

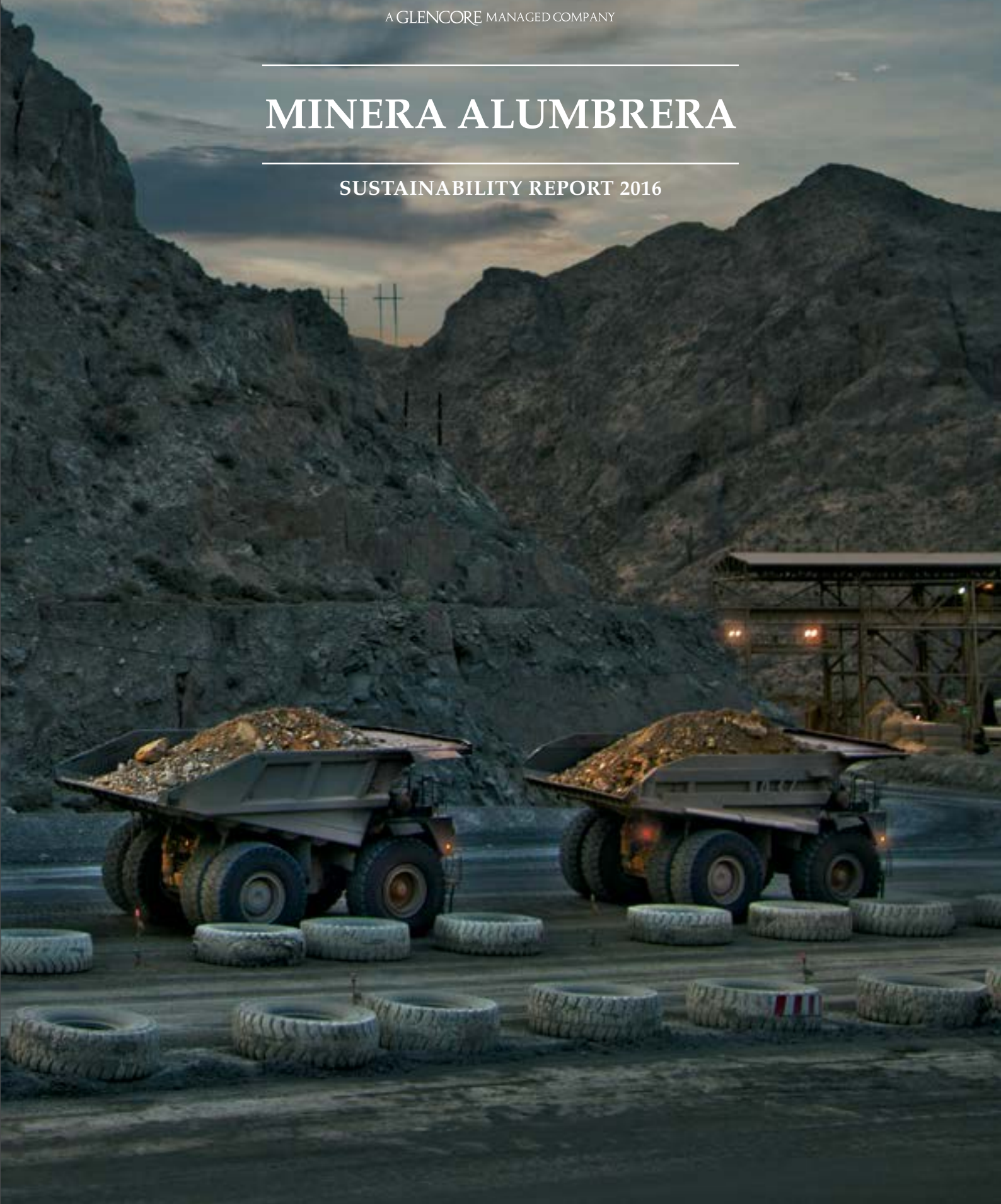



**MINERA ALUMBRERA
YMAD - UTE**

A GLENCORE MANAGED COMPANY

MINERA ALUMBRERA

SUSTAINABILITY REPORT 2016





Ana Falivene, chemical analyst at the Filter Plant, taking samples to monitor water quality.

Questions or comments

This report was prepared to share our progress with you. We will appreciate your comments to continue with our continuous improvement process.

Please submit your comments via e-mail to:
informe2016@glencore.com.ar
or via prepaid postage mail to:
Apartado especial N° 140
Correo Central 1000
Buenos Aires, Argentina
www.alumbrera.com.ar

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A Word from our General Manager



Raúl Mentz
General Manager, Minera Alumbraera

I am highly pleased to present our 2016 Sustainability Report. As part of our continuous improvement process towards sustainability, we review our management and improvement opportunities and we measure our performance on a yearly basis so as to seek excellence.

Our responsible mining business is focused on a sustainable development approach to encourage social and economic growth in background areas subject to rigorous environmental protection. Sustainability is intertwined into all Alumbraera areas.

Our actions are based on the commitments identified and undertaken through our values as well as the work standards under our Code of Conduct, in addition to the various Corporate Health, Safety, Environment, Human Rights and Non Corruption Policies.

This report has been prepared in line with the essential compliance option under the Global Reporting Initiative (GRI) G4 Guidelines, the world's most widely used sustainability reporting framework.

Minera Alumbraera has been supporting the United Nations Global Compact (GC) since 2004. It is based on 10 universal principles to foster organisational responsibility. With this report, we submit our Communication on Progress, reporting

on our endorsement to the GC's Ten Labour, Human Rights, Environment and Non-Corruption Principles, including our progress during the reporting period, in line with the advanced level guidelines.

Our contribution to the Sustainable Development Agenda for 2030 was reviewed during 2016. Therefore, we noted that actual progress is being made on 8 Sustainable Development Objectives through effective actions leading to compliance.

Glencore Human Rights Policy and Code of Conduct set out our endorsement to human rights pursuant to global standards and statements. Given the potential impact of mining operations on the human rights of our workforce or on neighbouring communities, we ensure a remedy to actual impacts and we strengthen the practices to address claims in a fair and open way.

Background

2016 brought significant challenges to Minera Alumbraera. On the one hand, as mine closure approaches given the end of the mine life following 19 years of operations, we are faced with ongoing challenges. On the other, fluctuating market prices had an impact on sales, in addition to declining production in line with the project stage mentioned above.

We have finished the detailed planning of our Closure Programme as well as the social and environmental factors, based on almost two decades of research and monitoring activities. During 2016 it was lodged with the Catamarca Mining Department under Resolution SEM# 396/16, specifically regulating closure activities at mining operations and facilities in Catamarca. In addition to technical social and environmental aspects, we have expanded our budget as well as the financial bond under our proposal to the law enforcement authorities.

Our people have been regularly informed about programme progress and were also invited to take part in a voluntary poll in order to identify the preferred topics for training courses for 2017. Our mine closure training programme for our people was launched in 2009 and it continued to date.

As to economic rewards, the removal of the tax on mining exports brought a new scenario for the development of the mining industry in Argentina. As a result of this decision, local miners became more competitive against other countries in the region. It also supports small and mid-sized businesses and the fiscal revenues of the provincial administrations. In the case of Alumbreira, this initiative enabled the extension of the mine life for an additional year. The positive outcomes of this initiative further include continued employment for 1,900 people.

Throughput

During 2016, Minera Alumbreira produced 321,979 tonnes of copper and gold concentrate, 0.8 tons of dore gold and 957 tons of molybdenum under an improved scenario relative to the gold and copper throughput of the previous year.

Despite the inter-annually increased production levels, Alumbreira is in a declining production stage relative to historical levels: it is 45% below the average of the previous 18 years.

Safety

Safety is our top production priority. We have reduced our disabling injury frequency rate by 75%. Although an incident occurred in 2016 prevented us from attaining our zero-injury goal, we have improved our total recordable injury frequency rate from 1.89 in January to 0.88 in December.

Behavioural-based risk analysis training was provided to 78 employees in leading roles. This tool helps plan and implement preventive actions to potential shortcuts during the performance of an assignment.

Our people have been trained on fatal risk protocols identified under our safe work programme.

With our focus on preventing risks, we seek to maintain the declining trend of incidents and we keep supporting self-protection and safety leadership.

Environment

We started the closure stage with a broad environmental baseline which is supported by ongoing research work over the past 19 years.

Our environmental goal for mine closure is to ensure the physical and chemical stabilisation of the facilities remaining on site. As a result of interaction with the weather, they must not give rise to any impact that poses a risk for people's health or the environment.

The key facilities to be rehabilitated include waste dumps, the tailings dam and the open pit. Several field runoff mine capping trials have been developed for tailings dam and waste dump rehabilitation with outstanding results. Capping is supplemented with our revegetation programme including native species.

During 2016 we further pursued the activities under the 54 Environmental Management Programme (PCA), 12 out of which are related to the Closure Plan.

Future outlook

We work under a sustainable mining approach and we seek to provide social and economic benefits in the long term to ensure shared value for our stakeholders. From our sustainable development standpoint, we foster growth opportunities at regional level to improve the standard of living for the local people.

Alumbreira has provided economic benefits across the operational area including local goods and services, salaries, fiscal revenues, YMAD profit share and support to community development. In fact, total fiscal revenues from Alumbreira for the past 19 years come to US\$ 5.0375 billion.

We have established an open liaison with our stakeholders, based on mutual respect and trust to ensure an equitable scenario including benefits and improvements especially for the neighbouring communities. We seek to build upon the lessons learnt during the past two decades in order to ensure a successful mine closure for everyone.

► Minera Alumbarrera

We are committed to fostering a sustainable management of our business as part of our responsible mining approach.

We aim at strengthening local social development and economic growth with permanent results that go beyond the life of the deposit.

Key sustainability data 2016

ECONOMIC CONTRIBUTION	2014	2015	2016
Division revenue	\$553,334,006	\$317,607,948	\$687,314,277
Division EBIT	\$91,521,508	\$-215,952,946	\$112,877,412
Employee salaries and benefits	\$28,657,601	\$35,965,065	\$51,156,947
Royalties and taxes	\$197,946,565	\$104,122,663	\$59,482,819
Corporate Social Involvement	\$2,110,379	\$1,534,790	\$352,411
Apprenticeships, scholarships and training	\$315,425	\$181,161	\$55,707

CORPORATE GOVERNANCE AND ETHICS	2014	2015	2016
Total value of financial and in-kind contributions to political parties	0	0	0
Percentage of security personnel trained in human rights	100%	100%	100%
Percentage of suppliers and contractors screened on human rights	0	0	0

OUR PEOPLE	2014	2015	2016
Total workforce	2,385	1,953	1,850
Permanent employees	1,396	1,252	1,154
Full-time contractors	989	701	696
Total employees under collective agreements	969	875	785
Percentage of employees hired from local area	50%	52.53%	51.30%
Fatalities	0	0	0
Total Recordable Injury Frequency Rate (TRIFR)	1.06	1.69	0.88
Lost Time Injury Frequency Rate (LTIFR)	0	0.75	0.22
Disabling Injury Severity Rate (DISR)	0	67.65	34.21
Health and safety prosecutions	0	0	0
Health and safety fines	0	0	0
Occupational illnesses	0	0	0
Average hours of training per employee	131 hours	60 hours	54 hours

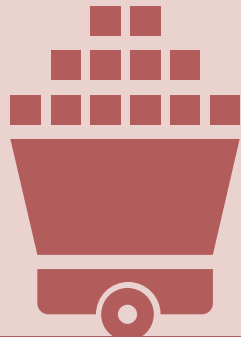
OUR COMMUNITY	2014	2015	2016
Community complaints	0	0	0
Community resettlement	0	0	0

ENVIRONMENT	2014	2015	2016
Direct energy use	846,673,421 kW/h	852,427,903 kWh	875,035,834 kWh
Total energy use	852,235,000 kW/h	855,631,393 kWh	879,072,154 kWh
Total water use	23,451,000 m ³	22,588,089 m ³	21,317,842 m ³
Total water recycling and reutilisation	62,324,000 m ³	59,040,298 m ³	57,826,534 m ³
Direct greenhouse gas emissions (CO ₂ equivalent per million tonnes moved)	1.71	1.92	2.30
Total greenhouse gas emissions (CO ₂ equivalent per million tonnes)	-	Not reported	Not reported
Sulphur dioxide stack emissions	-	Not reported	Not reported
Land disturbed	65.82 ha	65.59 ha	33.89 ha
Land rehabilitated	2.72 ha	6.42 ha	12.13 ha
Category 3 incidents	0	0	0
Category 4 incidents	0	0	0
Category 5 incidents	0	0	0
Prosecutions	0	0	0
Fines	0	0	0



Ores mined
Copper, gold and molybdenum

- Location**
- Open pit: Province of Catamarca, Argentina
 - Filter plant: Cruz del Norte, Province of Tucumán
 - Alumblera Port: Puerto General San Martín, Province of Santa Fe



Project commissioning
1997

Project manager
Minera Alumblera

Sponsor
Yacimientos Mineros de Aguas de Dionisio, an interstate corporation that owns the deposit.



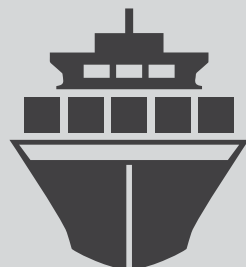
Shareholders

- Swiss GLENCORE plc, having a 50% interest
- Canadian GOLDCORP, having a 37,5% share
- Canadian YAMANA, having a 12,5% share

MINERA ALUMBRERA



- Throughput**
- 321,979 tonnes of copper and gold concentrate
 - 25,715 troy ounces of dore gold
 - 957 tonnes of molybdenum



Exports
\$685.9 million

Employees
1,154 workers

Royalties
\$15.6 million

Salaries
\$51.2 million



Fiscal revenues at the federal level:
\$41.1 million

Fiscal revenues at the provincial level:
\$18.4 million

Total contribution to the Argentine economy:
\$378.9 million

PERFORMANCE INDICATORS FOR 2016



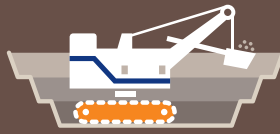
About Minera Alumbrera

Operators perform monitoring and maintenance activities on heavy equipment. Our fleet is composed of the 53 heavy equipment pieces.



MINERA ALUMBRERA PRODUCTION PROCESS

ORE MINING



3 shovels

HAULAGE



Heavy equipment fleet composed of 53 units



CONCENTRATOR



34 million tonnes of rock processed per year



SLURRY PIPELINE

Gold and copper concentrate



FILTER PLANT



7% concentrate moisture level prior to rail freight



RAILWAY



181 rail cars



PUERTO GENERAL SAN MARTÍN



1-2 vessel(s) per month



Province of Catamarca

Province of Tucumán

Province of Santa Fe

Ore is mined from the open pit using three electric shovels and is hauled to the Concentrator Plant using a fleet of 53 220-tonne haul trucks. The concentrate slurry containing copper, gold and silver is pumped using water through a 317 km long and 175 mm diameter slurry pipeline to the Filter Plant in Tucumán.

Electricity is supplied from El Bracho power station situated in Tucumán using a 220 kW, 200 km long powerline to the mine site in Catamarca.

At the Filter Plant, concentrate is dewatered to obtain a drier product having 7% moisture level. Then, it is railed along Nuevo Central Argentino railway using Minera Alumbra trains to our port facilities in Puerto General San Martín, Santa Fe. Concentrate is then shipped to international markets.

Minera Alumbra's molybdenum facility was commissioned in 2008 and such product is trucked from the mine site and exported to Chile.

