatan pascatambang Blok Pomalaa dan Bahodopi yang belum beroperasi akan direncanakan di masa mendatang.

Berdasarkan Rencana Kerja dan Anggaran Biaya (RKAB) 2017, PT Vale berencana melakukan reklamasi pada 75,39 ha, yang pada tahun 2016 telah dikerjakan seluas 51,40 ha. Semua proses reklamasi dan rehabilitasi pascatambang dilakukan oleh Fungsi Penambangan dan diawasi dengan ketat oleh Chief Operating Officer. [G4-DMA]

Kegiatan operasi penambangan bijih nikel dilakukan secara terbuka atau di atas permukaan tanah. Kegiatan penambangan dimulai dengan pembukaan lahan atau *land clearing* yang diikuti pengupasan lapisan tanah pucuk (*top soil*) dan diakhiri penyiapan lahan untuk menampung bijih nikel yang telah disaring (*ore*). Lahan yang selesai ditambang kemudian akan direklamasi dan direhabilitasi.

Post-mining rehabilitation is an important part of the mining process undertaken by PT Vale and therefore this information is a material aspect that needs to be presented in this report.

In line with Vale Integrated Management System (IMS), the area of open cast is not allowed to exceed 1,450 ha in the end of 2016. Mining land clearing is always followed with reclamation and rehabilitation of post-mining land, by planting local plants that are part of the biodiversity wealth.

The Company has already established post-mining plans for Sorowako operating area (100% of operating area), which refers to the Ministry of Energy and Mineral Resources Regulation No. 7 of 2014 on Reclamation and Mine Closure. Mine Closure Activity of Pomalaa and Bahodopi blocks that have not been operating will be planned in the future.

Based on the Work Plan and Budget (RKAB) 2017, PT Vale plans to carry out reclamation on 75.39 ha area, which in 2016 an area of 51.40 ha has been reclaimed. All process of reclamation and post-mining rehabilitation is carried out by the Mining Function and closely monitored by the Chief Operating Officer. [G4-DMA]

Nickel ore mining is an open cast mining or carried out on the surface. Mining activities begin with land clearing, followed by stripping top soil and end by site preparation to store nickel ore that has been filtered. The post-mining land will then be reclaimed and rehabilitated.



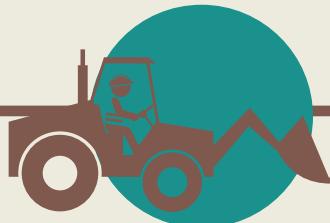
Membersihkan lokasi tambang
dari segala jenis tumbuhan
Clearing the mine site
from any kinds of plant

Pembukaan Lahan Land Clearing



Mengelupas lapisan tanah penutup.
Lapisan tanah sisa dibawa ke
penampungan dan digunakan untuk
menimbun lahan pascatambang.
The process of removing overburden. The
overburden is then transported to stockpile
and used for post-mining land backfilling.

Pengupasan Lapisan Tanah Stripping



Setelah lapisan tanah terangkat, tampak
bijih nikel dengan kadar sedang dan
kadar tinggi diangut ke *screening station*.
After the overburden is stripped, nickel
ore with medium and high grade
will appear and is then transported
to the screening station.

Penambangan Bijih Ore Mining



Rehabilitasi Rehabilitation

Setelah penambangan selesai,
dilakukan rehabilitasi dan penanaman
kembali di tahun pascatambang.
After mining ends, rehabilitation and
revegetation on post-mining land process
are conducted in the post-mining years.

Penimbunan Stockpile

Tempat penampungan sementara *ore*
sekaligus berfungsi mengurangi kadar
air sebelum diolah lebih lanjut di pabrik.
Temporary storage for ores that also
serves to reduce the moisture content
before further processing at the plant.

Tempat Penyaringan Screening Station

Bijih nikel disaring sesuai ukuran
yang diminta pabrik pengolahan.
Nickel ore is screened
according to the size requested
by processing plant.

Pada kegiatan operasi penambangan yang dilaksanakan
tahun 2016, dipastikan tidak ada spesies fauna maupun flora
dilindungi yang ditemukan di lokasi penambangan.

Luasan lahan terganggu pada akibat kegiatan operasi
penambangan pada tahun 2016 mencapai 5.340,55 ha, dan
total luasan lahan yang direhabilitasi adalah 3.916,54 ha.
Dengan demikian, sisa luasan lahan untuk kegiatan operasi
penambangan mencapai 1.425,83 ha, dan masih berada
dalam batas toleransi yang telah disetujui oleh ESDM.

Keberadaan PT Vale berdekatan dengan kawasan dilindungi.
Dari total luas wilayah operasi PT Vale di Sorowako yang
mencapai 70.894 ha, sebagian di antaranya berada di kawasan
dilindungi dengan luas 41.822,95 ha.

In the mining operations during 2016, it is ascertained that no
protected species of fauna and flora found in the mine sites.

The area of disturbed land due to mining activities in 2016
reached 5,340.55 ha, and the total area of rehabilitated land was
3,916.54 ha. Thus, the remaining area of land for mining activities
reached 1,425.83 ha, and remained within threshold tolerance
approved by Ministry of Energy and Mineral Resources.

PT Vale is located adjacent to protected areas. Of the total area
of PT Vale's operating sites in Sorowako that reached 70,894 ha,
part of it is located within the protected area with an area of
41,822.95 ha.

Proses Rehabilitasi Pascatambang

Sampai dengan akhir periode pelaporan, total sudah 3.916,54 ha lahan pascatambang yang telah direhabilitasi dan direklamasi. Total akumulasi jumlah pohon yang ditanam di lahan pascatambang mencapai lebih dari 1.200.000 batang.

Rehabilitation of Mine Closure Process

As of the end of the reporting period, a total of 3,916.54 ha post-mining land has been rehabilitated and reclaimed. Total accumulated number of trees planted in the post-mining land reached more than 1,200,000 trees.

Tahapan Rehabilitasi Pascatambang Stages of Post Mining Rehabilitation	
Tahapan Stages	Keterangan Description
Penutupan tambang Mine closure	<ul style="list-style-type: none"> Penghentian kegiatan penambangan Termination of mining activities Pemindahan peralatan penambangan Removal of mining equipment
Penimbunan lahan pascatambang Post-mining land backfilling	<ul style="list-style-type: none"> Material menggunakan <i>overburden</i> dari kegiatan penggalian sebelumnya Using overburden material from the previous excavation Dilakukan sampai mendekati bentuk bentang alam sebelum kegiatan penambangan dilakukan Carried out until it is close to the state of landscape before mining activities
Pelapisan tanah pucuk Topsoil layering	<ul style="list-style-type: none"> Material menggunakan tanah pucuk dari kegiatan pengupasan tanah pucuk sebelumnya Material using topsoil from the previous top soil stripping activities Ketebalan lapisan sekitar 30 sentimeter Layer thickness of approximately 30 centimeters
Pengendalian erosi Erosion control	Dibuat dengan struktur tanah bertingkat Contouring land structure
Pembangunan drainase Drainage construction	Dibuat untuk mengairi lahan pascatambang Built to irrigate post-mining land
Pembangunan jalan revegetasi Road construction and revegetation	Dibuat untuk memudahkan pemantauan dan perawatan lahan pascatambang Built to facilitate monitoring and maintenance of post-mining land
Penanaman tumbuhan perintis dan endemis Planting of pioneer and endemic plants	Untuk mengendalikan erosi lahan dan menciptakan iklim mikro yang kondusif untuk pertumbuhan tanaman lokal dan konservasi tumbuhan lokal serta endemik In order to control erosion and create a micro-climate that is conducive to the growth of local plants and conservation of endemic local plants
Perawatan dan pemeliharaan tanaman Care and maintenance of plants	Mengupayakan agar pertumbuhan tanaman reklamasi tumbuh dengan baik Maintaining the plants on reclaimed land grow well
Pemantauan keberhasilan Success monitoring	Memperoleh data lapangan untuk menentukan keberhasilan reklamasi lahan Acquire field data to determine the success of land reclamation
Pemanfaatan Utilization	Saat ini areal yang telah direklamasi menjadi habitat hewan seperti burung, reptil, serangga, mamalia, dan lainnya. Currently the reclaimed area has become habitat for animals such as birds, reptiles, insects, mammals, and others.

Luasan Lahan Terganggu dan Direhabilitasi (ha) [MM1] Area of Disturbed and Rehabilitated Land (ha)				
Tahun Years	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 (2016) Total Area of Disturbed Land This Year (2016)	Jumlah Lahan yang Direhabilitasi Tahun Ini (2016) Total Area of Rehabilitated Land This Year (2016)	Total Luas Area Terganggu Pada Akhir Tahun yang Belum Direhabilitasi Total Area of Unrehabilitated Disturbed Land at End of Year
	(A)	(B)	(C)	(D)=(A+B-C)
2016	1,190.80	286.16	51.04	1,425.90
2015	997.2	267.63	74.09	1,190.80
2014	964	111.43	78.13	997.2



Hingga akhir tahun 2016, total area yang telah dibuka mencapai 5.340,55 ha. Total lahan yang direhabilitasi mencapai 3.916,54 ha.