Gold is recovered both in concentrate and as dore gold using physical gravitational methods through centrifugal concentrators. Then, it is refined in international facilities to obtain a final product. Due to the geology of the deposit, ore is segregated from waste rock through a physical and chemical process, by introducing air as small bubbles, alcohol and frothers. Copper ores gather on the air bubbles and then overflow from large vessels on an ongoing basis.

No cyanide, mercury, chromium, arsenic or lead is used for or involved in ore processing at our operations. Our concentrates are sought in international markets for its chemistry free from the above substances. Although cyanide is not used in Minera Alumbra process, it may be used in an environmentally-responsible way, as in other industries (i.e. pharmaceutical, plastics, chemical) safely for human health.

New Opportunities

Minera Alumbreira development entailed growth both in Catamarca and in North-Western Argentina, due to the improvement opportunities for the society. Thus, employment, training, higher salaries, fiscal revenues at provincial and federal level and our community support programmes provided development tools especially at provincial level.

WE SEEK TO ESTABLISH STRATEGIC LIAISON WITH LOCAL COMMUNITIES, GOVERNMENTS AND ORGANISATIONS IN ORDER TO SHARE BENEFITS WITH THE SOCIETY IN A SUSTAINABLE WAY.

Our economic contribution is also the result of our initiatives based on operational efficiency and excellence as well as a committed workforce.



Capacitación a productores sobre el manejo del cultivo del nogal y poda de plantas en Piedra Larga, departamento Belén, Catamarca.

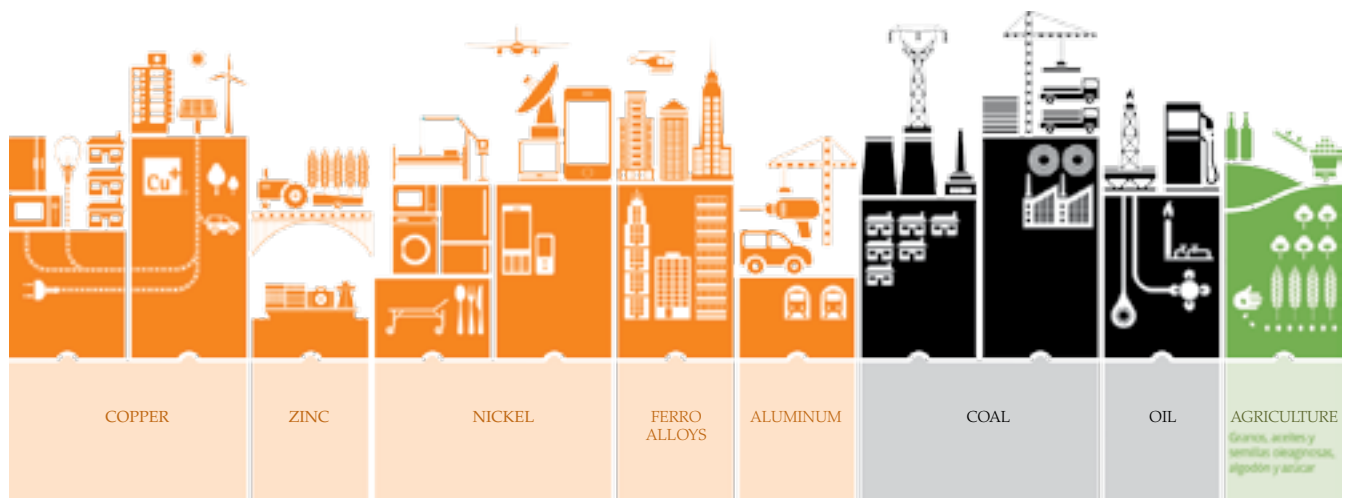
About Glencore

Swiss Glencore is an integrated raw material producer and trader that operates worldwide. It trades in and distributes physical commodities sourced from third party producers as well as its own production. It also provides

financing, processing, storage, logistics and other services to commodity producers and consumers.

Glencore is a major producer and marketer of more than 90 commodities. Glencore operations comprise around

150 mining, metallurgical, oil and agricultural assets, supported by a global network of more than 90 offices situated in over 50 countries. Glencore employs around 160,000 people including contractors.

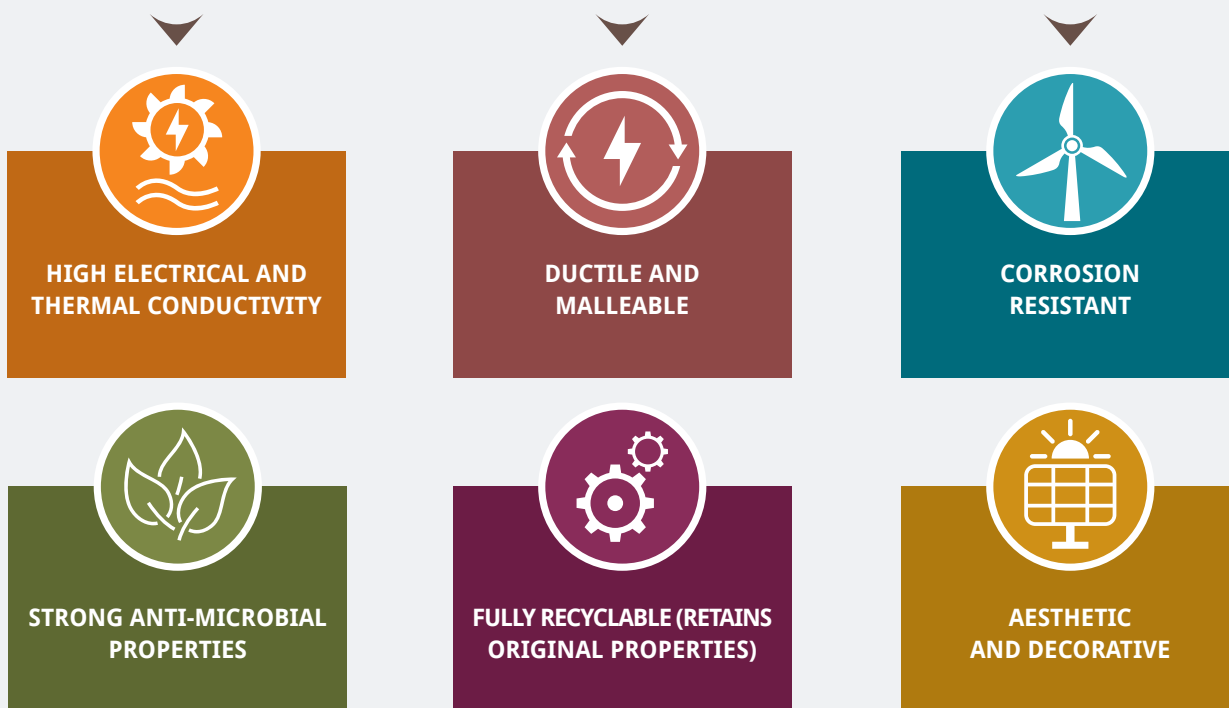


COPPER USES



COPPER WAS ESSENTIAL FOR THE DEVELOPMENT OF CIVILISATION AND CULTURE. COPPER HAS BEEN USED SINCE THE EARLY DAYS WHEN IT WAS FOUND TO BE A HIGHLY MALLEABLE, DUCTILE AND RESISTANT METAL. THE COPPER AND TIN ALLOY WAS VITAL FOR THE EXPANSION OF CIVILISATION AND IT DATES BACK TO THE BRONZE AGE.

KEY PROPERTIES



Copper is used extensively in power, electricity and communication networks worldwide. Alternative power sources will be critical to supply the growing demand involved in ongoing global industrialization. Copper is essential for

wind, solar, ocean wave and steam power generation systems.

It is also used in electronics, air conditioning devices, highly efficient electrical engines, as well as in high-speed communication systems and in the aero-space industry.

In 2008, copper was declared as the first anti-microbial metal. Strong evidence confirmed that copper has a broad spectrum of anti-microbial effectiveness and may block major pathogens.



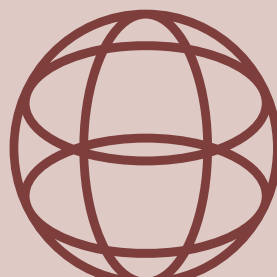
Title
2016 Sustainability Report

Geographic scope
The Bajo de la Alumbrera deposit is located in Catamarca and has operational facilities in Tucumán and Santa Fé provinces.



Reporting period
2016. Indicators from previous years were also included for comparison.

Reporting frequency
Annual. This is the 13th sustainability report published.



International guidelines

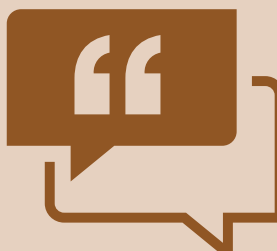
- Global Reporting Initiative G4 Guidelines.
- United Nations Global Compact.
- AccountAbility AA1000SES Standard.
- Sustainable Development Goals.



Reporting process
The different areas of Minera Alumbrera were involved.



Materiality assessment
The report was prepared based on the results from roundtable meetings held over the last few years and Glencore guidelines.



Roundtable meetings
Face-to-face meeting held in Catamarca, which was attended by 27 representatives of our stakeholders.



About this report

Overview of the Minera Alumbra concentrator plant facilities.



Scope

This is the 13th Sustainability Report of Minera Alumbarrera which features our economic, social and environmental performance programmes and initiatives in Argentina. Through this publication, we seek to annually report on the way we operate and thus meet our stakeholders' expectations.

THE INFORMATION REPORTED INCLUDES MINERA ALUMBRERA'S OPERATIONS DURING 2016 AND RESULTS FROM PREVIOUS YEARS FOR COMPARISON PURPOSES. ALL MONETARY VALUES ARE EXPRESSED IN ARGENTINE PESOS UNLESS OTHERWISE STATED.



Operator Cecilia del Carmen Cata organising the truck fleet system at the site in an efficient and safe manner.

International standards

This report was prepared in accordance with procedures and measurement models of Glencore plc, our parent company. It is also based on internationally renowned sustainability standards:

- **Global Reporting Initiative (GRI)¹**

Again, this report was prepared following the GRI G4 Guidelines applying the core 'in accordance' option and the GRI Mining and Metals Sector Supplement.

- **United Nations Global Compact Principles²**

This report also features the Communication on Progress 2016 (COP), in its advance level, through which we report our compliance with the 10 Principles of the United Nations Global Compact on human rights, labour practices, environment, and corruption prevention.

- **Engagement Standard (AA1000SES)³**

During the stakeholder roundtable meeting, we used the AccountAbility AA1000 Stakeholder Engagement Standard (AA1000SES).

- **Argentine Business Council for Sustainable Development (CEADS)⁴**

The guidelines recommended by this business association, which fosters economic progress based on environmental protection and social development, were also taken into consideration.

- **Sustainable Development Goals⁵**

Late in 2015, the 193 Member States of the United Nations Organisation approved the 2030 Agenda for Sustainable Development, which will set the course for the next 15 years, integrating economic, social and environmental development aspects, while addressing aspects related to peace, justice and efficient institutions. In this report, we stated our commitment to the new global sustainable development agenda, submitting a first approach of the link between the sustainability guidelines and indicators reported by Minera Alumbarrera and the 17 Sustainable Development Goals in the new agenda.

¹ For more information, go to www.globalreporting.org.

² For more information, go to www.unglobalcompact.org.

³ For more information, go to <http://www.accountability.org/standards/index.html>.

⁴ Local branch of the World Business Council for Sustainable Development (WBCSD).

⁵ For more information, go to www.un.org/sustainabledevelopment/es.



Reporting process

The different areas of Minera Alumbraera participated in the reporting process, following the international guidelines and procedures stated above.

The report is posted in Spanish and English at www.alumbraera.com.ar and www.infoalumbraera.com.ar.

com.ar. It is also available at the United Nations Global Compact website.

Although the report was not externally verified, specific audits on geotechnical matters (slope stability) and the tailings dam were conducted. For more information, see the Environmental Protection chapter.

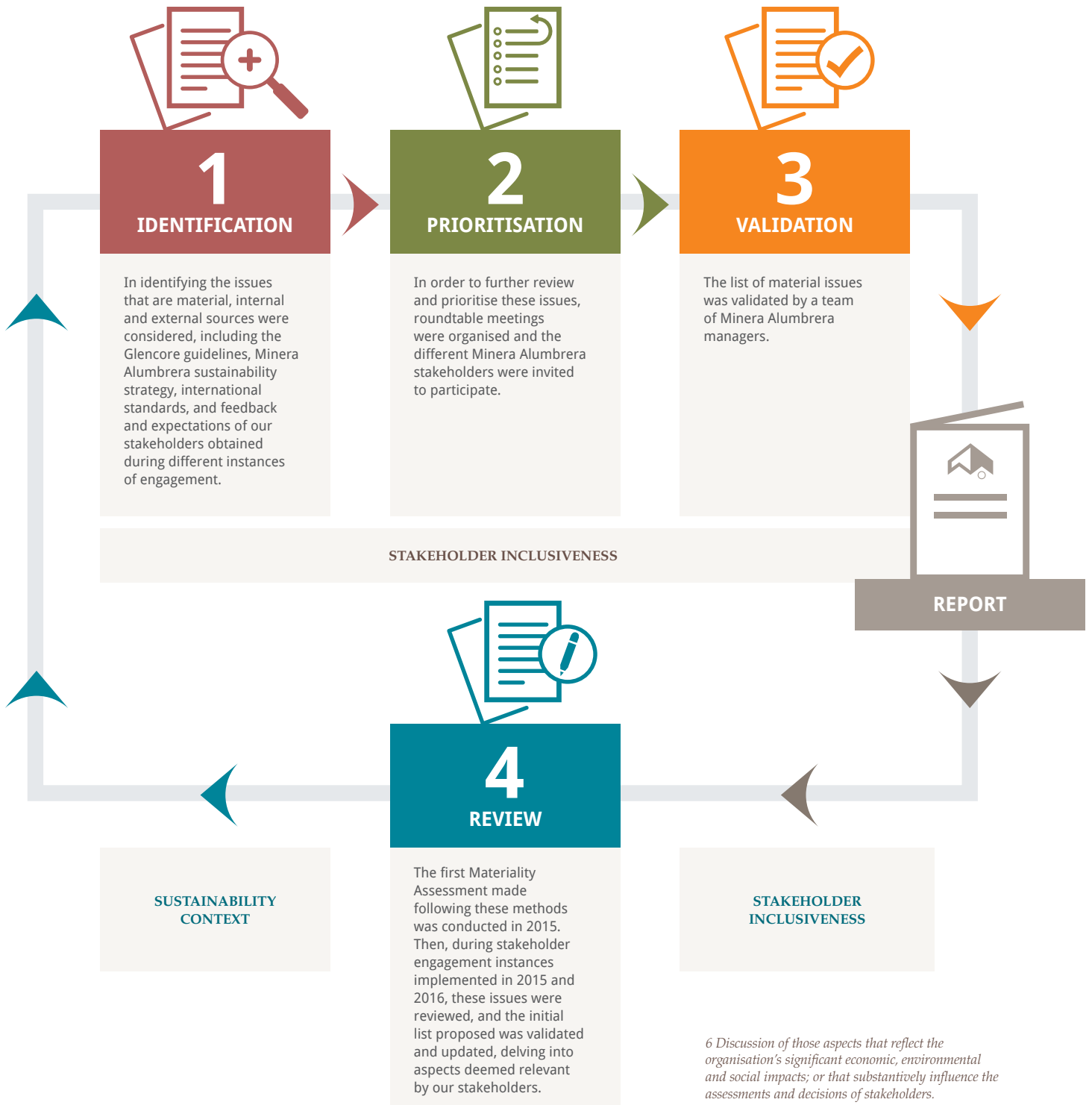
Materiality assessment

Based on the Materiality Assessment⁶, we defined the issues that are material to both Minera Alumbreira and our stakeholders. The most relevant contents are included in our sustainability reports, based on the principles set out by the GRI G4 Guidelines: Stakeholder

Inclusiveness, Sustainability Context, Materiality and Completeness.

This assessment is based on the process set out by the GRI G4 Guidelines, which consists of four steps: Identification, Prioritisation, Validation and Review.

PROCESS FOR THE IDENTIFICATION OF MATERIAL ISSUES IN ACCORDANCE WITH THE GRI G4 GUIDELINES



MATERIAL ISSUES FOR MINERA ALUMBRERA

HUMAN RIGHTS

We respect human rights in our relations with employees, contractors, business partners and local communities.

- No discrimination
- No child labour
- Freedom of association
- No forced labour
- Occupational health and safety
- Grievance mechanisms
- Security actions



VALUE CHAIN

We seek to create economic benefits shared with our suppliers, giving priority to local purchases and project development throughout the life of the project.

- Local job creation
- Promotion of local production activities with comparative advantages
- Purchases from local vendors of the Primary Impact Area
- Partnership with local authorities to apply revenues derived from mining operations to develop sustainable activities



OUR PEOPLE

We foster staff development through teamwork, ongoing training, a safe and healthy workplace, growth opportunities and a good work environment.

- Employee training and development
- Encouragement of and respect for workforce diversity
- Analysis of work environment
- Improve staff professionalism and employability
- Labour relations with trade unions



HEALTH AND SAFETY

We take a precautionary approach to ensure the health and safety of our employees and the community.

- Safety Leadership Development Programme
- Hazard and Potentially Hazardous Activities Management
- Training on attitudinal issues
- Occupational illnesses prevention at the workplace
- Learning from high potential incidents
- Training on road safety for employees



ENVIRONMENT

We aim at minimising impacts of our operations and promoting initiatives to foster global climatic conditions.

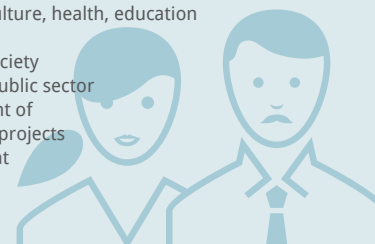
- Environmental management system: conservation, monitoring, risk management and remediation
- Water and effluent management
- Improved use of natural resources
- Biodiversity management
- Greenhouse gas emissions and mitigation actions
- Water footprint
- Waste management
- People and materials transportation impact management.
- Investment in the use and research of future technologies and alternative energies



COMMUNITIES

We intend that our social expenditure in the local communities bring benefits to the entire production chain, strengthens social development and economic growth with long-term permanent results.

- Community programme and large infrastructure works.
- Development of local culture, health, education and social aspects
- Partnership with civil society organisations and the public sector
- Creation and assessment of sustainable production projects
- Stakeholder engagement
- Site visits



ECONOMIC CONTRIBUTION

We seek to contribute to the creation of new improvement opportunities in our region, through economic contributions and the impact of indirect benefits generated by mining operations on the communities in our area of influence.

- Overall contribution to the Argentine economy
- Economic benefits for Catamarca
- National, provincial and municipal fiscal revenues
- YMAD's profits
- Job creation
- Payment of salaries above mean salary level
- Mining royalties and its secondary distribution in Catamarca



MINE CLOSURE

We are committed to a responsible mine closure based on a plan that contemplates the integration of socio-economic and environmental variables and constructive dialogue with our stakeholders.

- Strategy and plan
- Socio-economic aspects
- Environmental aspects
- Communication and engagement
- Information transparency





Stakeholder representatives participated in the Roundtable meeting held in October in Catamarca.



Roundtable

In 2016, our stakeholders were invited again to participate in a face-to-face roundtable meeting in order to gather their opinions, constructive feedback and expectations regarding the 2015 Sustainability Report to continue improving the future editions.

To this end, the AA1000 Stakeholder Engagement Standard (AA1000SES), the first world-class stakeholder engagement standard developed by AccountAbility, was used to integrate engagement processes into our business strategy and practices.

The meeting was held in Catamarca and was attended by our key stakeholders' representatives, Minera Alumbreira leaders and an external facilitator who served as moderator. Through individual and group exercises, participants assessed the 2015 Sustainability Report, pointing out some strengths and identifying improvement opportunities.

Review of technical aspects of the report

► **88%**

of respondents stated that the report was 'quite' and 'very' helpful to know Minera Alumbreira's commitment to sustainability.

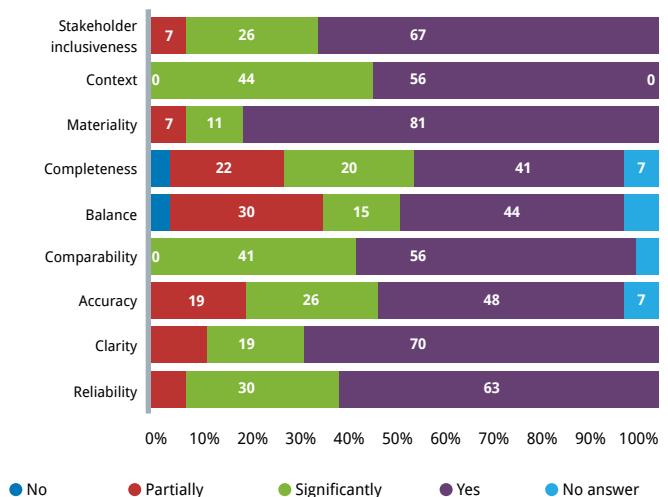
First, participants considered whether the Report clearly showed stakeholder inclusiveness, whether the information was presented considering the broadest sustainability context in the industry, whether it showed issues that are material for Minera Alumbreira and its stakeholders (materiality) and whether it was complete enough, and they also examined the quality of the information.

While context, comparability, materiality, reliability, clarity of the information, and stakeholder inclusiveness were the highest rated criteria, improvement opportunities were identified for balance, completeness and accuracy of the information.

2016 ROUNDTABLE TECHNICAL DATA SHEET

- **PLACE AND DATE:** 24th of September in Catamarca
- **NUMBER OF PARTICIPANTS:** 27
- **STAKEHOLDERS REPRESENTED:** Suppliers, government, universities, community, mining chambers and associations, employees and journalists.
- **EXTERNAL FACILITATOR:** ReporteSocial
- **METHODOLOGY:** Focus group, group activities and individual surveys, AA1000SES Engagement standard.

2015 Report Assessment



Source: Minera Alumbreira

▶ 100%

of participants were satisfied with the Roundtable meeting and expressed their interest in participating again in another meeting in the future.

Participants valued the Roundtable meeting and our continuous efforts to organise this meeting and willingness to listen to stakeholder feedback. Throughout the meeting, participants pointed out the following positive aspects of the 2015 Sustainability Report and Minera Alumbreira's management.

ENVIRONMENT

- Inclusion of expenditure economic data.

STRENGTHS AND WELL-REGARDED ASPECTS OF THE REPORT

SUSTAINABLE DEVELOPMENT AND TRANSPARENCY

- The Sustainable Development chapter is well explained and easy to understand.
- The Sustainability pillars are very complete.
- High transparency level, regulation compliance and positive cultural change.
- Importance of human rights and discrimination approach.

ECONOMIC CONTRIBUTION

- Clarity of data provided.

PRESENTATION AND CONTENTS

- A complete and clear report.
- Explanation of different issues, including priorities and strategies.
 - Inclusion of Mine Closure.
- Inclusion of observations made during the previous roundtable meeting.

HUMAN RESOURCES AND CHAIN VALUE






- Clear information about training and education for employees and contractors.
- Increase in Catamarca workforce hiring.
 - Discussion of occupational health and safety.
 - The "Value Chain" chapter and information about local purchasing and import replacement.

MINE CLOSURE




- Inclusion of Mine Closure chapter in the report.
- Complete information about the mine closure programme, including the environmental aspect and three areas of the social aspect.
 - School-based training.

EXPECTATIONS AND IMPROVEMENT OPPORTUNITIES FOR NEXT EDITIONS OF THE SUSTAINABILITY REPORT

The main opportunities and expectations identified during the roundtable meeting are shown below. They were summarised and grouped by topic. The table also includes the response of Minera Alumbraera to stakeholder feedback, depending on their area of expertise, to continue improving the examination of these issues in its reports.

	IMPROVEMENT OPPORTUNITIES	RESPONSE BY MINERA ALUMBRERA
	Commitment to Sustainable Development	
	Show examples of how programmes are implemented.	The 2016 Sustainability Report includes different examples of programmes that have been implemented.
	Include a glossary where certain terms are defined for the public in general. (For instance, "sustainability" and "reclaimed water," among others.	The 2016 Sustainability Report includes again a glossary that contains the terms suggested during the engagement process.
	Clarify the data source and mention the monitoring activities conducted by regulators.	The 2016 Sustainability Report includes the data sources and the monitoring activities conducted by relevant authorities.
	Apply the same quality standards applied by Minera Alumbraera when building something for the community.	Quality standards applied to carry out CSI works in the communities are the same high standards and are subject to the same monitoring activities as those works completed in any Minera Alumbraera facility.
	Transparency and Anti-Corruption	
	Demand that governments report on the contributions made by Minera Alumbraera so that local communities know how those funds were spent.	We seek to be transparent about the information provided about our revenues, fiscal revenues and provincial royalties. Although the scope of our duties does not include knowing and monitoring how profits and mining royalties are spent, we are committed to communicating the concerns raised by our stakeholders to the relevant regulators.
	Human Rights	
	Strongly spread the word about human rights to the communities to show that Minera Alumbraera is truly concerned about this issue.	In 2017, Minera Alumbraera will work to include this issue in our external communications with local communities.
	Employment and Value Chain	
	Conduct follow up activities with former employees to report whether they managed to find another job.	Minera Alumbraera has developed training courses in order to prepare our employees and provide them with tools to improve their employability, and follow up activities will be conducted until the end of the life of the project.
	Include data of remunerations paid to Catamarca employees/total remunerations to know how much of it (%) remains in Catamarca province.	Similarly to what we did in previous reports, the "Economic Contribution" chapter includes the amounts paid by Minera Alumbraera as salaries in Catamarca.
	Show how the same safety standards continue to be applied when the number of employees has declined.	The "Occupational Health and Safety" specifies, just like it did in previous reports, which safety standards will remain the same throughout the life of our operations.
	Occupational health and safety charts are difficult to interpret.	In our latest reports, we continued working to improve explanations of these charts, showing comparative data and indicators in context so that they can be easily interpreted.
	The mentions of occupational accidents are valued, but there is no explanation of how they were solved.	The 2016 Sustainability Report "Occupational Health and Safety" chapter outlines the procedures associated to occupational accidents.
	It is expected that people close to the project also have access to online training through training platforms.	Although this kind of training was not provided in the community during 2016, over the last few years, training on safety issues has been made available to the community by Minera Alumbraera.
		Environment
	Although 923 environmental protection related observations are mentioned, it does not explain who carried out those observations.	Environmental Observations are conducted by our employees and contractors and seek to prevent major environmental incidents. The "Environment" chapter provides more information on the observations made during the latest period.
	Provide information to the communities about our environmental impact and performance in a simpler language, with fewer charts.	Efforts were made to provide information using a simpler language in the "Environment" chapter.
	Show the Campo del Arenal water balance rather than include comparisons of water use in other activities, as water balance serves to know water use limits.	The Campo del Arenal mathematical model (2010) contains data of the basin's water balance and will be updated in 2017 using all the information gathered over these years.
	Inform which is the external laboratory that certifies the chemical testing internal monitoring activities.	Alumbraera works with the following external laboratories: Corplab, Induser, and CyMA, which are certified under ISO17025. Similarly, 90% of tests made at the Alumbraera Filter Plant laboratory are certified under the same standard.

With every edition of our Sustainability Report, we seek to report to our stakeholders in a systematic and transparent manner, through a continuous improvement process.

IMPROVEMENT OPPORTUNITIES	RESPONSE BY MINERA ALUMBRERA
Environment	
 <p>Explain more clearly the work performed by environmental leaders. It would be helpful and important if they went to the towns to explain in a simple language what their job is.</p>	<p>Environmental Leaders are Alumbreira employees who perform different roles at the site. They are trained by the Environment area to provide counsel on their respective work areas, thus improving our environmental performance.</p>
<p>Since Alumbreira knows the local biodiversity, a book could be published that reflects the vegetation and wildlife found in the area.</p>	<p>Minera Alumbreira has already developed two publications made by experts on the local biodiversity: "A Guide to Bajo de la Alumbreira Native Vegetation" and "A Guide to Bajo de la Alumbreira Vertebrates", which are available at: www.alumbreira.com.ar/publicaciones/investigaciones/</p>
<p>Also provide carob tree seedlings in Andalgalá to privately-owned farms or to the Higher Education Institute, just like Alumbreira did in Belén, Santa María and Quilmes.</p>	<p>Carob tree seedlings were provided to Andalgalá town in 2014 and 2015. At present, this practice continues at the request of different organisations, since the Carob Tree Forestation Programme implemented at Campo del Arenal ended.</p>
<p>Also promote the energy development in Hualfín town since it has an enormous production and tourism potential, just like Alumbreira did in Tafí del Valle and Mollar.</p>	<p>Electrical connections in Santa María and Tafí del Valle were initiatives of the Catamarca and Tucumán governments respectively, which invested in transformer equipment and obtained the relevant authorisations to connect to Minera Alumbreira's high voltage powerline.</p>
<p>Help with the development of a waste treatment plant in El Pantanillo, Catamarca, so that electronic waste is treated in the province and not sent to Buenos Aires.</p>	<p>Minera Alumbreira developed a local supplier which meets recycling needs and will remain willing to continue implementing its local development policy as long as initiatives are submitted.</p>
Community	
 <p>Show how communities have evolved against baseline level to see how communities used to be before the mine started its operations and how they are today.</p>	<p>Minera Alumbreira has been recording the evolution of communities in order to have and be able to disseminate comparative data gathered over time.</p>
Mine Closure	
<p>Heavily promote social aspects in the primary impact area communities since the social area is the most sensitive one, reporting more accurately what the programmes being implemented are like. The mining delegates present in each of the towns could hand out informative leaflets and/or magazines in squares, media, and schools, among others.</p>	<p>Minera Alumbreira communicates its mine closure plan as its progresses. In turn, the Catamarca Mining Department is making presentations in local towns to inform on mine closure.</p>
<p>In some areas across our territory, opinions are divided regarding the environment, mainly relating to the tailings dam and waste dumps. This issue is unclear for 90% of the local people, and it would be crucial to make these programmes known through mass media, such as radio shows.</p>	<p>Minera Alumbreira will communicate mine closure environmental and social aspects, seeking to provide society with information that makes it easier for them to understand all aspects involved.</p>
 <p>Involve the community in general in the mine closure process since anyone can follow it up: the president of an organisation, club or soup kitchen, or a priest. Let schools become involved so that this information spreads across the community.</p>	<p>In our communication process, we will provide information to community leaders so that they communicate all mine closure aspects that are relevant to society.</p>
<p>More accurate data on works to be carried out after mine closure, accountability and economic guarantees should be included.</p>	<p>The "Mine Closure" chapter in this report provides information on accountability and economic guarantees.</p>
<p>This is the first mine site that is going through the closure process in the Argentine Republic. Therefore, it would be interesting that local people also receive training together with Alumbreira and the Mining Department to take samples for surface water monitoring activities and certify them and that activities can be attested by different community sectors.</p>	<p>The Catamarca Mining Department has conducted participatory monitoring activities at Bajo de la Alumbreira since 2013. Employees from the Environmental Monitoring Centres, which are part of the Mining Department in Belén, Santa María and Andalgalá, continue participating occasionally in monitoring activities.</p>
<p>Inform, during our meetings with suppliers from each district, about the mine closure process so that suppliers know which stage they are going through, thus generating trust and respect.</p>	<p>Minera Alumbreira has been holding this kind of meetings and is planning to continue doing so. For more information, see the "Value Chain" chapter.</p>
<p>Have a more effective communication with employees about mine closure.</p>	<p>The Minera Alumbreira General Manager has regular discussions with employees where updated information on results and operational planning is provided. Our employees are a priority under our Communication Plan.</p>



Approach

Develop the mining project creating economic and social value, while protecting the environment that we live in.