Pada tahun 2016, PT Vale mengalokasikan provisi keuangan sebesar USD19,9 juta untuk rencana reklamasi lahan sesuai aturan yang berlaku. Provisi keuangan ini masuk dalam komponen biaya lingkungan dalam laporan keuangan Perusahaan. [MM10]

By the end of 2016, total area that has been opened reached 5,340.55 ha. Total area of rehabilitated land reached 3,916.54 ha.

In 2016, PT Vale allocated financial provision of USD19.9 million for reclamation plans according to applicable laws. The financial provision was included in the environmental cost component of the Company's financial statements. [MM10]

Sistem Pengelolaan Lingkungan

Environmental Management System

Biaya Lingkungan

Nilai biaya lingkungan pada tahun 2016 mencapai 8,1 juta USD atau 97,1% dari rencana awal sebesar 8,3 juta USD. Jumlah tersebut turun dibanding biaya lingkungan tahun 2015 sebesar 10,2 juta USD. Hal ini disebabkan proyek pembangunan LGS telah diselesaikan pada tahun 2015 dan luasan areal reklamasi lahan yang lebih rendah.

Environmental Cost

Value of environmental costs in 2016 reached USD 8.1 million or 97.1% from the initial plan of USD8.3 million. The amount was down compared to the environmental costs in 2015 amounted to USD10.2 million. This was achieved as LGS development project had been completed in 2015 and the area of land reclamation was lower.



Tahun 2016 PT Vale mendapatkan peringkat PROPER Biru

In 2016, PT Vale received Blue PROPER award.

Sistem Pengelolaan Lingkungan [G4-14]

PT Vale menerapkan pengelolaan lingkungan dengan mengacu pada Vale *Integrated Management System* (IMS). IMS merupakan mekanisme yang berdasarkan prinsip kehati-hatian dalam mengelola dampak lingkungan.

Environmental Management System [G4-14]

PT Vale implements environmental management with reference to Vale Integrated Management System (IMS). IMS is a mechanism based on the prudent principle in managing environmental impact.

Standar Acuan Pengelolaan Lingkungan PT Vale Reference Standards for Environmental Management of PT Vale	
Standar Internasional (ISO) International Standard (ISO)	Uraian Description
IMS	Standar Vale Global Vale Global Standard
Standar Internasional (ISO) International Standard (ISO)	Uraian Description
Analisis Mengenai Dampak Lingkungan (RKL-RPL) Analysis on Environmental Impact	Disetujui tahun 2008 Approved in 2008
Peraturan Menteri ESDM No 7 tahun 2014 Ministry of Energy and Mineral Resources Regulation No 7 of 2014	Mengatur tentang reklamasi lahan tambang dan rencana penutupan tambang Regulates mine reclamation and mine closure plan

Pengelolaan Dampak Lingkungan Akibat Perambahan Lahan

Kegiatan perambahan kawasan hutan melibatkan oknum warga di sekitar area penambangan. Mereka membuka hutan untuk dijadikan ladang perkebunan lada. Keberadaan kegiatan perambahan hutan dan pembukaan lahan mengganggu keberadaan menara saluran listrik dan pipa minyak ke pabrik pengolahan, sehingga bisa mengancam kelangsungan kegiatan pengolahan bijih nikel.

Kegiatan perambahan kawasan hutan juga berpotensi menurunkan daya serap tanah. Hal ini dapat memicu terjadinya bencana longsor maupun banjir yang mengancam keselamatan penduduk di hilir.

Untuk menghadapi keadaan ini, PT Vale membentuk Tim Terpadu sejak tahun 2014. Keanggotaan Tim Terpadu melibatkan manajemen dengan pihak-pihak berwenang yakni pemerintah daerah dan aparat penegak hukum. Tim Terpadu melakukan penelusuran dan inventarisasi kegiatan perambahan hutan yang dilakukan warga di area kerja PT Vale. Dari total 156 kasus perambahan, hanya 5 yang sampai ke ranah hukum dan masih dalam proses.

Total luas lahan yang telah dirambah dan telah diberi surat peringatan dari Tim Terpadu mencapai lebih dari 5.886 ha. Terdiri dari lahan untuk perkebunan sebanyak 4.656,80 ha dan bukaan lahan seluas 1.230,10 ha.

Management of Environmental Impacts of Land Encroachment

Forest encroachment involved certain residents around the mining area as perpetrators. They cleared land in areas within the forests for pepper fields. The encroachment of forest and land clearing disrupted the tower of power lines and oil pipelines to the processing plant, that could threaten the continuity of nickel ore processing.

Encroachment of forest areas also potentially reduces soil absorption. It can trigger landslides and floods that threaten the safety of people in the downstream area.

To deal with this situation, PT Vale has formed an Integrated Team since 2014. Members of the Integrated Team comprise management and the authorities of local government and law enforcers. The Integrated Team performs tracing and inventory of forest encroachment activities by residents in PT Vale's working area. Only five a total 156 encroachment cases that have been handled legally and are still in process.

Total area of encroached land and have been given a warning letter from the Integrated Team reached more than 5,886 ha. They consist of 4,656.80 ha for plantations and 1,230.10 ha of land clearing.



Lokasi, Luasan dan Peruntukan Perambahan Hutan grafik

Location, Area, and Utilization of Forest Encroachment

Kecamatan Nuha,
Kabupaten Luwu Timur
(Salonsa dan Sumasang)

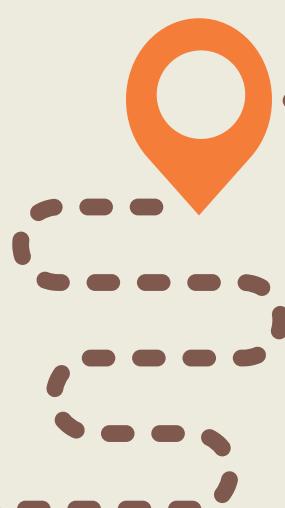
Nuha District, East
Luwu Regency (Salonsa
and Sumasang)

116.4 ha

Kebun
Plantation

63.4 ha

Bukaan lahan
Land clearing



Kecamatan Towuti,
Kabupaten Luwu Timur
(Bendungan, Lamangka,
Balaba, Pinang, Ferrari South,
Nickel Hill, dan Temboe)

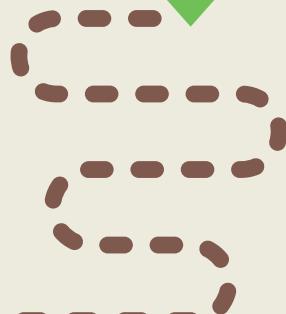
Towuti District, East Luwu
Regency (Bendungan,
Lamangka, Balaba, Pinang,
Ferrari South, Nickel
Hill, and Temboe)

1.469,4 ha

Kebun
Plantation

436.4 ha

Bukaan lahan
Land clearing



3.071 ha

Kebun
Plantation

736.3 ha

Bukaan lahan
Land clearing

Tidak ada aktivitas penambangan ilegal yang dilakukan oleh masyarakat di sekitar wilayah operasi PT Vale. [MM8]

There were no illegal mining activities carried out by the community around the area of operations of PT Vale. [MM8]



Memasuki tahun ke-4 pelaksanaan PTPM, pada akhir tahun 2016 PT Vale melakukan *assessment* independen atas implementasi PTPM yang sudah dilakukan sejak tahun 2014. Secara umum, hasil *assessment* yang telah dilakukan menyatakan bahwa PTPM telah berhasil membangun fondasi dan sistem kemitraan antara pemerintah, masyarakat, dan PT Vale dengan pendekatan musyawarah dalam implementasi PTPM.

Entering the 4th year of PTPM implementation, at the end of 2016 PT Vale conducted an independent assessment of PTPM that has been implemented since 2014. In general, the assessment results found that PT Vale has managed to build a foundation and system of partnerships between government, communities, and the Company with consensus approach in PTPM implementation.

Untuk Kesejahteraan For Welfare





35,517
Penerima
Manfaat PTPM
PTPM beneficiaries

PTPM tahap ke-2 periode 2017-2022 mulai direncanakan sejak tahun 2016, dengan lebih berfokus pada pemberdayaan, kemandirian, peningkatan pengetahuan dan kemampuan, serta manfaat jangka panjang.

PTPM Phase 2 for period 2017 to 2022 has been planned since 2016, with more focus on empowerment, independence, knowledge and ability improvement, as well as long-term benefits.



PTPM telah berhasil membangun fondasi dan sistem kemitraan antara pemerintah, masyarakat, dan PT Vale.

PT Vale has managed to build a foundation and system of partnerships between government, communities, and the Company.



Penyelarasan Program Pemberdayaan dengan Tujuan Pembangunan Berkelanjutan (*Sustainable Development Goals atau SDGs*)

Development Program Alignment with Sustainable Development Goals (SDGs)





Sesuai Visi dan Misi, keberadaan PT Vale harus mendatangkan manfaat bagi semua pemangku kepentingan.

According to Vision and Mission, PT Vale's presence must bring benefits for all stakeholders

Masyarakat, terutama yang berada di sekitar area operasi PT Vale, merupakan salah satu pemangku kepentingan penting yang turut membangun Perusahaan. Delapan puluh lima persen dari karyawan Perusahaan berasal dari masyarakat lokal. Oleh karena itu, aspek masyarakat lokal menjadi aspek material dalam laporan ini.