Labour Framework

It contemplates Values, the Code of Conduct and Health, Safety, Environment and Community Policies.



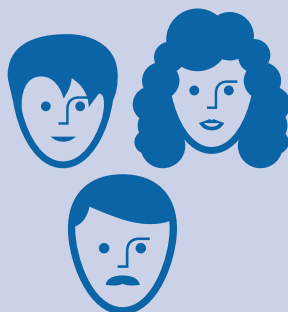
Commitment

To the United Nations Sustainable Development Goals.



Dialogue

We build meaningful and long-term relationships with our stakeholders in an open and transparent manner.



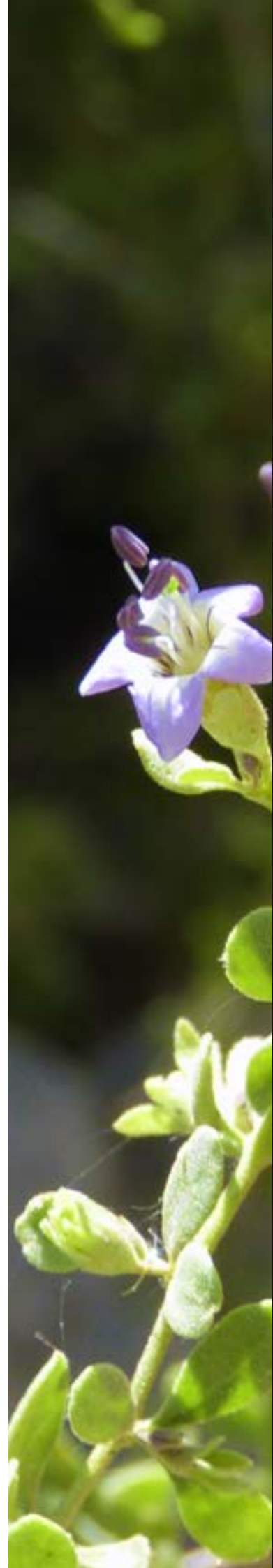
Engagement with stakeholders

- 531 meetings
- 1,367 attendees
- 284 visits to the site



Mining industry challenges

Contribute with the production and supply of commodities, while protecting the environment that we live in and its inhabitants.



Commitment to sustainable development

We are focused on the protection of the environment and we work responsibly in order to protect the natural environment in the deposit area and the neighbouring communities.

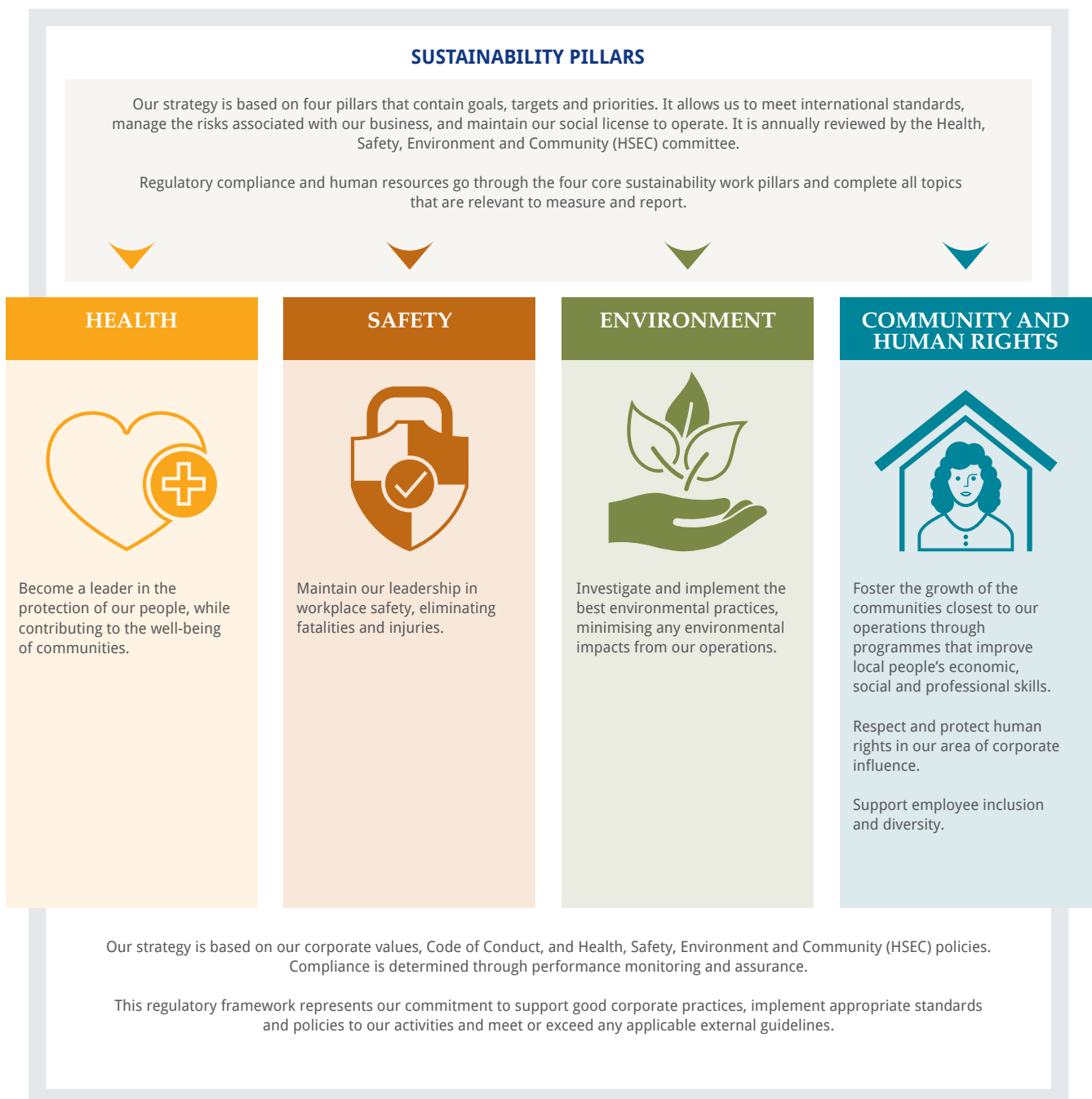
Our approach

We are committed to creating value for all our stakeholders in a manner that is responsible and sustainable in the long term, with ethics, transparency and respect for the rights of all.

In our strategy we prioritise sustainability integration into our business and we focus on operational efficiency, while protecting people and their environment.

Our management efforts are strongly committed to creating economic, environmental and social value in order to ensure the long term viability of our operations and host communities.

Our work approach is comprehensive and extends across all areas that coordinate the production process. Our management model is based on our major corporate guidelines, as well as Alumbrrera’s culture. We expect to build a corporate culture in the workplace that conveys sustainability values to society.



OUR VALUES



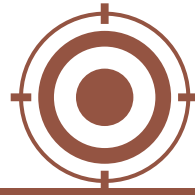
SAFETY

Our first priority in the workplace is to protect the health and well-being of all our people. We take a proactive approach to health and safety; our goal is continuous improvement in the prevention of occupational disease and injuries.



ENTREPRENEURIALISM

Our approach fosters the highest level of professionalism, personal ownership and entrepreneurial spirit in all our people while never compromising on their safety and well-being. This is important to our success and the higher returns we aim to achieve for all our stakeholders.



SIMPLICITY

We aim to achieve our key deliverables efficiently as a path to industry-leading returns, while maintaining a clear focus on excellence, quality, sustainability and continuous improvement in everything we do.



RESPONSIBILITY

We recognise that our work can have an impact on our society and the environment. We care profoundly about our performance in relation to environmental protection, human rights and health and safety.



OPENNESS

We value open relationships and communication based on integrity, co-operation, transparency and mutual benefit, with our people, our customers, our suppliers, governments and society in general.

Code of conduct

The Code of Conduct¹ guides our values and seeks to ensure that the aspirations embodied there are reflected in our daily actions and decisions and in our corporate culture.

The Code sets out the behaviour expected of all our employees to conduct business and to file claims, while defining the priority of health and safety management, work environment, respect for human rights, liaison with the community, environmental protection, engagement with stakeholders, regulatory compliance and production quality and safety.

Both our Values and Code of Conduct (including the underlying policies and the associated operational management procedures for sustainability) represent our commitment to upholding responsible business practices.

All Alubrera employees were evaluated on their knowledge of, and compliance with, the Code of Conduct policies in 2016 through an e-learning platform, as well as other tools for those employees who do not have regular access to a computer.



Martín Mansilla, effluent treatment analyst, testing samples at the Filter Plant lab in Tucuman.

¹ <http://www.alubrera.com.ar/files/alubrera-codigo-de-conducta.pdf>.

Commitment to the United Nations Sustainable Development Goals

In September 2015, the 2030 Agenda for Sustainable Development that contains the Sustainable Development Goals (SDG) was approved by the United Nations (UN). The 17 SDG and 169 targets show the importance of this challenging agenda, which seeks to address the main social, environmental and economic challenges that are a priority for the world today.

Businesses, among other social actors, can play a strategic role, acting in line with the SDG and facilitating the process. The main contribution is to incorporate the SDG into the heart of the business and to set priorities.

Mining is a global industry often located in remote, ecologically sensitive and less developed areas.

When properly managed, it can create jobs, boost innovation and improve the local infrastructure.

Social inclusion, environmental sustainability and economic development prioritise a few goals on which mining companies can focus their efforts.

In Alumberrera, many of our social and environmental programmes are aligned with the SDG. Based on initial review, and as a sign of our commitment to this United Nations initiative, we understand that our sustainable management efforts are more focused on goals 1, 3, 4, 6, 7, 8, 13 and 15. We will be working soon on a detailed analysis of the 169 Targets proposed for each SDG for 2030 and our potential contribution to them.

MINERA ALUMBRERA'S CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS



- Create jobs in the region where the deposit is situated.
- Generate tax revenues for Catamarca.
- Implement the Local Supplier Development Programme.



- Prevent occupational diseases and protect health.
- Raise awareness among employees about healthy habits (fitness and proper eating habits).
- Implement the Annual Risk Agent Monitoring Programme.



- Improve employee skills and capabilities through site-based formal education programmes under which professional degrees are granted.
- Implement the 2006-2015 education improvement plan for Catamarca teachers in partnership with UNTREF.



- Reuse of freshwater in the production process.
- Use water as permitted by local authorities.
- Treat water at a lab prior to discharging it.



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- Use water as permitted by local authorities.
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- Promote employee diversity and social inclusion.
- Offer equal employment opportunities.
- Align economic growth with local development.
- Provide training to young technicians through internships.
- Train local suppliers to meet our needs.



- Mitigate GHG emissions and increase the use of energy from renewable sources.
- Implement the mobile equipment fleet maintenance programme to reduce fuel transport.
- Add weather stations to monitor environmental variables and record the potential effects of climate change.
- Prepare an emission inventory every two years.
- Set up 8 stations to monitor air quality at the deposit and in neighbouring communities.



- Monitor vegetation and wildlife diversity in the Alumberrera area.
- Plant carob trees to ensure richer forests in nearby areas.
- Implement a revegetation programme in areas disturbed by mining activities.
- Develop a site-based germplasm bank with a great variety of local native vegetation seeds.
- Publish two educational guides: "A Guide to Bajo de la Alumberrera Native Vegetation" and "A Guide to Bajo de la Alumberrera Vertebrates", available online and also distributed to local schools in the area of influence.

More detailed information about our progress over the last 19 years is further explained in the chapters Environment Protection, Creating Shared Value, Commitment to the Community, and Social and Environmental Mine Closure Management.

2 More information available in the chapter Commitment to Health and Safety.

Board Health, Safety, Environment and Community (HSEC) Committee

Glencore’s Board HSEC Committee sets our strategic direction for sustainability activities and oversees the development and implementation of strategic HSEC programmes related to health, environment and communities.

The committee comprises four managers, including our Chairman and Chief Executive Officer (CEO) and is chaired by a nonexecutive director. It meets during each Board meeting to review progress in the delivery of Group HSEC strategy, key performance indicators (KPIs), significant HSEC issues and material HSEC risks, and examine major or catastrophic incidents.

In the event of a fatality or major/catastrophic incident, the committee receives detailed reports from management of the relevant operation on the nature of the event, actions taken and subsequent investigations.

Sustainability team

The Group sustainability team provides guidance and thought leadership. It develops and implements HSEC policies and improvement programmes, and establishes HSEC assurance processes. It also reviews the sustainability aspects of our Code of Conduct and revises them as necessary and records and reports progress against Key Performance Indicators.

Oversight and ultimate responsibility for our Group HSEC strategy, the GCP framework and its implementation across the Group rests with our senior management team.

In 2016, the performance of all Alumbarrera employees, including their sustainability goals, was evaluated.

Sustainability risk management framework

Our sustainability risk management framework is used throughout Glencore Group to identify, assess, address and oversee risks associated to our operations, and thus develop plans to eliminate or mitigate the related risks.

Risk management is integrated into our business planning and decision-making processes at every level of the Group. We maintain a register of risks and management plans and continually monitor performance against those plans.

We review our corporate Health, Safety, Environment and Community policies at least once every three years to check that they are continuing to support our business requirements as well as reflecting policies within the International Council on Mining and Metals (ICMM).

ONE OF THE KEY FUNCTIONS OF THE HEALTH, SAFETY, ENVIRONMENT AND COMMUNITY COMMITTEE IS TO EVALUATE AND OVERSEE SUSTAINABILITY RISKS ASSOCIATED TO OUR OPERATIONS.

The main focus of auditing is catastrophic hazards. At Minera Alumbarrera, we have protocols in place to deal with hazards that may lead to fatalities².

Since 2015, we have implemented the Safe Life Protocol under the “Safe Work” Programme focused on fatal risks and the identification of catastrophic hazards as part of the Group’s HSEC assurance process..

MINERA ALUMBRERA’S SUSTAINABLE DEVELOPMENT (SD) ORGANISATIONAL STRUCTURE



ENGAGEMENT WITH STAKEHOLDERS

Communication

The social and economic growth of the region is part of our sustainable development goals. Therefore, we understand that maintaining a regular dialogue with our stakeholders³ is mutually beneficial. We seek to listen to their concerns and provide timely solutions. We receive community concerns and take them into account to develop community projects.

We engage with our stakeholders to build significant and long-term relationships. We communicate regularly, openly and transparently with our employees, contractors, customers, suppliers, investors, associations, governments, and surrounding communities, among others.

Engagement enables robust relationships to be built, based on trust and cordiality, which help maximise the value contributed to the communities and minimise the negative social impact. We undertake fact-based, constructive and timely communication across a wide range of issues. Our decision-making process is supported by our engagement.

At Minera Alumbreira, we undertake the following commitments with each of our stakeholders:

STAKEHOLDERS	SUSTAINABILITY COMMITMENTS
INVESTORS	Maximise the return on investment, prioritising the copper industry. We are committed to open corporate management practices.
CUSTOMERS	Deliver our products, which are essential for progress, in a reliable and continuous manner.
EMPLOYEES	Promote a respectful, flexible and efficient organisation through professional development and the fulfilment of mutual duties.
SUPPLIERS	Promote a fair selection process that reflects our values and policies.
GOVERNMENT	Strictly adhere to and enforce the laws and support the professional management of efficient regulatory agencies to accomplish their mission.
TRADE UNIONS	Support responsible organisations that strive for employee welfare.
COMMUNITIES	Provide growth opportunities through training, employment and health, production and education improvement programmes.
MINING CHAMBERS AND INDUSTRY ASSOCIATIONS	Support their actions so that they represent and act on the needs of the entire mining industry.
NGOS AND RELATED ORGANISATIONS	Liaise with organisations that strive for improved social, technical and institutional development at the regional and country-wide levels.
MEDIA	Provide accurate and thorough information, through ongoing regular discussions.
UNIVERSITIES	Encourage fruitful exchange for students in courses directly or indirectly related to the mining industry and promote academic studies that may provide reliable data to the community.



Minera Alumbreira held a roundtable meeting in Catamarca to discuss its twelfth sustainability report and to listen to our stakeholders' views.



Since 2012, we have engaged in a dialogue process with a group of local environmentalists from Concepción, Tucumán province, through regular meetings to exchange information and visit the site and operational facilities at Alumbraera.

Engagement with Concepción residents

Based on our communication approach, we initiated a respectful dialogue with a group of local residents and environmentalists from Concepción, Tucumán province. The first meeting took place in 2012 and was moderated by Fundación EcoCiencia.

Over these years, meetings were held to discuss topics of interest about Alumbraera’s operations, including the following:

	WATER QUALITY
	URBAN WASTE TREATMENT
	SLURRY PIPELINE OPERATION AND MAINTENANCE
	ECONOMIC BENEFITS OF MINING OPERATIONS
	TAILINGS DAM CONSTRUCTION
	MINE CLOSURE APPROACH

In 2016, five meetings were held in which Minera Alumbraera’s economic results and implementation of a mine closure follow-up process were discussed. Likewise, a group visited the slurry pipeline area in Famaillá town, Tucumán province.

TRUST IS FUNDAMENTAL TO HUMAN RELATIONSHIPS AND IT HAS HELPED STRENGTHEN THE BOND BETWEEN LOCAL RESIDENTS AND MINERA ALUMBRERA. DURING EACH MEETING, SPECIFIC ISSUES AGREED UPON BEFOREHAND ARE ADDRESSED AND MINERA ALUMBRERA PRESENTS INFORMATION OR INVITES LOCAL RESIDENTS TO FIELD OR SITE VISITS.

In 2013, environmental activists and Minera Alumbraera signed an agreement under which each party agreed to seek the truth and be transparent to approve dialogues.

Fundación EcoCiencia uses the Community Transparency System, a social management tool that allows for enhanced engagement between businesses, the government and communities to improve their negotiation skills.

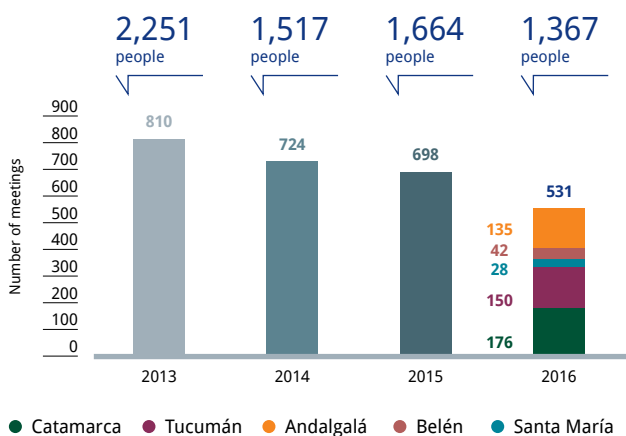
Civil society is empowered by building social and technical skills. The improvement of their communication skills and knowledge helps mitigate conflict and it can even be turned into a participatory initiative.

3 Stakeholders are those directly or indirectly associated to our operations. Accountability, influence and closeness to Minera Alumbraera are what define the stakeholders.

COMMUNICATION MANAGEMENT

In order to engage with society, we use different communication tools, including face-to-face discussions with local residents and joining the initiatives of local representative institutions, thus becoming aware of the existing needs of the community.

Engagement with stakeholders from 2013 to 2015 in Catamarca and Tucumán, and breakdown for 2016



Stakeholders visits to the site by place of origin in 2016



Total: 281 visits

Source: Minera Alumbrera

Source: Minera Alumbrera



Site visits

As part of our social commitment and open door policy, we have visitors all year round from various organisations. The goal of the visit around the site's main operational areas is to explain our production process and to make our environmental protection and employee safety management actions known.

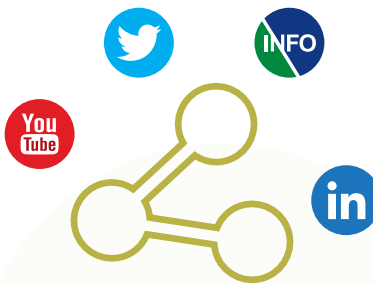
Visits are tailored according to the place of origin and concerns of each group. It should be noted that professional technicians who work at these areas escort the group of visitors and answer to their questions.



Interpersonal communication

Alumbrera's representatives are settled in Andalgalá, Belén, Santa María, San Fernando del Valle de Catamarca and in Tucumán province. Our offices in those towns are the place of reference where local residents can submit their projects, raise concerns and engage with community leaders.

In order to address community concerns, we have a system in place to record, follow up and settle complaints raised by the community. We address the enquiries and complaints raised by our stakeholders through fair and equitable dispute and grievance resolution processes. We have not received any formal complaints from the community in the last few years.



Social networks

Since 2010, we have been using social networks to engage in the dynamic far-reaching discussions facilitated by this computer tool through the following channels:

www.infoalumbrera.com.ar
www.youtube.com/infoalumbrera
www.twitter.com/mineraalumbrera
www.linkedin.com/company/minera-alumbrera,
entre otros.



Roundtable

Since 2011, we have invited our stakeholders to roundtable meetings in order to receive their opinions, feedback and constructive criticism on our Sustainability Report to improve any subsequent editions. These meetings are attended by our key stakeholder representatives, Minera Alumbrera leaders and an external facilitator who acts as a moderator. In October 2016, the Roundtable Meeting was held in Catamarca, where we listened to our stakeholders' expectations and also had the chance to learn about their specific mine closure concerns.



Publications

Since 2004, Alumbrera has been publishing the Sustainability Report that describes our economic, social and environmental performance over one year. This report helps us communicate our activities to stakeholders while obtaining their feedback. Based on the voluntary feedback received every year, the report layout, content and style have evolved.

Website

Our website, www.alumbrera.com.ar provides true and timely information and encourages interaction via enquiries made through this channel.





Undergraduate and graduate students and teachers from the University of Arizona and the National University of Tucumán visited the site as part of a student exchange programme.

Challenges of the mining industry in Argentina

The biggest challenge of the mining industry globally is to satisfy demand through sustainable development management actions, with environmental protection and social benefits.

The Argentine mining industry has great geological potential to become a growth driver. We will continue working to ensure that mining is seen as an economic alternative in various regions, which creates quality jobs and growth for small and medium-sized businesses (PyMEs), in line with sustainability standards.

However, the current resistance by a few provinces holds back growth in regions that could obtain positive externalities from mining operations. There is clearly a long way to go to build

trust in a society that still mistrusts mining operations and their potential.

In addition, it would be important to have an effective communication policy that allows the public opinion to know the importance of mining operations in our daily life as well as their current production methods that combine the use of new technologies, highly-skilled staff, safety and environmental protection as a priority and ongoing dialogue with the residents of nearby towns.

Finally, the mining industry should seek to improve its practices (in terms of environment, human rights and transparency) and align them with the strictest global standards.

CHALLENGES OF THE MINING INDUSTRY OPPORTUNITIES

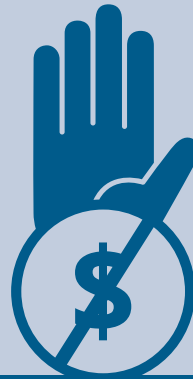
Costs are growing while commodity prices are declining.	- New business climate nationwide.
Competitiveness impacted by high logistic costs.	- Improvement in the macroeconomic context, with floating foreign exchange rate, greater integration of Argentina globally, fewer restrictions to foreign investments and transfers of dividends abroad.
Argentine fiscal system regressiveness: even with the elimination of export withholding taxes, fiscal pressure on the mining profit margin is still higher than in Chile and Peru.	- Elimination of restrictions to mining operations.
Resources in many deposits in Argentina are diminishing.	- Empower the value chain through the training and teaching of good practices. - Increase human capital based on lessons learnt in connection with labour activities, work activities and large company processes.
Applicable prohibitions to mining operations in 7 provinces.	- Improve our power to listen to, and maintain successful dialogues with society. - Seek transparency mechanisms to report to society.



Compliance
Our goal is to maintain a culture of compliance and ethical behaviour and ensure compliance with the laws and regulations.



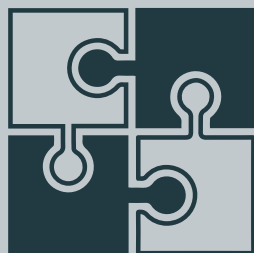
Transparency
Glencore is a signatory to the "Extractive Industries Transparency Initiative".



Bribery and Corruption
Our Anti-Corruption Policy sets out rules and guidelines which relate to the prevention of bribes and other forms of corruption.



Corporate Governance
Our corporate governance management processes take into consideration our Principles and Values, based on ethics and corporate responsibility.



Management Team
Minera Alumberrera is a privately owned company mainly funded and operated by the Glencore Group, having a 50% interest, as well as Canadian Goldcorp and Yamana Resources, having a 37.5% and 12.5% interest, respectively.



Public Policy
We engage in public discussion and participate in shaping legislative bills drafting concerning areas that may affect our operations under the highest ethical standards.



Governance and compliance



Operators monitoring the external production line at the concentrator plant.

We seek to maintain a culture of ethical behaviour and compliance throughout our site that exceeds the legal and regulatory requirements. We are based on a regulatory framework that supports and monitors guideline compliance by all our employees and contractors.

Compliance

Everyone who works for Minera Alumbarrera must comply with the applicable laws, regulations and best practices. We will not knowingly assist any third party in breaching the law or participate in any other criminal, fraudulent or corrupt practice.

We seek to attain such a behavioural conduct through training programmes and strong leadership supported by internal controls, procedures and policies.



View of production line at the concentrator plant.

COMPLIANCE PROGRAMME

The Programme includes a wide range of policies, manuals and guidelines developed and applied by different areas. At Minera Alumbarrera, we have a compliance coordinator who manages the implementation of this programme and supports our employees.

Compliance documents are made accessible to all employees via our Intranet or the local compliance coordinator. Employees must confirm their awareness and understanding of our compliance requirements every year through a digital platform.

Our permanent and temporary employees, directors, officers as well as contractors must comply with the applicable laws and regulations and the corporate compliance policies that apply to their duties. Our managers and supervisors are responsible for ensuring that employees understand and comply with these policies.

Transparency

We support transparency in the distribution of revenues by the government as a way of fighting corruption and allowing for an equitable redistribution. Through Glencore, we support the Extractive Industry Transparency Initiative (EITI) to increase transparency in the payments made by extractive companies to governments¹.

NO FINANCIAL OR IN-KIND CONTRIBUTION HAS BEEN PROVIDED BY MINERA ALUMBRERA TO POLITICAL PARTIES OR INDIVIDUALS.

We comply with the Argentine laws and regulations and we do not tolerate any incident of bribery or fraud committed by our employees or those engaged or paid to represent us, including consultants, contractors or advisers. We take immediate and serious action against those responsible.

Bribery and corruption

Glencore has a Global Anti-Corruption Policy in place that sets out the rules and guidelines for the prevention of bribery and other forms of corruption. It applies to all employees, business partners and associates .

We will not assist any third party in breaching the law in any country, nor pay or accept bribes, or participate in any other criminal, fraudulent or corrupt practice. We strive to prevent any misconduct through strong leadership and robust internal policies and procedures, which contain our clear position that offering, paying, authorising, soliciting or accepting bribes is unacceptable.

We constantly monitor corruption risks and allow the participation of the internal auditing and compliance areas, if required.

Finance employees receive induction and ongoing training on disciplinary action, bribery and corruption prevention, money laundering, confidential information and conflicts of interest.

At Minera Alumbreira, we comply with the Argentine laws and regulations. Since the onset of our operations, no suspicious activities or significant monitoring weaknesses that could facilitate fraud or cause it to go undetected were identified.

Glencore is a member of the Partnering Against Corruption Initiative (PACI). The initiative is based on a commitment to zero tolerance on bribery and the implementation of practical and effective anticorruption programmes.

Our managers and supervisors must prevent, identify and report any breach of the law or our corporate policies. Glencore has a Business Ethics Committee (BEC) comprising senior representatives and two of our external counsel; it reports to the Board Audit Committee.

The BEC meets at least twice a year. It develops and reviews our policies and principles on business ethics, including bribery and corrupt practices prevention. The policies and guidelines developed by the BEC are implemented across the site by our local Compliance departments.

Corporate governance

Our corporate management processes in place take into consideration our Principles and Values, based on ethics and corporate responsibility through compliance with the highest transparency standards.

We are committed to achieving the highest corporate governance standards, which are vital to obtaining shareholder value and essential to ensuring compliance with our values and Code of Conduct.

The Board of Directors is Glencore's highest governing body. It is led by seven directors, six out of which are non-executive directors.

Glencore has separate Board committees responsible for overseeing our audit, compensation, appointment, and health, safety, environment and community (HSEC) activities and reviewing the overall sustainability performance of our business. Individual committees review the results of independent audits of sustainability performance and the management strategies and action plans.



Overview of the feed circuit at the grinding plant.

¹ Information about royalties, taxes or other payments to governments made by Minera Alumbreira in 2016 is available in the "Creating Shared Value" chapter in this report. In addition, Glencore reports its payments to governments in each country in its website at www.glencore.com/sustainability/our-progress/reports/.

² Available at <http://www.alumbreira.com.ar/files/alumbreira-politica-anticorruption-global.pdf>

Management team

Minera Alumbreira is a privately-owned company mainly funded and operated by the Glencore Group, as well as Canadian Goldcorp and Yamana Resources.

► 50%

interest held by Glencore

► 37.5%

interest held by Goldcorp

► 12,5%

interest held by Yamana Resources

Minera Alumbreira is managed by a Board composed of four regular members, executives of the shareholder companies, one of them being the chairperson, who is an executive at Glencore. The Board sets the company strategic guidelines and holds at least four meetings per year to review business performance with all shareholders.

Directors receive no financial compensation directly from Minera Alumbreira.

Prior to taking up office at the Board, directors must sign a Declaration of Conflict of Interest stating their position in the parent company and its ownership interest (percentage) in Minera Alumbreira. Therefore, they are regarded as interested parties in the agreements entered into between Minera Alumbreira and the parent company or any of its affiliates.

In 1994, Minera Alumbreira entered into an Unincorporated Joint Venture (UTE) agreement with Yacimientos Mineros de Aguas de Dionisio (YMAD) to mine the Bajo de la Alumbreira deposit. YMAD, which owns mining rights, is made up of the Catamarca provincial administration, the National University of Tucumán, and the national government. YMAD's chairperson is appointed by the National Executive Branch.