Kegiatan operasi Perusahaan tentunya tidak terlepas dari berbagai jenis dinamika dengan masyarakat, termasuk perselisihan. Oleh karena itu, Perusahaan terus berupaya untuk bekerjasama dengan masyarakat dalam penyelesaiannya, termasuk dengan mereka yang mengaku sebagai masyarakat adat. Bagi Perusahaan, sengketa/perselisihan didefinisikan sebagai perbedaan kepentingan, persepsi, atau pemahaman antara pihak Perusahaan dan masyarakat. PT Vale mengacu kepada *Social Management System (SMS)* dalam mengelola hubungan dengan masyarakat.

Sebuah forum antara tiga pihak (PT Vale, pemerintah, dan masyarakat) menjadi sarana komunikasi terkait dinamika antarpihak. Forum ini melibatkan perwakilan perempuan, pekerja kesehatan, guru, dan perwakilan masyarakat lainnya.

Perusahaan juga telah memisahkan fungsi pemberdayaan masyarakat dengan hubungan masyarakat. Hal ini dilakukan untuk memberikan fokus pada penanganan dinamika dengan masyarakat dan untuk menghindari konflik kepentingan yang berhubungan dengan ekspektasi masyarakat terhadap implementasi program pemberdayaan yang dilakukan Perusahaan.

Pada akhir tahun 2016, Perusahaan bersama pihak ketiga melakukan *assessment* independen untuk mengevaluasi implementasi dan dampak Program Terpadu Pemberdayaan Masyarakat (PTPM). Hasil dari evaluasi tersebut disampaikan khusus di bagian PTPM. [G4-DMA]

Community, especially those residing around PT Vale's area of operations, is one of key stakeholders for the Company that contribute in building the company. Eighty-five percent of the Company's employees originated from local communities. Therefore, local community is a material aspect in this report.

The Company's operations are not independent of various dynamics with the community, including dispute. Therefore, the Company continues the efforts to work together with the community in the resolution, including by those who claim to be indigenous people. For the Company, a dispute/disagreement is defined as the difference of interest, perception, or understanding between the company and the community. PT Vale refers to the Social Management System (SMS) in managing the relationship with the community.

A tripartite forum (PT Vale, government, and community) serves as a means of communication concerning inter-party dynamics. This forum involves the representatives of women, health workers, teachers, and other community representatives.

The Company also has separated the community empowerment function with public relations. It was done to focus on handling dynamics with the community and to avoid conflicts of interest related to the community's expectations in the empowerment program implementation by the Company.

At the end of 2016, the Company and third party performed an independent assessment to evaluate the implementation and impact of the Community Empowerment Integrated Program (PTPM). The results of this evaluation are specifically presented in the PTPM section. [G4-DMA]



Kami dan Pemangku Kepentingan

Stakeholders and Us

Perusahaan mengidentifikasi keberadaan pemangku kepentingan dengan menggunakan *social management system* (SMS). [G4-25]

The Company identified the presence of stakeholders by using social management system (SMS). [G4-25]

Pemangku Kepentingan dan Pendekatan PT Vale [G4-24] [G4-26] [G4-27] Stakeholders and Approaches of PT Vale			
Pemangku Kepentingan Stakeholders	Topik Pembahasan Discussion Topics	Pendekatan dan Respon PT Vale Approach and Response of PT Vale	Frekuensi Pendekatan Approach Frequency
INTERNAL <ul style="list-style-type: none">• Karyawan• Pimpinan Perusahaan• Kontraktor• Keluarga karyawan INTERNAL <ul style="list-style-type: none">• Employees• Company Leaders• Contractors• Employees' families	<ul style="list-style-type: none">• Fluktuasi harga nikel dunia• Peningkatan tata kelola perusahaan• Peningkatan efisiensi dan produktivitas• Penguatan posisi dan pasar• Penguatan kapasitas pemasok lokal dan peningkatan total kandungan dalam negeri (TKDN) serta pelibatan karyawan lokal• Kesimbangan aspek ekonomi, lingkungan, dan sosial• Kepatuhan hukum• Kerjasama bisnis secara etis dan• Fluctuations in world nickel prices• Corporate governance improvement• Efficiency and productivity increases• Position and market strengthening• Capacity building of local suppliers and increase in total domestic content level (DCL) as well as the involvement of local employees• Balance of economic, environmental, and social aspects• Legal compliance• Ethical and professional business cooperation	<ul style="list-style-type: none">• Rapat Umum Pemegang Saham (RUPS)• Penyusunan rencana kerja dan anggaran tahunan• Penyusunan laporan tahunan dan laporan keberlanjutan• Pertemuan berkala dan terjadwal dengan setiap fungsi• Penerapan e-procurement• Penerapan Promote National Initiative (NPI) dan Local Business Initiative (LBI)• General Meeting of Shareholders (GMS)• Preparation of annual work plan and budget• Preparation of annual and sustainability reports• Regular and scheduled meetings with each function• Implementation of e-procurement• Implementation of the Promote National Initiative (NPI) and the 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 a year• Regular dialogue and communication as needed• Business cooperation and contracts as needed
KOMUNITAS <ul style="list-style-type: none">• Pimpinan komunitas• Pensiunan COMMUNITY <ul style="list-style-type: none">• Community leaders• Retirees	<ul style="list-style-type: none">• Pelibatan dalam proses perencanaan program pengembangan masyarakat, pelaksanaan, dan pemantauan.• Pelibatan dalam pertimbangan proses perekrutan tenaga kerja lokal• Involvement in community development planning, implementation, and monitoring.• Involvement in the deliberation process of local workforce hiring	<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 according to agreements agreed• Monitoring and evaluation of community development programs as well as disclosure of the results• Delivery of information recruitment on local workforce and open recruitment process	Satu kali dalam sepekan atau sesuai dengan kebutuhan dan situasi yang dihadapi Once a week or according to the needs and situations

Pemangku Kepentingan dan Pendekatan PT Vale [G4-24] [G4-26] [G4-27]
Stakeholders and Approaches of PT Vale

Pemangku Kepentingan Stakeholders	Topik Pembahasan Discussion Topics	Pendekatan dan Respon PT Vale Approach and Response of PT Vale	Frekuensi Pendekatan Approach Frequency
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"> • Kontribusi PT Vale pada aspek ekonomi, lingkungan, dan sosial • Kerjasama dan dukungan pada praktik-praktik tata kelola perusahaan yang baik, dengan mengedepankan transparansi, akuntabilitas operasi, dan anti-korupsi • Tumpang tindih izin usaha pertimbangan (IUP) dengan pihak lain • Rencana divestasi dan pengembangan izin PLTA • PT Vale's contributions to economic, environmental, and social aspects. • Cooperation and support to good corporate governance practices, by upholding transparency, accountability of operations, and anti-corruption principles • Overlapped mining business license (IUP) with other parties • Divestment plan and the development of hydroelectric power plant license 	<ul style="list-style-type: none"> • Kesertaan dalam musyawarah rencana pembangunan (musrenbang) • Koordinasi penerapan Program CSR maupun Program Terpadu Pengembangan Masyarakat (PTPM) dengan aparat Satuan Kerja Perangkat Daerah (SKPD) • Dialog dan kerjasama • Fasilitasi dan Mediasi • Participation in development planning forum (musrenbang) • Coordinate the implementation of CSR programs and Integrated Community Development Program (PTPM) with local government working unit (SKPD) • Dialogue and cooperation • Facilitation and Mediation 	Satu kali dalam sepekan atau sesuai kebutuhan Once a week or according to needs
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"> • Konsultasi, asistensi dan kerjasama penyusunan, pelaksanaan, dan evaluasi program CSR/PTPM pada aspek ekonomi, lingkungan, dan sosial. • Konsultasi dan asistensi terkait kasus-kasus perselisihan lahan serta upaya penyelesaian yang dilakukan • Keterbukaan informasi • Consultation, assistance and cooperation in preparation, implementation, and evaluation of CSR/PTPM programs in economic, environmental, and social aspects. • Consultation and assistance regarding cases of land disputes and the settlement made • Disclosure of information 	<ul style="list-style-type: none"> • Pertemuan dan diskusi terfokus (FGD) • Kerjasama penelitian • Penyampaian informasi dan materi pemberitaan secara berkala kepada media, terkait kinerja maupun aksi korporasi • Pembicara atau narasumber sesuai permintaan • Penyusunan laporan tahunan dan laporan keberlanjutan • Meeting and focus group discussion (FGD) • Research collaboration • Delivery of information and news material regularly to the media on performance and corporate actions • Becoming speaker or source according to requests • Preparation of annual and sustainability reports 	Sesuai dengan kebutuhan According to needs
MASYARAKAT SEKITAR LOCAL COMMUNITIES	<ul style="list-style-type: none"> • Transparansi dan akuntabilitas operasi PT Vale • Pengembangan mekanisme penerapan program pengembangan masyarakat • Pelibatan karyawan lokal • Transparency and accountability in the operation of PT Vale • Development of implementation mechanism for community development program • Involvement of local employees 	<ul style="list-style-type: none"> • Mekanisme pelaporan dan pengaduan dari masyarakat, serta tindak lanjutnya • Pelaporan pemantauan penerapan program pengembangan masyarakat • Rekrutmen terbuka karyawan lokal • Reporting and grievance mechanism from the community, as well as their follow-up • Reporting of community development program monitoring implementation • Open recruitment of local employees 	Sesuai kebutuhan According to needs