The UTE management committee consists of eight members, three appointed by YMAD and five appointed by Minera Alumbreira, and is presided over by a chairperson. During YMAD meetings, this management committee approves Minera Alumbreira's annual plan and budget and follows up its actions.



Concentrate from the Filter Plant is shipped at General San Martín Port, Santa Fé province.

Raising concerns

Employees must promptly raise with a supervisor or manager any situations in which the Code, its policies or the law appear to be breached. Any concerns can be raised with the appropriate manager in Human Resources, Legal, Corporate Affairs, and Sustainability or senior management, or with the local Compliance contact.

Where a concern remains unresolved through local channels, it can be referred to other corporate channels via e-mail to CodeofConduct@glencore.com or raised anonymously via the 'Raising Concerns' form available at www.glencore.com/raising-concerns.

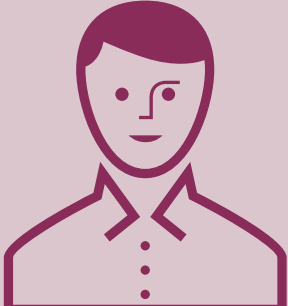
Since not everyone has access to the Internet, telephone numbers to raise concerns are made known to our people via notice boards. Calls are free and routed to a regional compliance contact who speaks the local language. The concern may be raised anonymously.

All queries raised via these Raising Concerns channels are reviewed and assessed promptly.



EXTERNAL COMMITMENTS

HUMAN RIGHTS	International Labour Organisation (ILO) Declaration of Fundamental Principles and Rights at Work.
	United Nations Guiding Principles on Business and Human Rights.
	Universal Declaration of Human Rights.
	Voluntary Principles on Security and Human Rights.
TRANSPARENCY	Extractive Industry Transparency Initiative (EITI).
	Global Reporting Initiative (GRI).
PROGRESS ON SOCIAL, ECONOMIC, ENVIRONMENTAL, AND HEALTH AND SAFETY INITIATIVES	International Council on Mining and Metals (ICMM).
	United Nations Global Compact.



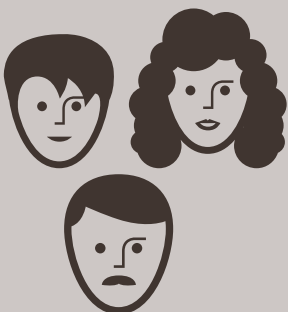
Commitment
We do not tolerate any form of discrimination.



Respect
Respect for fundamental freedoms and human rights.



Child labour
We do not tolerate any form of child, forced or compulsory labour in our workplace.



Diversity
We seek to reflect the diversity of the communities in which we operate in our workforce.



Freedom
We respect the freedom of association and collective bargaining.



Training
We comply with the Voluntary Principles on Security and Human Rights which are reinforced by risk assessments and the training received by the security staff.



Respect for human rights

Operator Cecilia del Carmen Cata is part of the 7% of female employees who work at Minera Alumbraera. 28% of women in Alumbraera are professionals.



We uphold the human rights, dignity and fundamental freedoms of our employees, contractors and the communities in which we live and work.

Our approach

Mining operations can potentially impact on the rights of our workforce or neighbouring communities. We know that our duty is to provide fair solutions to anyone affected by our operations. In addition, we seek to continue strengthening the mechanisms in place to address complaints in a fair and transparent manner.

Our commitment to respecting human rights is explained in the Code of Conduct and Glencore Group Human Rights Policy, which was developed in accordance with the Universal Declaration of Human Rights, the International Labour Organisation (ILO) Declaration of Fundamental Principles and Rights at Work, the Equator Principles, and the United Nations



Operators conducting monitoring activities at the Concentrator Plant.

(UN) Guiding Principles on Business and Human Rights. As stipulated in our Code of Conduct, we uphold the dignity, fundamental freedoms and human rights of our employees, contractors and the communities in which we live and work and others affected by our activities. We ensure that key human rights impacts are embedded in our internal risk assessment processes.

WE DO NOT TOLERATE ANY FORM OF WORKPLACE DISCRIMINATION, HARASSMENT OR PHYSICAL ASSAULT, OR ANY FORM OF CHILD, FORCED, OR COMPULSORY LABOUR. WE SEEK TO REFLECT THE DIVERSITY OF THE COMMUNITIES IN WHICH WE OPERATE IN OUR WORKFORCE.

We respect the rights of our employees and contractors, including the freedom of association and collective bargaining.

At all our assets, regardless of their location or function, we expect our employees to avoid complicity in human rights abuses, and to uphold relevant international standards. We operate grievance mechanisms that are also accessible to our stakeholders.

No human right violations were reported through formal grievance mechanisms or other channels at Minera Alumbrera.

Any potential human rights incidents, including complaints or grievances, are reported to the Health, Safety, Environment and Community (HSEC) Committee, which examines the case and takes corrective action.

1 <http://www.alumbrera.com.ar/files/alumbrera-codigo-de-conducta.pdf>

2 <http://www.glencore.com/assets/who-we-are/doc/Human-Rights-Policy-2015-Sp.pdf>

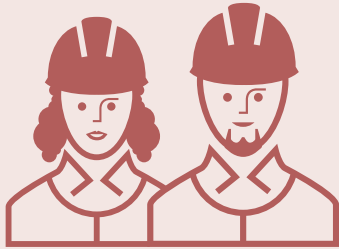
3 For more information, go to the "Commitment to Sustainable Development" chapter.

4 International tripartite engagement initiative established between governments, extractive sector companies and NGOs that serve as guidance for companies to maintain the safety of their operations, while respecting human rights and fundamental freedoms. Glencore joined this initiative in March 2015.

AT MINERA ALUMBRERA, WE CONSIDER THAT THE FOLLOWING ARE THE KEY HUMAN RIGHTS ISSUES TO BE CONSIDERED:



LABOUR



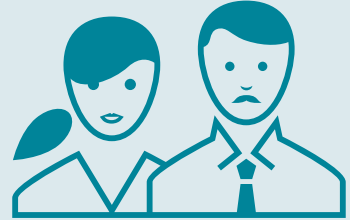
- Right of our employees and contractors to fair compensation and equal pay for equal work.
- Freedom of association
- A safe and healthy workplace.
- A discrimination-free workplace.

SAFETY



- The action of security service providers that protect our people and assets.
- The action of public security forces which operate within our area of influence executing their duties.

COMMUNITIES



- The impact that our operations can have on communities.
- The arrival of migrant workers.
- The impact on culturally sensitive resources.
- Access to resources and economic benefits.

Training

It is crucial that we ensure the protection of our people and our assets. We recognise potential human rights risks in connection with security practices, especially in conflictive environments. Therefore, our security procedures are aligned with the Voluntary Principles on Security and Human Rights. These procedures are underpinned by risk assessments and incident reporting mechanisms, as well as training for our security staff and contractors.

Our security staff was trained on the corporate policies relating to human rights aspects associated to mining operations, our Code of Conduct and Harassment Policy.

► **100%**

of our Asset Security staff received training on Human Rights.

Both Asset Security employees and contractors have completed the course in 2015, which was delivered by trainers of the Human Rights Division of the State Department of Tucumán. Training topics include the origin of human rights, the Argentine Constitution, equality of rights, the basics of International Law and Criminal Procedural Law, labour relations principles, indigenous peoples as well as the duties, bans and powers of security staff.

The next training course, which is conducted every two years, will be delivered in 2017.

Value chain

All procurement contracts between Minera Alumbrera and our contractors working at the site include terms and conditions under which each contractor agrees to submit evidence of their employment arrangements.

At Minera Alumbrera, we check that contractors pay in a timely and proper manner the correct amounts of salaries, social security contributions and Workers' Compensation Insurance (ART) charges, that employees do not work longer than the permitted working hours, and that they receive basic safety training.

No report was filed in 2016 regarding third parties or contractors under investigation for human rights violations.

Child and forced labour

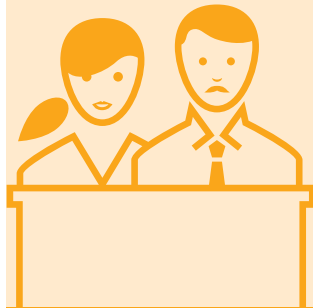
We do not tolerate any form of child, forced or compulsory labour.

We comply with local regulations regarding legal work age. During 2016, our youngest employee and contractor was aged 21.



Management System
We rely on prevention, suitable equipment and tools, and self-care.

We report and investigate
Incidents and communicate them as key lessons.



Senior Management Commitment
to the implementation of the highest safety standards.

Joint Health and Safety Committee
This committee is made up of union and Alumbarrera's representatives.



Performance
Reduction of 75% of disabling injuries.

0.88 TRIFR

0.22 DIFR



Occupational Health
Compliance with the Annual Risk Agent Monitoring Programme across all areas.

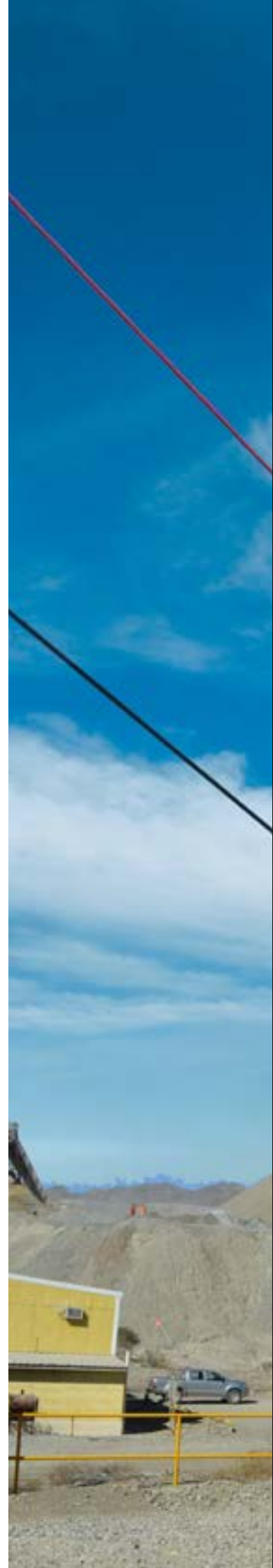
Risk Management
The implementation of Glencore's Risk Management Corporate Framework was completed; internal and external audits on assurance processes were performed.



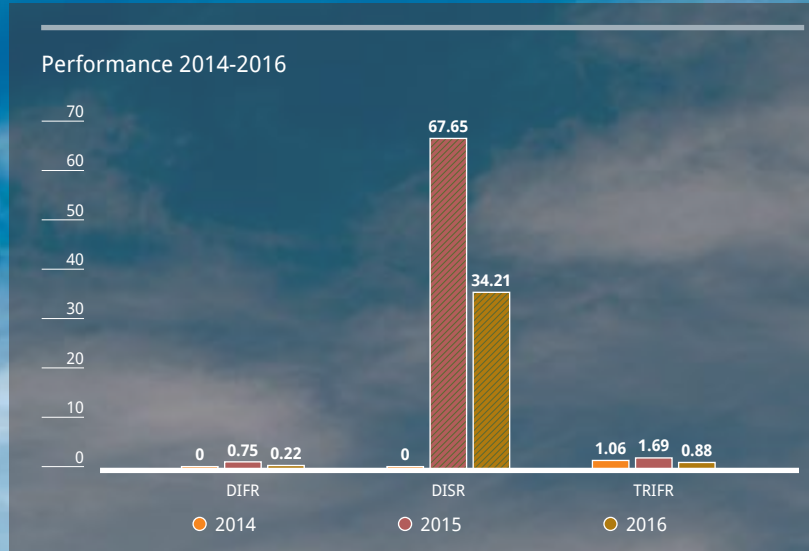
Training
In 2016, training was focused on risk analysis workshops based on positive behavioural changes.



Emergency Practices
Rescue practices with emergency brigaders and medical staff to test the system for emergency evacuation from the pit bottom.



Commitment to health and safety



Rescue practices using zip-wire.

Our Approach

The health and safety of the people working at Alubrera is a priority and strong corporate commitment, which includes not only the senior management but also the employees and contractors engaged in mining operations.

OUR GOAL IS TO MAINTAIN A HEALTHY AND INJURY-FREE WORKING ENVIRONMENT. WE ARE COMMITTED TO ACHIEVING LEADING PRACTICES IN THE MINING INDUSTRY IN TERMS OF OUR STAFF'S HEALTH AND SAFETY. FOR THIS REASON, WE ALWAYS MEET OR EXCEED LEGAL REQUIREMENTS.



We implemented a proactive approach to prevent incidents, which helped us continue improving health and safety conditions at the site in 2016.

Therefore, our Health, Safety and Risk Management strategy is characterised by a proactive approach. One of its main goals is to continuously improve injury and occupational disease prevention and appropriately manage all mining-related risks.

Based on this commitment, we have identified in all areas High Potential Risk Incidents (HPRI) which can cause serious or fatal impacts. We have also implemented critical controls and a robust process to check their effectiveness on site.

Likewise, we maintain an incident reporting culture that improves the investigation process and dissemination of key lessons.

Our management team is fully committed to implementing these standards and procedures. Similarly, our employees are committed to following safety procedures and promptly reporting any circumstances that could jeopardise them, other people, our assets, the environment, and our neighbouring communities.

Our Performance

Due to our daily efforts, we achieved a significant reduction in incidents in 2016, with 75% fewer disabling injuries (see definitions for type of injuries) among our employees and contractors.

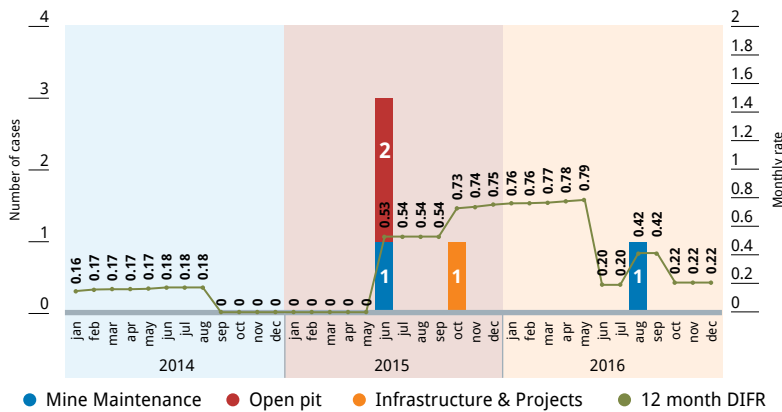
In 2016, there was one disabling injury incident against the 4 reported in 2015.

The incident occurred when a worker from the drilling area was trying to reinstall a power cable of the drilling equipment and, as a result of the inadequate cable pulling technique, the worker lost his balance and fell to the ground, being at the same level, thus injuring one of his arms¹.

¹ By the time this report was prepared, the worker was recovering.

² Classification based on the British Occupational Safety and Health Administration (OSHA).

DIFR. 2014-2016



Safety Measurement Rates²

Disabling Injury Frequency Rate (DIFR)

Incidents resulting in fatalities and occupational injuries or diseases that cause lost time per million hours worked.

Our DIFR was **0.22** in 2016, lower than the 0.75 reported in 2015.

This incident affected our DISR performance, which reached 34.21, although, similarly to what occurred with DIFR, it was still below 67.65, as reported in 2015.

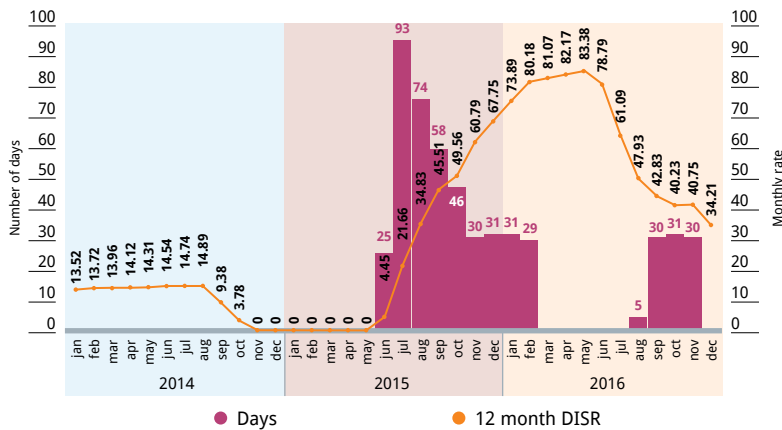
Disabling Injury Severity Rate (DISR)

The days lost due to incidents resulting in fatalities and occupational injuries or diseases that cause lost time per million hours worked.

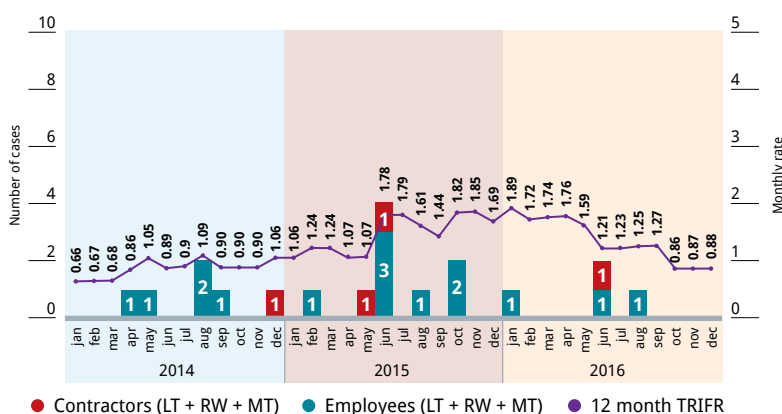
Total Recordable Injury Frequency Rate (TRIFR)
Incidents resulting in fatalities and occupational injuries or diseases that cause lost time per million hours worked.

Our TRIFR was **0.88** in 2016 against 1.69 in 2015..

DISR. 2014-2016



TRIFR. 2014-2016



Regarding the Total Recordable Injury Frequency Rate (TRIFR), our performance was better than the total number of injuries recorded in 2015, when 9 injuries were reported whereas there were only 4 injuries, including the only disabling injury, reported in 2016.

All these incident classifications, assessments, communicational processes and statistical chart preparation were made based on the guidelines of:

- THE ARGENTINE LABOUR RISKS SUPERINTENDENCE,
- THE INTERNATIONAL COUNCIL OF MINING AND METALS (ICMM),
- THE EUROPEAN AGENCY FOR SAFETY AND HEALTH AT WORK),
- GLENORE'S HSEC INCIDENT REPORTING INVESTIGATION GUIDELINES.

	2014	2015	2016
DIFR	0	0.75	0.22
DISR	0	67.65	34.21
TRIFR	1.06	1.69	0.88

Risk Management

In 2016, our sustained Health, Safety and Risk Management continuous improvement process was continued.

In addition to managing our own risks in operational areas of Minera Alumbraera, our participation in different assurance audits conducted in other Glencore copper business units was particularly relevant in 2016.

This participatory process took place in an adequate context where experiences were shared by Health and Safety professionals who work in different mining and smelting operations.

The extent of implementation of Glencore’s Lifesaving Protocols (SAFEWORK) was monitored in order to audit the following sample sites:

- Antapaccay (Perú)
- Altos Punitaqui (Chile)
- Altonorte (Chile)
- Katanga Copper Company (Democratic Republic of the Congo)

The results of these exercises have been satisfactory and have helped strengthen the implementation of corporate protocols.

Regarding local Risk Management, some of the most relevant aspects developed in 2016 were the following:

- Work with the employees involved in internal and external audits of assurance processes at the site.
- Full implementation of Glencore’s Corporate Framework for Minera Alumbraera’s Risk Management.
- Review and update of business and critical risk records.
- Self-assessment of the Risk Management System according to the preventive framework established in each of the “Safework” System Protocols.
- Dissemination of the different measures resulting from the HPRI, CI and LTI analysis performed in other similar sites.

3 HPRI: High Potential Risk Incident which could have potentially resulted in a catastrophic outcome.

Critical Incident: An event which could affect business continuity.

LTI: Lost Time Injury. An injury (excluding occupational diseases) which prevents the injured worker from working a full time shift following the shift when the injury occurred.

Occupational Health

The duties of this area include providing assistance on health and safety to management in connection with existing risk agents, associated occupational diseases and control techniques to be implemented to ensure healthy work environments.

Based on the definition of the International Labour Organisation, World Health Organisation and Argentine Occupational Health laws, all work-related health problems are preventable. Therefore, we are working on preventive and training programmes.

Being aware that noise, dust and whole-body vibrations are the most common risk agents in our operations which can potentially cause occupational diseases, we have plans in place to control exposure of our employees and contractors.

CONTROL PLANS ARE FOCUSED ON THREE BASIC ASPECTS:

DETECTION

OF RISK AGENTS AND CONDUCT OF JOB POSITION STUDIES ABOUT NOISE, DUST, SMOKE AND VAPOURS, WHOLE-BODY VIBRATION, AND ERGONOMIC ASSESSMENTS.

This objective is achieved through Risk Agent measurements performed jointly by Minera Alumbraera and the Labour Risk Insurer in accordance with an annual monitoring schedule agreed upon by both parties. State-of-the-art technology is used in these monitoring activities.

EARLY DIAGNOSIS

OF PRE-EXISTING PATHOLOGIES AND DETECTION OF OCCUPATIONAL DISEASE TRIGGERING CONDITIONS.

Pre-existence is detected through pre-occupational medical examinations. Triggering conditions are identified through annual medical examinations.

TREATMENT

OF OCCUPATIONAL DISEASES.

Once diagnosed, occupational diseases are treated through the Labour Risk Insurer.

WE HAVE REDUCED THE NUMBER OF INDIVIDUALS EXPOSED TO SUCH AGENTS IN OUR OPERATIONS YEAR AFTER YEAR THROUGH THE STRICT IMPLEMENTATION OF EACH OF THE ACTIVITIES LISTED ABOVE.

In 2016, lead concentrate from Glencore's Minera Aguilar started to be shipped from Puerto Alumbreira (General San Martín, Santa Fe province). One of the priority activities has been the implementation of a Preventive and Training Programme.

This plan includes the following activities:

- Baseline and regular lead poisoning tests conducted semi-annually to all staff involved in this operation.
- Preparation of a schedule of activities to monitor and control the work environment.
- Preparation of a specific risk map for this new operation.
- Staff training delivered by occupational toxicologists.
- Visit to other similar operations.

By the time this report was prepared, all test results involving the staff and workplace are below the standards established by current Argentine labour laws.

Regarding other Minera Alumbreira operations, the risk agent monitoring plan was developed and implemented in 2016 together with the Labour Risk Insurer.

Leadership

In order to continue strengthening our leadership in preventive management, we focused on providing training workshops on behaviour-based risk analysis (behaviour-based safety) aimed at middle managers. This tool is helpful to understand the decision-making process of individuals in order to seek positive changes in behaviour.

This Risk Analysis system was launched through different workshops targeted at 100 key employees with leadership roles.

Joint Safety Committee

In line with the provisions of the Collective Bargaining Agreement, we have an advisory Joint Health and Safety Committee made up of representatives of the union and Minera Alumbreira.

Monthly meetings are held where different safety and health issues affecting our employees are discussed.

During 2016, some of the activities conducted by this Joint Committee include:

- a) Cooperation with site-based technical and medical services on occupational safety and health issues.
- b) Encouraging worker's participation in health and safety programmes and promoting initiatives for effective prevention of occupational risks.
- c) Visits to different jobs and work places.
- d) Getting familiar with documents and reports related to working conditions relevant to the performance of their duties.



Training workshop on Behaviour-Based Risk Analysis.



Mine operators Ramón Chayle and Fernando Segovia wearing safety equipment to climb the escape ladder during a drill.

Emergency Practices

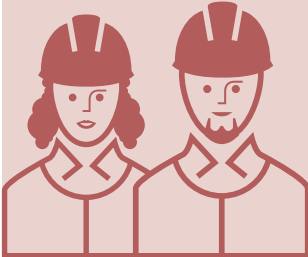
► 54

Minera Alumbreira emergency brigaders spent an average of 163 hours per month training on the site.

During a review of critical risks, in the face of a potential landslide from the open pit walls, the need for workers to have an alternative way out from the pit bottom was identified. Should traditional accesses be temporarily blocked, an emergency ladder will be placed to facilitate evacuation.

Emergency control groups carried out activities related to the use of this new ladder. Thus, rescue practices with emergency brigaders and medical staff were performed to test the system. In addition, mine operators were trained on use of relevant equipment through drills.

By the time this report was prepared, there was no need to use such ladder.



Employment

- Direct employees and contractors: 1,850
- Employment multiplier at national level: 7.4¹
- Employment multiplier in Primary Impact Area: 2.5



Origin

- 51.3% of employees are from Catamarca, 41.9% are from provinces of Northwestern Argentina and 6.8% are from other provinces of the country.



Gender

- 7.1% of our employees are women.
- 65.9% of female employees are from Catamarca, 32.9% are from Northwestern Argentina provinces and 1.2% are from other parts of the country.
- 62% of female employees are technicians or operators.



Employee benefits

- Site-based higher education training.
- Transportation, first-class recreation and sports facilities and activities, and ongoing training.



Training


- Each employee receives an average of 54 hours of training annually.
- Training expenditure in 2016: \$55,693.
- 117 employees took classes of one of the site-based courses of study: Technical Degree in Gastronomy and Technical Degree in Mining.



Salaries

- Salaries and benefits paid: \$51,156,947

Our work team



Engineer Luis Armas checking the fleet of heavy trucks as it moves to give information related to open pit production to the truck operator.

Our approach

Our Human Resources management approach prioritises human development through ongoing training to provide growth opportunities, team work, competitive salaries, and a safe and healthy workplace.



Daniel Andreola and Daniel Moreno, from the Mine and Planning operational area, overseeing works carried out in the road to Bajo el Durazno.

Our values are focused on trust, engagement, mutual respect, integrity and care for our people. We seek to be recognised as a leading and attractive miner to recruit and retain high-potential talent.

We foster career development, accountability for safe work practices, and entrepreneurialism in our workforce. People are hired based on the skills and experience specifically required for the job in a discrimination-free manner.

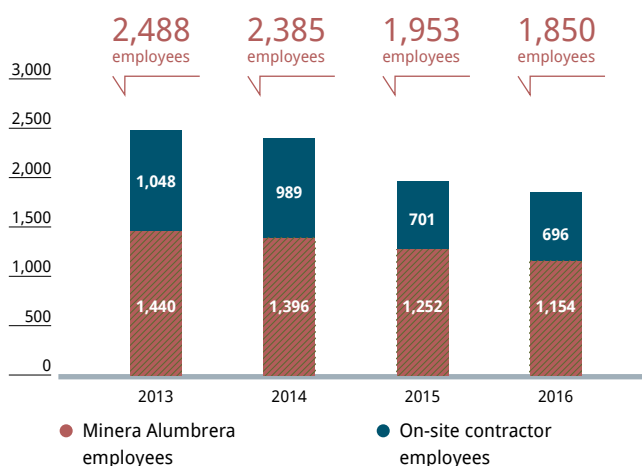
Our commitment to the development of the local people has materialised in job creation that is meaningful for the local economy, in terms of the number of jobs, salary levels and job quality. This required ongoing expenditures for human capital development.

Employment

In 2016, 1,850 people worked directly at Minera Alumbrera, out of which 1,154 are employees on payroll and 696 are contractor employees. 785 employees are under the Collective Bargaining Agreement of the Argentine Mine Workers Association (AOMA), while 369 are non-unionised employees. No new hires were made during this period since the project is undergoing the closure of operations stage.

Our employee turnover rate was below 1%.

Total direct jobs evolution from 2013 to 2016



Source: Minera Alumbrera

The number of Minera Alumbrera employees was reduced by 7.8%, since 98 employees chose voluntary retirement (7 women and 91 men).

¹ This includes the impact that the demand for Alumbrera commodities and services has on employment, and the multiplying effects on the successive links of the productive chain, as well as the effects of other inflows of revenues that our project contributes to the Argentine economy, such as employee salary spending and public expenditure owing to tax revenues generated. In certain mining impact studies, impact calculation is restricted to the first component referring to inter-sectorial relations (by supplies and services demand) and multipliers of nearly 5 are estimated. In this report the impact on employment was estimated comparing a scenario "with the project" versus one "without the project" and, therefore, the significance of all revenue inflows contributed by Alumbrera to the economic system is considered and described in the "Creating Shared Value" chapter.

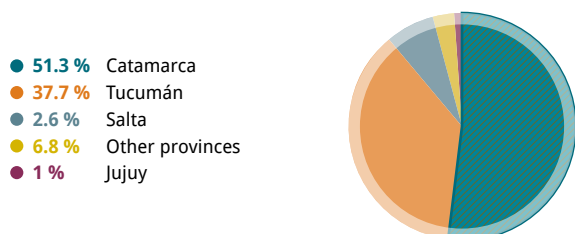
Origin

Minera Alumbrera has developed an Employee Recruitment and Hiring Policy based on international principles and regulations of the International Labour Organisation, while upholding and complying with the applicable Argentine labour laws. Within this legal and human rights framework, there is the fundamental principle of no discrimination in employee selection by reason of age, gender, beliefs, and origin, among others and ensure equal opportunities for all individuals who wish to be part of our company.

Although the place of residence is not a condition to hire potential employees, under the Equal Job Opportunity principle, Minera Alumbrera is committed to prioritise local talents who meet the requirements and have the skills desired for each job, based on their qualifications and experience.

MORE THAN HALF OF MINERA ALUMBRERA EMPLOYEES ARE FROM CATAMARCA AND 93.2% ARE FROM NORTHWESTERN ARGENTINA PROVINCES.

Breakdown of Minera Alumbrera employees by province of origin, 2016



Total: **1,154** employees

Source: Minera Alumbrera

592

is the total number of employees from Catamarca, after 62 employees voluntarily retired the previous year.

Distribución de la planta de empleados por sexo y provincia. Cantidad de personas. Años 2014, 2015 y 2016

CATAMARCA

2014			2015			2016		
M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
636	61	697	595	59	654	538	54	592

TUCUMÁN

2014			2015			2016		
M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
500	30	530	435	26	461	411	24	435

SALTA

2014			2015			2016		
M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
45	3	48	32	2	34	28	2	30

JUJUY

2014			2015			2016		
M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
20	1	21	19	1	20	17	1	18

OTHER PROVINCES

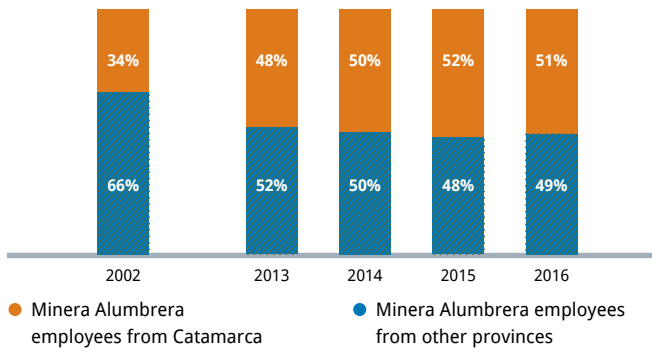
M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
98	2	100	82	1	83	78	1	79

TOTAL

M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
1,299	97	1,396	1,163	89	1,252	1,072	82	1,154

Despite the reduction in workforce from this province, the number of Catamarcan employees has remained at high levels as a result of our local hiring promotion efforts throughout the life of the project. For instance, in 2002, 34% of all our employees were from Catamarca, while that number grew to more than half, at 51.3%, in 2016.