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 (IBCS), dan Indonesia Business Link (IBL). Direktur Komunikasi dan Hubungan Eksternal Perusahaan terlibat dalam jajaran manajemen IBL. [G4-15]

PT Vale juga aktif mengikuti keanggotaan asosiasi untuk menjalin hubungan baik dengan pemangku kepentingan. Keikutsertaan ini memiliki arti yang strategis karena Perusahaan dapat memberikan input serta mengetahui perkembangan isu terkini. Namun, PT Vale tidak pernah memberikan kontribusi finansial di luar iuran keanggotaan asosiasi. [G4-16]

PT Vale participated in several initiatives in economic, environmental, and social aspects. Some of them are PROPER, Indonesian Global Compact Network (IGCN), Indonesian Business Council for Sustainable Development (IBCS), and Indonesia Business Links (IBL). Director of Communications and External Relations of the Company is involved in the management of IBL. [G4-15]

PT Vale also actively participates in association membership to establish good relationships with stakeholders. The participation is strategic because the Company can give input as well as keeps abreast of current issue developments. However, PT Vale has never made any financial contribution outside the association membership dues. [G4-16]

Keanggotaan Perusahaan pada Asosiasi [G4-16]
Company Membership in Associations

Asosiasi Association	Peran Role	Lingkup Scope
Indonesian Mining Association (IMA) <ul style="list-style-type: none">Direktur Utama (Niko Kanter) sebagai Wakil Ketua IMADirektur Utama (Niko Kanter) sebagai Wakil Ketua IMADirektur Legal (Ratih Amri) sebagai Ketua Komite HukumDirektur Legal (Ratih Amri) sebagai Ketua Komite Hukum	Wakil ketua asosiasi, ketua komite hukum, dan anggota Vice chairman, chief of legal committee, and member	Nasional National
ASEAN Federation of Mining (AFMA)	Anggota Member	Internasional International
Asosiasi Pengusaha Indonesia (Apindo) The Employers' Association of Indonesia (Apindo)	Anggota Member	Nasional National
Perhimpunan Ahli Pertambangan Indonesia (Perhapi) Association of Indonesian Mining Professionals	Anggota Member	Nasional National
Kamar Dagang dan Industri (Kadin) Chamber of Commerce and Industry (Kadin)	Anggota Member	Nasional National
International Committee of Large Dam	Anggota Member	Internasional International
Stock Issuer Association	Anggota Member	Nasional National
Indonesian Corporate Council Association <ul style="list-style-type: none">Senior Legal Council (Yudhistira Setiawan) sebagai Ketua AsosiasiSenior Legal Council (Yudhistira Setiawan) sebagai Ketua Asosiasi	Ketua Chairman	Nasional National
Nickel Institute	Anggota Member	Internasional International

Pengaduan dan Keluhan Masyarakat [MM7]

Community Grievance and Complaints

Kegiatan PT Vale dalam pertambangan memberikan dampak sosial negatif yang tidak dapat dihindari.

Perusahaan memiliki dua saluran pengaduan sosial, yaitu mekanisme pengaduan langsung dan melalui VWC.

PT Vale mining activities have unavoidable negative social impacts. The Company has two channels for social grievances, namely direct grievance mechanism and VWC.

Dampak Negatif Kegiatan Perseroan Terhadap Masyarakat Sekitar [G4-SO2]

Negative Impact of Company's activities on Surrounding Community

Dampak Negatif [G4-SO2] Negative Impact			
Dampak Teridentifikasi Identified Impact	Dampak Aktual Actual Impact	Penanganan oleh Perusahaan Handling by Company	Hasil Penanganan Result Handling
Dampak Polusi Udara Ω Air Pollution Impact Ω	N/A	Monitor kualitas udara secara berkala Regular air quality monitoring	Kualitas udara sesuai dengan standar baku mutu Air quality meets quality standards
Dampak Dari Kegiatan Mobilitas/Angkutan α, β, Ω Impact Of Mobility/ Transportation Activities α, β, Ω	Terjadi beberapa kali kecelakaan Ω Several accidents occurred Ω	Melakukan pemasangan rambu jalan, perbaikan jalan, dan sosialisasi berkendara dengan aman. Pembuatan <i>check-point</i> untuk kendaraan logistik. Bantuan biaya perawatan bagi korban Installation of road signs, road repair, and dissemination of safety driving. Making check-points for logistic vehicles. Assistance for victim treatment expenses	Memitigasi risiko kecelakaan Mitigating the risk of accidents
Dampak Pengamanan Aset Jalur Pipa Minyak Ω Impact Of Securing Oil Pipeline Assets Ω	Lahan masyarakat berkurang Ω Reduced community land Ω	Negosiasi dengan masyarakat mengenai pembebasan lahan Negotiations with community regarding land acquisition	Pemerintah kecamatan menyiapkan referensi harga jual beli tanah yang akan dibebaskan Sub-district government prepares sales price reference of the land to be acquired
Dampak Pemilikan Lahan Oleh Perusahaan Ω Impact Of Land Ownership By The Company			
Dampak Pencemaran Air Oleh Kegiatan Tambang Dan Pabrik Ω Impact Of Water Pollution By Mining And Plant Activities Ω	N/A	Monitor kualitas air limpasan secara berkala Regular runoff quality monitoring	Kualitas air limpasan sesuai dengan standar baku mutu Runoff quality meets quality standards

Keterangan | Note:

α : Pomala

β : Bahodopi

Ω : Sorowako



Di wilayah tempat kami beroperasi, tidak ada aturan terkait masyarakat adat. Selain itu, Perusahaan juga tidak memiliki perjanjian formal dengan masyarakat adat manapun. Namun, kami terus mengelola hubungan baik dengan berinteraksi dan melakukan pemberdayaan kepada masyarakat terdampak di sekitar wilayah operasi kami, di antaranya Masyarakat Asli Sorowako, Masyarakat Adat Karonsi'e Dongi, Masyarakat Adat Padoe, Masyarakat Adat Matano, dan Masyarakat Adat Tambee.

Hingga akhir tahun 2016, Perusahaan masih menyusun mekanisme pengaduan yang direncanakan untuk disahkan pada kuartal ketiga 2017. Oleh karena itu, pada tahun ini Perusahaan belum dapat menyajikan jumlah pengaduan maupun perselisihan yang terjadi. [MM6]

Ada beberapa pengaduan yang diterima oleh Perusahaan antara lain terkait lahan wilayah KK dan penggunaan fasilitas Perusahaan.

Where we operate, there is no regulation regarding indigenous people. In addition, the Company did not have a formal agreement with any indigenous peoples. However, we continue to manage relationships by interacting and empowering affected communities in the surrounding areas of our operations, including Indigenous Peoples of Sorowako, Indigenous Peoples of Karonsi'e Dongi, Indigenous Peoples of Padoe, Indigenous Peoples of Matano, and Indigenous Peoples of Tambee.

By the end of 2016, the Company was still preparing grievance mechanism that was planned to be passed in the third quarter of 2017. Therefore, this year the Company has not been able to present the number of complaints and disputes. [MM6]

There were several complaints received by the Company, including on the land of Contract of Work area and use of the Company's facilities.

Jenis Pengaduan Masyarakat Tindak Lanjut Tahun 2016 [MM7] Types of Community Complaint and Follow-Up 2016		
Jenis Pengaduan Types of Complaint	Saluran Channel	Tindak Lanjut Follow up
Permintaan ganti rugi atas pembebasan lahan yang dilewati jalur pipa minyak Compensation demand for acquisition of land, passed by oil pipeline		Negosiasi antara Perusahaan, pemerintah, dan masyarakat Negotiations between the Company, government, and community
Terpengaruhnya hasil tangkapan nelayan karena aktivitas pengeringan sungai Malili Impact on fishermen's catch due to Malili river dredging	Langsung kepada bagian fungsi External Relation Directly External Relations function	Melakukan kajian ilmiah dengan UNHAS, dialog dengan pemerintah daerah dan nelayan Conducting scientific studies with UNHAS (Hasanuddin University), holding dialogue with local government and fishermen
Keluhan perekrutan karyawan pada proyek Towerline 48 dan Project HCOG Complaints over employee recruitment at Towerline 48 and HCOG projects		Perusahaan menjalankan aturan rekrutmen berbasis kompetensi The Company implements competency-based recruitment rules

Sejak tahun 2011, tidak ada peristiwa yang menyebabkan relokasi masyarakat (*resettlement*). Namun, kami masih melakukan proses relokasi terhadap kasus relokasi yang terjadi pada tahun 2010. [MM9]

Since 2011, there has no event that caused community resettlement. However, we continued the relocation process of the relocation case that occurred in 2010. [MM9]



Bersama Masyarakat

Together with Community

PT Vale membantu bencana yang menimpa masyarakat, baik bencana yang terjadi di sekitar wilayah operasi Perusahaan maupun bencana di tempat lain melalui Tim Penyelamat dan Pencarian Korban Bencana (*Disaster Response Team*) dari Perusahaan.

PT Vale provides relief to the community affected by disasters, both that occurred in the area around the Company's operations as well as other areas, through the Company's Rescue Team and Disaster Response Team.



Bencana Gempa Bumi NAD

Pada 9 Desember 2016, PT Vale mengirimkan Tim Penyelamat dan Pencarian Korban Bencana untuk membantu pencarian maupun evakuasi korban bencana gempa bumi di Kabupaten Pidie Jaya, Nanggroe Aceh Darussalam yang terjadi 7 Desember 2016. Tim *Emergency Responses Group* (ERG) terdiri dari delapan orang personel *Fire and Rescue Services*, satu orang dokter, dan dua petugas paramedis dari RS Inco yang melakukan evakuasi dan pelayanan medis bagi korban gempa Aceh Pidie. Tim membantu lebih dari 100 korban yang difokuskan pada tindakan medis khususnya penangan luka dan penyakit akibat sanitasi yang tidak sehat pasca gempa.

Aceh Earthquake Disaster

On December 9, 2016, PT Vale deployed Rescue Team and Disaster Response Team to assist the search and evacuation of earthquake victims in Pidie Jaya regency, Aceh, that occurred on December 7, 2016. The Emergency Response Group (ERG) team consisted of eight personnel of Fire and Rescue Services, one doctor and two paramedics from RS Inco hospital to carry out evacuation and medical care for earthquake victims in Aceh Pidie. The team helped more than 100 victims that focused on medical treatment, particularly wounds and diseases caused by unhygienic sanitation in the aftermath of the quake.



Tanggap Darurat

Pada tahun 2016 PT Vale menyiapkan rencana tanggap darurat terkait dengan keberadaan bendungan yang selama ini digunakan sebagai pembangkit listrik tenaga air (PLTA). Bersama dengan jajaran Pemkab Luwu Timur, PT Vale menyusun Rencana Tindak Darurat Bendungan seri Larona.

Rencana tanggap darurat ini bertujuan melaksanakan antisipasi dini terhadap dampak atau berbagai potensi resiko dari keberadaan dan operasional bendungan. Melalui rencana tanggap darurat maka jajaran pemerintahan daerah dan PT Vale bisa melakukan koordinasi dengan baik.

Sebagai bagian dari Kontribusi Strategis, Perusahaan juga memberikan bantuan kemanusiaan yang diwujudkan melalui bantuan bencana korban angin puting beliung di Kecamatan Wotu. Tim *Fire & Emergency Service* (FES) PT Vale juga senantiasa memberikan pelayanan tanggap darurat pada komunitas di sekitar area operasi. Sebanyak 126 aksi tanggap darurat dilaksanakan Tim FES PT Vale sepanjang 2016 yang terdiri 53 evakuasi kecelakaan lalu lintas, 55 tindakan bantuan transportasi medis, 2 tindakan penyelamatan (*rescue*), dan 16 respons pemadaman kebakaran.

Emergency Response

In 2016, PT Vale prepared emergency response plans on the existence of the dam, which has been used as a hydroelectric power plant (HEPP/PLTA). Along with officials of East Luwu Regency Government, PT Vale prepared Emergency Action Plan of Larona Cascade Dam.

The emergency response plan aimed to implement early anticipation of impact or various potential risks from the existence and operation of the dam. Through the emergency response plan the officials of local government and PT Vale could coordinate properly.

As part of the Strategic Contributions, the Company also provides humanitarian aid through disaster relief for tornado victims in Wotu District. Fire & Emergency Services (FES) Team of PT Vale also continues to provide emergency response services to the community around the area of operations. FES of PT Vale has carried out a total of 126 emergency response activities throughout 2016 that comprised 53 evacuation of traffic accidents, 55 medical transportation assistance, two rescues, and 16 fire fighting responses.





Program Sosial di Blok Pomalaa (Sulawesi Tenggara)

Program sosial kami di Sulawesi Tenggara pada tahun 2016 melanjutkan sejumlah program kemitraan, seperti pembangunan Kampung Coklat, dan beberapa fasilitas publik termasuk pembangunan jalan beton, pengadaan bibit kayu, dan pembangunan trotoar. Program sosial regular tersebut mencakup wilayah 4 (empat) kecamatan di Kabupaten Kolaka, yaitu Kecamatan Kolaka, Baula, Pomalaa, dan Wundulako. Sama dengan tahun-tahun sebelumnya, program tersebut menelan anggaran sebesar AS\$220 ribu atau setara dengan Rp3 miliar.

PT Vale juga memberi bantuan tambahan yang bersifat sekali untuk pembangunan tiga unit gedung penunjang berupa laboratorium, farmasi dan rehabilitasi medik di Kompleks Rumah Sakit Umum Daerah (RSUD) Bahteramas di ibukota Kendari dengan total nilai Rp11 miliar. Pembangunan tersebut selesai pada akhir tahun 2016 dan sudah dihibahkan kepada RSUD Bahteramas.

Social Program in Pomalaa Block (Southeast Sulawesi)



Our social programs in Southeast Sulawesi in 2016 were continuation of a number of partnership programs, such as the development of Kampung Coklat (Cocoa Village), and some public facilities including the construction of concrete roads, provision of timber seedlings, and construction of sidewalks. The regular social programs covered four districts in Kolaka Regency, namely Kolaka, Baula, Pomalaa, and Wundulako districts. Similar to the previous years, the budget spent for the programs was US\$220,000 or equivalent to Rp3 billion.

PT Vale also provided additional one-time assistance for the construction of three supporting buildings of laboratories, pharmaceutical and medical rehabilitation buildings at the Regional General Hospital (RSUD) Bahteramas Complex in the capital of Kendari with total value of Rp11 billion. The construction was completed at the end of 2016 and has been handed over to RSUD Bahteramas.



Program Sosial di Blok Bahodopi (Sulawesi Tengah)

Program sosial di Morowali, Sulawesi Tengah juga melanjutkan kegiatan sebelumnya, seperti pembangunan gedung serbaguna, pembangunan badan jalan, drainase, dan pos kesehatan desa. Program sosial di Sulawesi Tengah ini meliputi 2 (dua) kecamatan yaitu Bungku Timur dan Bahodopi dan menyerap anggaran sebesar AS\$ 191 ribu atau setara dengan Rp2,6 miliar.

Khusus di tahun 2016, PT Vale juga mengeluarkan anggaran tambahan yang bersifat sekali untuk program pemberdayaan di Kecamatan Bahodopi dan 3 kecamatan lain, yaitu Wosu, Bungku Tengah, dan Bungku Selatan.

Kegiatan tersebut mencakup pembangunan pasar, irigasi, perahu nelayan, ambulans, penangkaran satwa, pembangunan ruang belajar di pesantren, pagar sekolah, tempat pelelangan ikan, dan pelatihan kelompok tani, pelatihan teknologi informasi bagi guru SD, dan pelatihan pengelolaan PAUD terpadu. Kegiatan ini menyerap anggaran sebanyak AS\$ 696 ribu atau setara dengan Rp9,5 miliar.

Sementara itu, di tahun 2016 ini, PT Vale juga menyediakan dana khusus yang bersifat sekali untuk program pemberdayaan di tingkat Provinsi Sulawesi Tengah sebesar Rp11,7 miliar. Anggaran tersebut telah dimanfaatkan untuk sejumlah kegiatan di beberapa daerah, antara lain pengadaan alat pembelajaran TK sampai SMA, pengadaan ambulance, pembangunan/rekonstruksi jalan, program pengembangan infrastruktur pedesaan wilayah/penataan lingkungan pemukiman penduduk, pengembangan rumah cokelat, dan penyediaan alat dan mesin perkebunan.

Social Program in Bahodopi Block (Central Sulawesi)



Social programs in Morowali, Central Sulawesi were also a continuation of previous activities, such as the construction of a multipurpose building, road, drainage, and village health posts. Social programs in Central Sulawesi covered two districts, namely East Bungku and Bahodopi, which spent a budget of US\$191,000 or equivalent to Rp2.6 billion.

In 2016, PT Vale also spent additional budget of one-time assistance for empowerment program in Bahodopi District and three other districts, Wosu, Central Bungku and South Bungku. These activities included construction of market, irrigation, fishing boats, ambulances, animal breeding, construction of classrooms in Islamic boarding schools, school fence, fish auction market, as well as farmer group training, information technology training for elementary school teachers, integrated training on early childhood education (PAUD) management. The budget spent for these activities amounted to US\$696,000 or equivalent to Rp9.5 billion.

Meanwhile, in 2016, PT Vale also provided a one-time special fund for empowerment program in Central Sulawesi province amounted to Rp11.7 billion. The budget was used for a number of activities in several areas, including the provision of teaching tools from kindergarten to high school, ambulances, construction/reconstruction of roads, infrastructure development program of rural area / residential area environment improvement, development of cocoa house, and the provision of farming equipment and machinery.



Perselisihan Lahan

[MM5] [MM6] [MM7]

Land Dispute

Sengketa Tanah dengan Masyarakat Adat Sorowako

Salah satu perselisihan lahan yang berlangsung hingga kini adalah dengan sebagian masyarakat di wilayah operasi kami di Kabupaten Luwu Timur, Sulawesi Selatan.

Perselisihan yang berlangsung sempat diwarnai aksi unjuk rasa yang sempat mengganggu kegiatan operasional PT Vale. Dalam aksi unjuk rasa, warga meminta agar lahan mereka yang telah bersertifikat dikeluarkan dari peta daerah tambang PT Vale Warga juga menuntut agar tetap diperbolehkan menggarap lahan untuk berkebun/bertani dan PT Vale segera menentukan batas-batas lahan yang bisa dimanfaatkan masyarakat setempat.

Tuntutan warga disikapi PT Vale dengan memberikan penjelasan sebagai berikut:

- Sebagai perusahaan terbuka yang dikelola dengan tata kelola terbaik, PT Vale tidak pernah dan tidak akan mengambil hak pihak lain.
- Sesuai amandemen Kontrak Karya PT Vale yang ditandatangani pada 17 Oktober 2014 yang merupakan hasil kesepakatan dalam renegosiasi dengan Pemerintah RI dan diamanatkan oleh undang-undang, PT Vale justru mengurangi luas wilayah kontrak karya di Sulawesi Selatan. Tidak terdapat penambahan lahan baru terhadap luas wilayah kontrak karya PT Vale dan tidak ada hak-hak masyarakat yang dilanggar.
- Adapun untuk tanah dan bangunan pihak lain yang berada di dalam wilayah kontrak karya PT Vale yang telah memiliki dokumen-dokumen yang sah, tetap diakui oleh PT Vale sebagai hak milik pihak yang bersangkutan. Alasan PT Vale tetap memasukan wilayah-wilayah tersebut ke dalam cakupan wilayah kontrak karya antara lain karena, wilayah tersebut dikelilingi area tambang PT Vale untuk masa sekarang maupun rencana ke depan sehingga tidak mungkin diserahkan pengelolaannya saat ini kepada pihak lain.

Hingga akhir tahun 2016, Perusahaan terus melakukan dialog dengan masyarakat dan pemerintah daerah untuk mencapai kesepakatan.

Land Dispute with Indigenous Peoples of Sorowako

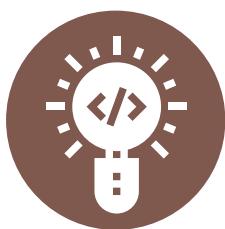
One of the land disputes that lasted until now is with a group of people in our area of operations in East Luwu, South Sulawesi.

The ongoing dispute was marred with rallies that had disrupted the operations of PT Vale. In the rallies, these residents demanded their land that had been certified were removed from PT Vale's mine area map. They also demanded that they are still allowed to work on land for gardening/farming and PT Vale immediately determine the boundaries of land that can be utilized by local community.

PT Vale responded to the residents' demands by giving the following explanations:

- As a publicly-listed company that is managed under the best governance, PT Vale did not and will never take the rights of others.
- According to amendments to the Contract of Work of PT Vale signed on October 17, 2014 as the result of the renegotiation agreement with the Government of Indonesia and mandated by laws, PT Vale actually reduced the contract of work area in South Sulawesi. There was no new additional land to PT Vale work of contract area and no community rights were violated.
- As for land and buildings belonging to other parties located in the contract of work area of PT Vale and already have valid documents, are still recognized by PT Vale as the property of the concerned parties. The reason of PT Vale still included these areas into the contract of work area, partly because the areas are surrounded by PT Vale's mines for the present and future, which is not possible to handover the management to another party at this time.

By the end of 2016, the Company continued to engage in dialogue with the community and local government to reach an agreement.



Program Terpadu Pengembangan Masyarakat

Integrated Community Development Program

Program Terpadu Pengembangan Masyarakat (PTPM) dilakukan PT Vale bersama dengan Pemerintah Kabupaten Luwu Timur sejak tahun 2014.

PTPM merupakan program tanggung jawab sosial perusahaan (*corporate social responsibility*) atau CSR lima tahunan PT Vale. Program ini ditujukan untuk mendorong peningkatan kesejahteraan masyarakat, khususnya di wilayah pemberdayaan dan masyarakat Luwu Timur pada umumnya. Terdapat tiga skema implementasi PTPM, yaitu PMDM (Program Mitra Desa Mandiri), Kemitraan Strategis, dan Kontribusi Strategis.

Pelaksanaan PTPM diselaraskan dengan rencana pembangunan Pemerintah Kabupaten Luwu Timur seperti tertera dalam Peraturan Daerah Kabupaten Luwu Timur No.02 Tahun 2005 Tentang Rencana Pembangunan Jangka Panjang Daerah Kabupaten Luwu Timur Tahun 2005-2025 dan Rencana Jangka Menengah Daerah 2011-2015.

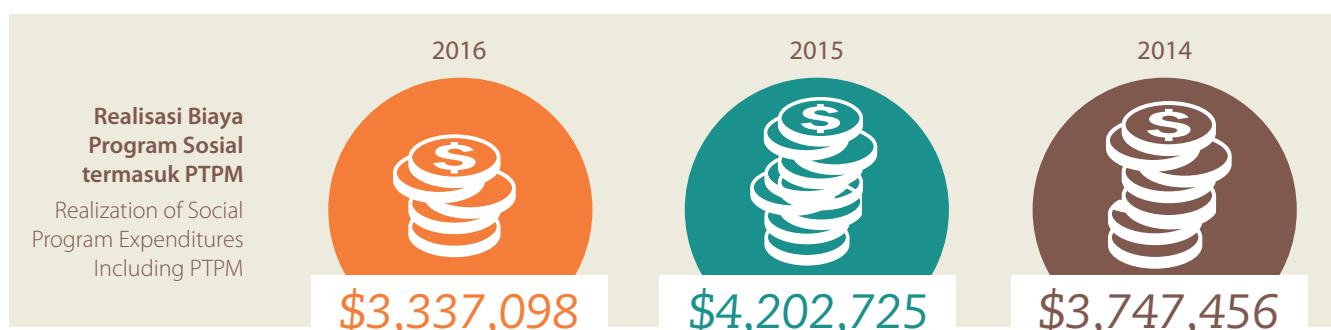
Selama tahun 2016 Perusahaan mengeluarkan dana sebesar 3,4 juta USD guna membiayai pelaksanaan PTPM di Sulawesi Selatan dan program sosial lainnya di Sulawesi Tengah serta Sulawesi Tenggara. Dana tersebut digunakan untuk pembiayaan Program Mitra Desa Mandiri (PMDM), Kemitraan Strategis, dan Kontribusi Strategis. Kegiatan PMDM telah dapat membantu 37 desa di Kabupaten Luwu Timur yang berada di wilayah pemberdayaan PT Vale. [MM5]

Integrated Community Development Program (PTPM) has been conducted by PT Vale together with the Government of East Luwu Regency since 2014.

PTPM is a five-year corporate social responsibility program (CSR) of PT Vale. The program is intended to stimulate social welfare improvement, especially in the area of empowerment and Luwu East community in general. There are three PTPM implementation schemes, namely PMDM (Independent Village Partnership Program), Strategic Partnership, and Strategic Contribution.

PTPM implementation is aligned with East Luwu Regency Government's development plan, as stipulated in Regional Regulation of East Luwu Regency No.02 of 2005 regarding East Luwu Regency Long-Term Regional Development Plan of 2005-2025 and the Medium-Term Plan of 2011-2015.

During 2016, the Company spent USD3.4 million to finance the implementation of PTPM in South Sulawesi and other social programs in Central Sulawesi and South East Sulawesi. The funds were used to finance the Independent Village Partnership Program (PMDM), Strategic Partnership, and Strategic Contribution. PMDM activities have managed to benefit 37 villages in East Luwu Regency which were included in the empowerment area of PT Vale. [MM5]



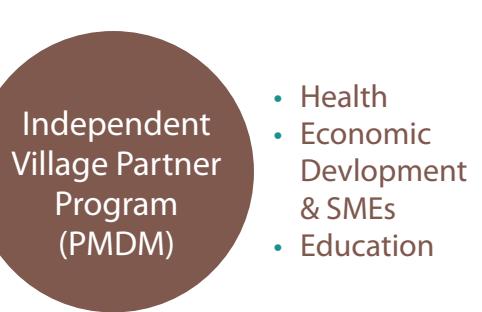
Dalam pelaksanaannya, PTPM bersifat jangka panjang dan memiliki peta jalan (*roadmap*) lima tahunan. Tahap pertama PTPM berlangsung dari tahun 2013 hingga tahun 2017, dan diwujudkan melalui Kerangka Kerja.

PTPM implementation is long term, and has a five-year roadmap. PTPM first phase was implemented from 2013 until 2017, and was realized through a Framework.

Framework PTPM



Integrated
Community
Development
Program



Assessment PTPM

Seluruh wilayah operasi PT Vale mengimplementasikan PTPM. Memasuki tahun ke-4 pelaksanaan PTPM, pada akhir tahun 2016 PT Vale mengandeng Universitas Trisakti, Jakarta untuk melakukan *assessment* independen atas implementasi PTPM yang sudah dilakukan sejak tahun 2014. *Assessment* ini dilakukan untuk melakukan evaluasi dan penilaian dampak program PTPM terhadap penerima manfaat dan PT Vale sendiri, dengan menyediakan data, informasi, analisis, dan rekomendasi terhadap implementasi program PTPM. Rekomendasi dan hasil evaluasi *assessment* ini diharapkan menjadi salah satu dasar pengambilan keputusan mengenai perencanaan kegiatan pengelolaan dan pengembangan masyarakat di masa depan.

Assessment PTPM dilakukan dalam kurun waktu Desember 2016 hingga Januari 2017 di Kunjungan oleh tim Universitas Trisakti ke penerima manfaat dilakukan dalam kurun waktu dua belas hari. Ruang lingkup *assessment* mencakup:

PTPM Assessment

The entire area of operations of PT Vale implements PTPM. Entering the 4th year of PTPM implementation, at the end of 2016 PT Vale invited Trisakti University to conduct an independent assessment of PTPM that has been implemented since 2014. The assessment was carried out for the evaluation and assessment of PTPM program's impact on beneficiaries and PT Vale itself, by providing data, information, analysis, and recommendations for the implementation of the program. Recommendations and evaluation results of this assessment are expected to be one of the basis for decision-making about the planning of management and community development in the future.

PTPM Assessment was conducted in the period December 2016 to January 2017 during 12-day visit of Trisakti University team to beneficiaries. The scope of the assessment included:



Ruang Lingkup Program Scope of the Program

Program Mitra Desa Mandiri (PMDM) meliputi program ekonomi, kesehatan, pendidikan, dan peningkatan kapasitas serta program System of Rice Intensification (SRI) yang termasuk dalam program Kemitraan Strategis.

the Independent Village Partnership Program (PMDM) covers economic, health, education, and capacity building programs as well as the System of Rice Intensification (SRI) program that are under the Strategic Partnership program.

Ruang Lingkup Area Scope of the Area



37
Desa
Villages

37 desa dan satu kelurahan yang tersebar di empat kecamatan di Kebupaten Luwu Timur, Sulawesi Selatan, yaitu Kecamatan Malili, Kecamatan Wasuponda, Kecamatan Towuti, dan Kecamatan Nuha.

37 villages and one sub-district in four districts in East Luwu Regency, South Sulawesi, namely Malili, Wasuponda, Towuti, and Nuha districts.

Ruang Lingkup Isu Scope of Issues



Kesehatan
Health



Pendidikan
Education



Ekonomi
Economy



Pengembangan kapasitas
Capacity building

Secara umum, hasil assessment yang telah dilakukan menyatakan bahwa PTPM telah berhasil membangun fondasi dan sistem kemitraan antara pemerintah, masyarakat, dan PT Vale dengan pendekatan musyawarah dalam implementasi PTPM. PMDM, salah satu komponen PTPM, mengajak masyarakat untuk berkontribusi dalam menentukan program yang sesuai dengan kebutuhan masyarakat dengan melibatkan perwakilan masyarakat, komite, dan kader desa.

Masyarakat penerima manfaat menilai bahwa program PTPM lebih baik dengan pelaksanaan yang lebih tepat sasaran dan merata dibandingkan mekanisme sebelumnya. Bagi PT Vale, program PTPM menjadi sarana kemitraan yang turut menjaga hubungan baik Perusahaan, pemerintah, dan masyarakat. Hal ini merupakan cerminan komitmen Perusahaan untuk mendukung pemberdayaan dan kemandirian masyarakat wilayah pemberdayaan.

In general, the assessment results found that PT Vale has managed to build a foundation and system of partnerships between government, communities, and the Company with consensus approach in PTPM implementation. PMDM, one of PTPM components, invited the community to contribute in determining programs according to their needs by involving community representatives, committeees and village cadres.

The community who are PTPM beneficiaries considered the program was better with more targeted and equitable implementation than the previous mechanism. For PT Vale, PTPM program is a partnership scheme that helped maintain good relations between the Company, government, and community. It reflects the Company's commitment in supporting the empowerment and independence of the community of empowerment areas.



Terdapat pula beberapa poin rekomendasi untuk perbaikan implementasi program PTPM di masa depan, antara lain:

1. Penguatan komunikasi antar pihak PT Vale dan masyarakat agar menjadi lebih efektif,
2. Sinergi PMDM dan Anggaran Dana Desa (ADD),
3. Pengelolaan fasilitator program dan pionir-pionir sebagai perpanjangan tangan Perusahaan dalam hubungan dengan masyarakat melalui PTPM,
4. Pengembangan kapasitas elemen-elemen PMDM (fasilitator, komite desa, Kader Pemberdayaan Masyarakat Desa atau KPMD, serta tim Social Development Program PT Vale),
5. Revisi SOP untuk mendukung proses implementasi PTPM yang lebih baik, salah satunya mengenai monitoring & evaluasi,
6. Pendekatan yang lebih menekankan kepada pemberdayaan dan kemandirian masyarakat,
7. Usulan perbaikan sistem dalam pembagian dana PMDM per desa.

There are also some points of recommendation for PTPM program implementation improvements in the future, including:

1. Strengthening communications between PT Vale and the community to become more effective,
2. Synergies between PMDM and Village Fund Budget (ADD),
3. Management of program facilitator and pioneers as an extension of the Company in relations with the community through PTPM,
4. Capacity building of PMDM elements (facilitators, village committee, Village Community Empowerment Cadres or KPMD and Social Development Program team of PT Vale),
5. Revised SOP to support improvement in PTPM implementation process, including on monitoring & evaluation,
6. Approach that emphasizes the community empowerment and independence,
7. Improvement proposals in the PMDM fund distribution system per village.

Rekomendasi tersebut menjadi salah satu pertimbangan bagi PT Vale untuk merumuskan dan merencanakan program PTPM tahap 2 yang akan dilaksanakan tahun 2017-2022.

The recommendations become one of the considerations for PT Vale to formulate and plan a second phase PTPM program that will be implemented in 2017-2022.



Informasi lengkap mengenai hasil assessment PTPM disampaikan dalam Laporan 2016 *Social Program Assessment* yang disusun dan diterbitkan terpisah dari Laporan ini.

Complete information on the PTPM assessment results is presented in 2016 Social Program Assessment Report, which is prepared and published separately from this report.



Pembelajaran PTPM Tahap 1

Lesson Learnt from PTPM Phase 1



PEMBELAJARAN 01

Lesson Learnt 01

Kegiatan Pengadaan Sumur Cincin di Desa Harapan, Kecamatan Malili (SDG No. 6 - Clean water and sanitation)

Provision of Ring Wells in Harapan Village of Hope, District Malili (SDG No. 6 - Clean water and sanitation)

Pada tahun 2015, kegiatan PMDM berupa pengadaan dua sumur cincin dilakukan di Desa Harapan yang terletak di pesisir pantai dan sering sulit air. Sayangnya, kegiatan ini kurang efektif karena dua buah sumur cincin yang dibuat tidak mengeluarkan air. Pada musim penghujan, sumur cincin hanya mampu mengeluarkan air bersih sebanyak satu ember dalam dua hari. Ketika musim kemarau, semua sumur cincin kering dan tidak menghasilkan air. Kondisi tersebut terjadi karena kedua sumur tersebut dibangun di daerah yang tidak memiliki sumber air. Perencanaan teknis seperti survei lokasi yang memiliki sumber mata air tidak dilakukan sebelum sumur cincin dibuat.

Pembelajaran yang diambil dari kegiatan ini adalah pentingnya perencanaan yang baik dalam implementasi kegiatan. Selain itu, sesuai dengan rekomendasi *assessment independen*, kapasitas perangkat pelaksana PMDM dalam merencanakan, memonitor, serta mengevaluasi implementasi kegiatan harus diperkuat, sehingga kegiatan pilihan masyarakat dapat membawa manfaat maksimal bagi masyarakat.

In 2015, PMDM activity was in the form of provision of two ring wells in Harapan Village, located on the coast and often difficult to get water. Unfortunately, this activity was ineffective because the two ring wells did not produce water. In the rainy season, the ring wells were only able to collect a bucket of clean water in two days. During the dry season, all the ring wells dried and did not produce

water. The condition occurred because the two wells were built in areas that do not have any source of water. Technical planning, such as survey to identify location that have water sources was not done before the ring wells were built. The lessons learnt from this activity was the importance of proper planning in program implementation. In addition, according to the independent assessment recommendation, the capacity of the operators of PMDM in planning, monitoring, and evaluation the activity implementation should be strengthened, so that the activities selected by the community can bring maximum benefits to them.





PEMBELAJARAN 02

Lesson Learnt 02

Program Pengadaan Bantuan Bibit
Ikan di Wasuponda, Kecamatan
Wasuponda (SDG no.1 – No poverty)

Fish Seed Provision Assistance Program
in Wasuponda Village, Wasuponda
District (SDG no.1 – No poverty)

1 NO POVERTY



Pemberian bantuan tiga ratus ikan mas diberikan kepada seorang penerima manfaat di Desa Wasuponda, Kecamatan Wasuponda. Bantuan ini diberikan dengan harapan menjadi modal awal usaha budidaya ikan yang hasilnya dapat memberikan pendapatan tambahan bagi penerima manfaat. Namun, setelah sekitar setahun, budidaya ikan belum berjalan dengan baik. Ikan yang dipelihara pun umumnya hanya dipelihara untuk dikonsumsi sendiri. Belum ada peningkatan kualitas hidup yang signifikan dari kegiatan ini.

Walaupun awalnya bertujuan untuk pemberdayaan, kegiatan ini menjadi bersifat karitatif karena tidak melibatkan perencanaan yang matang seperti kemampuan teknis budidaya, manajemen kelompok budidaya, pemasaran, dan lain-lain. Pembelajaran yang dapat diambil dari kegiatan ini adalah mengenai pentingnya kapasitas dan perencanaan matang dalam mengimplementasikan program PMDM.

Distribution of 300 goldfish assistance to a beneficiary in Wasuponda Village, Wasuponda District. This assistance was provided in the hope of becoming an initial capital of fish farming that would generate additional income for the beneficiary. However, after about a year, the fish farming has not gone well. The fish have generally raised only for their own consumption. There has been no significant improvement in the quality of life from this activity.

Although originally intended for empowerment, this activity was a charity in nature because it did not involve careful planning such as technical competence in farming, farming group management, marketing, and others. The lesson learnt from this activity was the importance of capacity and comprehensive planning in implementing PMDM program.

PEMBELAJARAN 03

Lesson Learnt 03

Pelatihan Rotan di Desa Kawata,
Kecamatan Wasuponda
(SDG No.1 – *No poverty*)

Program in Kawata Village,
Wasuponda District
(SDG No.1 - No poverty)



Salah satu kegiatan PMDM di Desa Kawata, Kecamatan Wasuponda adalah pelatihan menganyam perabot berbahan dasar rotan. Produk barang yang diajarkan adalah tempat pot bunga, tempat koran, dan kursi. Sebelumnya, peserta yang mengikuti pelatihan sudah sering mengambil rotan di hutan untuk dijual kembali. Satu kilo rotan mentah dihargai sekitar Rp1.050-Rp1.200.

Melalui pelatihan ini, para peserta telah memiliki keterampilan membuat produk rotan dengan kualitas baik. Harga pasar produk berkisar antara Rp200.000-Rp300.000, tergantung model dan

kerumitan. Namun, para peserta pelatihan tersebut belum bisa membuat dan menjual produk rotan karena mereka tidak memiliki keterampilan dan peralatan untuk memasak rotan mentah menjadi bahan yang siap dianyam. Keterampilan membuat produk rotan yang diperoleh peserta pelatihan belum dapat memberikan manfaat yang signifikan.

Dari kegiatan ini dapat diambil pembelajaran bahwa implementasi kegiatan harus menyasar permasalahan secara menyeluruh. Pendampingan usaha dari hulu hingga hilir sangat diperlukan, termasuk manajemen usaha, produksi, pemasaran, dan keuangan sederhana.

One of PMDM activities in Kawata Village, Wasuponda District is rattan wicker training. The products being trained were flower pots, wicker newspaper baskets, and chairs. Previously, participants who attended the training had been collecting rattan from the forest to be sold. One kilogram of raw rattan worth around Rp1,050-Rp1,200.

Through this training, the participants have the skills to make rattan products with good quality. The market price of the products ranged between Rp200,000 and Rp300,000, depending on models and complexity. However, the training participants

were unable to make and sell rattan products because they did not have the skills and equipment to process raw rattan into material ready for weaving. The skills in making rattan products were obtained by participants have not been able to provide significant benefits.

The lesson learnt from this activity is that the activity implementation should be aimed at the problems comprehensively. Business assistance from upstream to downstream is necessary, including management of business, production, marketing, and simple finance.



PEMBELAJARAN 04

Lesson Learnt 04

Program SRI di Desa Libukan Mandiri, Kecamatan Towuti (SDG no.1 – No poverty)

Program SRI in Desa Mandiri Libukan, Towuti District (SDG No.1 – No poverty)



Bekerjasama dengan Lembaga Aliksa, PT Vale mengadakan pelatihan dan pendampingan SRI (*System of Rice Intensification*) bagi kelompok petani organik di beberapa desa di Kabupaten Luwu Timur. Salah satunya adalah Desa Libukan Mandiri, Kecamatan Towuti. Pelatihan dilakukan sejak tahun 2015 dan bertujuan memperbaiki budidaya pertanian pada komoditas unggulan Kabupaten Luwu Timur. Seorang mentor petani yang ditugaskan tinggal di Desa Libukan Mandiri sehari-hari melakukan pendampingan kepada petani. Mentor tersebut memiliki rencana dan

silabus yang digunakan dalam pendampingan. Program SRI telah meningkatkan kualitas hidup petani organik. Padi organik SRI dapat memberikan hasil produksi tiga kali lipat dari padi biasa dengan harga jual dua kali lipat. Setelah dilakukan selama kurang lebih satu tahun, petani mulai dapat mengelola sendiri sawah organiknya. Program SRI telah menjadi contoh bahwa pendampingan yang terencana serta intens sangat penting dilakukan dalam usaha pemberdayaan masyarakat dengan tujuan jangka panjang.

In cooperation with Aliksa Institute, PT Vale has organized training and mentoring on SRI (System of Rice Intensification) for organic farmers groups in several villages in East Luwu Regency. One of them is Libukan Mandiri Village, Towuti District. The training has been conducted since 2015 and aimed to improve agricultural cultivation of selected commodities of East Luwu Regency. A farmer mentor is assigned in Libukan Mandiri Village to provide mentoring to farmers daily. The mentor has plans and syllabus to be used in mentoring.

SRI program has improved the quality of life of organic farmers. SRI organic rice production can provide three times that of regular rice and sold at twice the price. Having carried out for approximately a year, farmers can begin to manage their own organic rice fields. SRI program has become a model that well-planned and intensive mentoring are very important in the effort of community empowerment with long-term goals.

PEMBELAJARAN 05

Lesson Learnt 05

Program Peningkatan Kompetensi
Pengajar PAUD se-Luwu Timur
(SDG no.4-Quality Education)

Early Childhood Education (PAUD) Teaching
Competency Enhancement Program of
East Luwu (SDG No.4-Quality Education)



Komitmen PT Vale dalam peningkatan kualitas pendidikan diwujudkan dalam program peningkatan kualitas sarana prasarana pendidikan serta kualitas pengajar. Peningkatan sarana dan prasarana pendidikan dilakukan di tiga kecamatan, yaitu Nuha, Wasuponda, dan Towuti. Kegiatan peningkatan kualitas pengajar dalam bentuk diklat kompetensi dilakukan bagi pengajar

PAUD se-Kabupaten Luwu Timur, dan dilakukan di Sorowako dalam satu bulan. Peningkatan kompetensi pengajar PAUD dilakukan dengan mendatangkan pemateri dari pengurus Ikatan Guru Taman Kanak-Kanak Indonesia dan Provinsi Sulawesi Selatan, Ditjen PAUD dan Pendidikan Masyarakat Kementerian Pendidikan dan Kebudayaan, serta dokter spesialis anak dari RS Inco.

PT Vale's commitment to improving the quality of education embodied in a program to improve the quality of education infrastructure as well as the quality of teachers. Improved education facilities and infrastructure conducted in three districts, namely Nuha, Wasuponda, and Towuti. Activities to improve the quality of teachers in the form of teacher training for early childhood competency done throughout Luwu

Timur, and performed in Sorowako within one month. Increased competence of teachers of early childhood conducted by bringing in speakers from the board of the Association of Kindergarten Teachers Indonesia and South Sulawesi Province, DG Early Childhood, and Community Education Ministry of Education and Culture, and a pediatrician from RS Inco.



Menuju PTPM Tahap 2 Towards PTPM Phase 2



Sejak diluncurkan pada pertengahan tahun 2014, PT Vale bersama masyarakat dan pemerintah telah bekerjasama untuk membangun fondasi kemitraan dalam rangka menciptakan kemandirian total masyarakat yang berada di sekitar wilayah operasi PT Vale. Namun, implementasi PTPM yang telah dilakukan tidak lepas dari perbaikan dan penyempurnaan terus menerus. Kedepannya, PTPM akan lebih meningkatkan fokus pada pemberdayaan dan peningkatan kapasitas kolektif. Pengalaman dan pembelajaran yang diperoleh dari PTPM tahap 1 menjadi pembelajaran dalam menyusun rencana PTPM tahap 2 yang dimulai pada akhir tahun 2016.

Since its launch in mid-2014, PT Vale together with the community and the government have cooperated to build the partnership foundation to create total independence of the people residing around PT Vale's area of operations. However, PTPM program that has been implemented is the result of continuous improvement and refinement. Going forward, PTPM will be more focused on collective empowerment and capacity building. The experience and lessons learned from PTPM phase 1 were used to prepare plans of PTPM phase 2 which began at the end of 2016.