Percentage of employees from Catamarca for 2002 and 2013-2016



Source: Minera Alumbreira

► 429

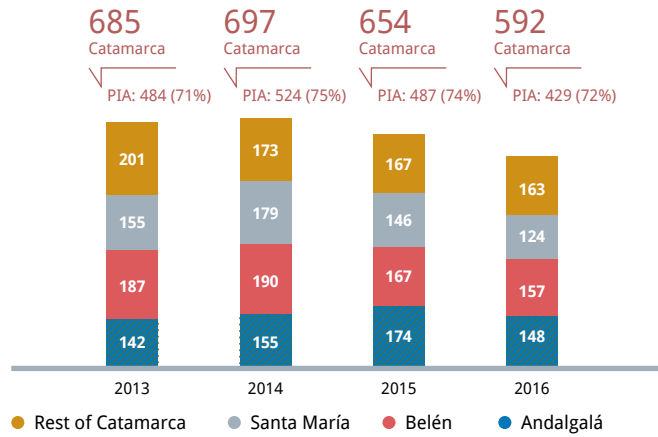
employees come from the Andalgalá, Belén and Santa María districts, which are part of the Primary Impact Area (PIA), representing 37% of our total workforce.



The percentage of employees from Catamarca at the site has increased over the years of operations until it reached 51.3% in 2016.

Out of the 62 employees from Catamarca who chose voluntary retirement, 58 were from the PIA: 26 from Andalgalá, 10 from Belén and 22 from Santa María.

Breakdown of employees from Catamarca by district. Number of employees and percentages for 2013-2016



Source: Minera Alumbreira

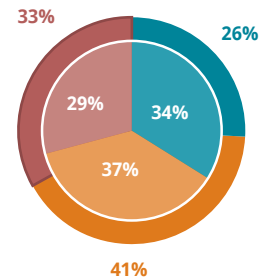
The Alumbreira manpower from the three districts is approximately proportional to the total population of those jurisdictions, according to the data available from the last official census.

Breakdown of PIA employees and total PIA population by district, 2016 (employees) and 2010 (population)

Outer ring: Total population and % over total PIA population (68,523 people)

Inner ring: Alumbreira employees and % over total PIA population (487 employees)

- Santa María
- Andalgalá
- Belén



Source: Minera Alumbreira

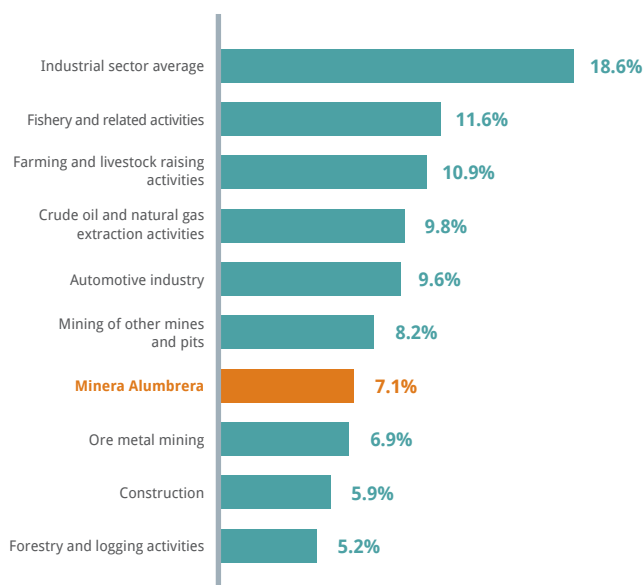
Percentage of women

Throughout the 19 years of life of the project, we have promoted the hiring of women and local workforce.

IN 2016, OUR TOTAL WORKFORCE OF 1,154 EMPLOYEES INCLUDED 82 WOMEN. THE PERCENTAGE OF FEMALE EMPLOYEES STAYED THE SAME OVER THE LAST TWO YEARS, REPRESENTING 7.1% OF THE TOTAL WORKFORCE.

The percentage of women at Minera Alumbreira is slightly above the average female employee rate in the Argentine ore mining industry of 6.9%. However, this percentage of female employees is still lower than in other primary sector activities and the average rate applicable to the industrial sector.

Percentage of females in jobs: female employee rate by economic activity (Q2 2014) and in Minera Alumbreira (2016)²

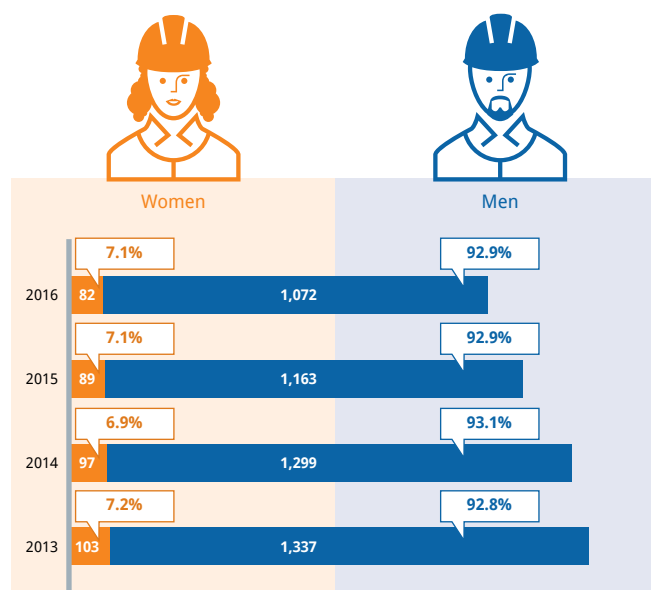


Source: Minera Alumbreira and the Employment and Business Dynamics Observatory of the Argentine Labour, Employment and Social Security Department.

The percentage of female employees in the Alumbreira workforce has not changed against the previous year level, since the group of workers who chose voluntary retirement comprised the same proportion of men and women as the total workforce.

² The data provided by Minera Alumbreira applies to 2016. The data provided by the Employment and Business Dynamics Observatory of the Argentine Labour, Employment and Social Security Department applies to Q2 2014 (last published data).

Number and percentage of female employees from Catamarca out of the total Alumbreira female employees (2013-2016)



Source: Minera Alumbreira

Out of the 82 Alumbreira female employees, 81 are from Northwestern Argentina provinces, out of which two thirds are from Catamarca. This percentage has increased steadily from 54% in 2013 to 66% in 2016.

Number and percentage of female employees from Catamarca out of the total Alumbreira female employees (2013-2016)



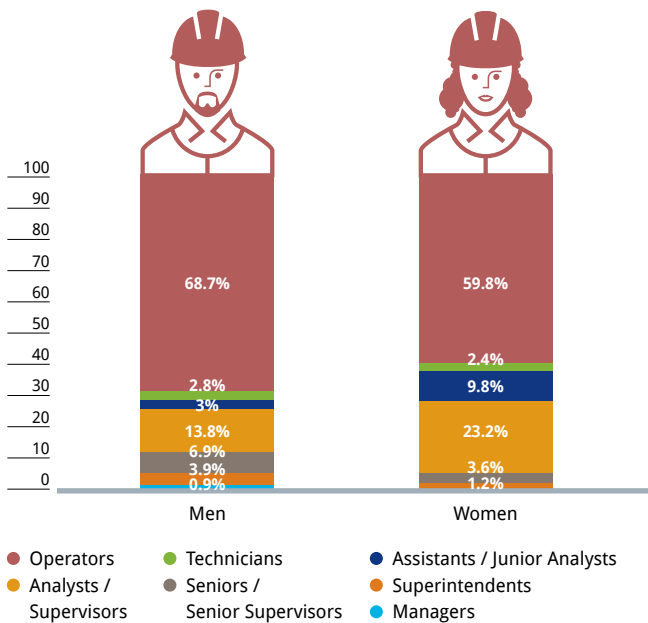
Source: Minera Alumbreira

The breakdown of Catamarcan employees by gender shows that the relative percentage of women from Catamarca is higher than in the total workforce (7.1%).

While 68.7% of Alumbreira male employees are operators, 59.8% of women belong to this group. In contrast, the percentage of women in the group of assistants and junior analysts is relatively higher than that of men. Out of the total male employees, 3% of men are assistants and junior analysts, while 9.8% of women fulfil this role. There is also a higher relative percentage of female employees holding analyst and supervisor positions, i.e. 23.2% of total female employees against the 13.8% of male employees who perform this role.

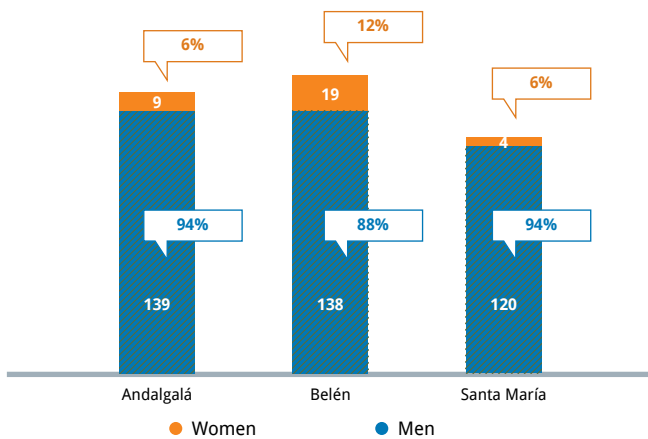
In 2016, there were no female managers and there was only one female superintendent.

Breakdown by gender and role at Alumbreira, 2016



Source: Minera Alumbreira

Breakdown of Minera Alumbreira employees from PIA by gender and district



Source: Minera Alumbreira

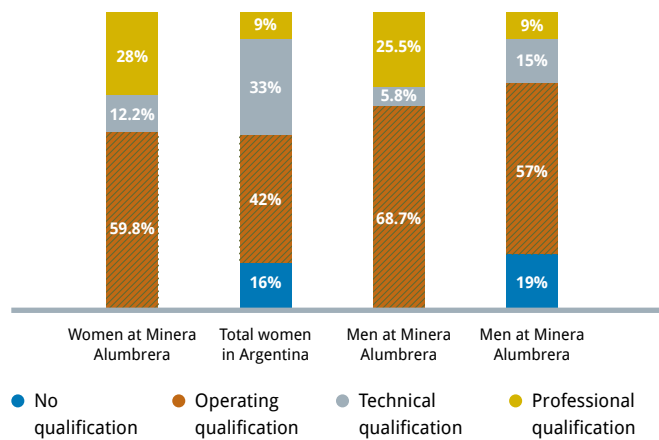
The breakdown of employees by level of qualification for the job shows that Minera Alumbreira's employees are relatively more qualified than the average employee in the Argentine economy. In both genders, the percentage of professionals is higher in Minera Alumbreira than in the rest of the Argentine economy.

➤ 28%

of Alumbreira female employees are professionals, while the percentage of professional women in the rest of the country is 9% of the total number of working women. At Alumbreira, the percentage of male employees who are professionals is 25.5%, while in the rest of the country it is 9%.

In addition, at Minera Alumbreira, there are no unqualified workers, while 16% of women and 19% of men in the Argentine economy work in positions that require no job qualifications.

Breakdown of employees by level of qualification for the job. Comparison by gender between Minera Alumbreira (2016) and the total Argentine economy (Q2 2014)³



Sources: Minera Alumbreira and the Employment and Business Dynamics Observatory of the Argentine Labour, Employment and Social Security Department.

More than half of Alumbreira employees are under 40. Most employees, i.e. 471, are aged between 31 and 40, representing 41% of the total workforce. The number of employees aged below 30 is 163, representing 14% of the total workforce.

³ The data provided by Minera Alumbreira applies to 2016. The data provided by the Employment and Business Dynamics Observatory of the Argentine Labour, Employment and Social Security Department applies to Q2 2014.



66% of Alumbreira female employees are from Catamarca.

WOMEN AND MINING

MINERA ALUMBRERA SUPPORTS AND PARTICIPATES IN THE MINING DEVELOPMENT FOUNDATION (FUNDAMIN)'S WOMEN COMMITTEE, WHICH SEEKS TO STRESS THE IMPORTANCE OF THE ROLE OF WOMEN IN MINING OPERATIONS BY LEADING THE WAY AND FACILITATING AND IMPLEMENTING ACTIONS THAT ALLOW FOR AN EQUITABLE WORKPLACE, THROUGH DISCUSSIONS AND LEARNING OF GOOD PRACTICES.

Its mission is to create a space for ongoing discussion through the organisation of a countrywide Forum of Women Working in Mining Operations where to share experiences and contents that strengthen the role of women in mining activities.

Its main goal is to strengthen the growth and participation of women in the mining industry.

Since 2010, a forum dealing with contents associated to its goals, including strengthening the identity and leadership of women at work, improving the quality of life of women at the workplace, generate a nationwide discussion about the role of women in the mining industry, has been held annually.



**ROMINA
PAMELA NIETO**

- **POSITION AT ALUMBRERA:** Environmentalist geologist

- **AGE:** 31, one child

- **PROFESSION:** Bachelor in Geology, National University of Catamarca, and teacher at the School of Technology

- **PLACE OF BIRTH:** Catamarca

Romina joined Minera Alumbreira by late 2011 when she applied for the job of Environmentalist Geologist.

Her main duties are to monitor and follow up mine closure programmes, from water and weather station monitoring activities to waste dump rehabilitation. Her work shift pattern is 8 x 6.

“The fact that each area at Minera Alumbreira, from operational to administrative areas, cares about protecting the environment and ensuring that each activity is performed avoiding changes in the natural environment is very valuable.”

“More and more women go to study geology, and in some cases they even surpass the number of male students. This shows that the idea that “mining and field works are only for men is changing.”

“Not only did Minera Alumbreira give me learning tools, but also encouraged me every step of the way to improve myself. This is how I was able to grow, just like my male co-workers. Regarding values, Alumbreira teaches us to live together during eight working days, to respect and value one another as persons, regardless of the position held.”

Romina seeks to learn something new every day and to improve as a professional with the help of her co-workers. Her long-term plan is to obtain a PhD in Geology and to continue teaching at the University.



**ANTONELA
MUGETTI**

- **POSITION AT ALUMBRERA:** Site services

- **AGE:** 27, married

- **PROFESSION:** Bachelor in Nutrition

- **PLACE OF BIRTH:** Tucumán

Antonela joined Alumbreira in 2011 for a 6-month internship and ultimately obtained a permanent job. At the time, she only had to submit her thesis proposal to graduate.

At present she works at the Site Services area in the Human Resources Management department as a catering and hospitality services coordinator. Her work shift pattern is 4 x 3.

She performs sanitary check-ups on food to ensure compliance with the Food Hygiene and Safety standards in all stages of food production to ensure that diners get healthy and quality food, as well as a balanced menu. The canteen is open 24 hours a day and serves an average of 700 diners on a daily basis. She is also in charge of managing accommodation for around 1,400 people who have been assigned different work shifts.

“Mining is a very interesting and necessary activity to obtain everything that we need today. The way Alumbreira conducts mining operations in a responsible manner, especially in terms of environment and community has drawn my attention.”

“There are no longer jobs suitable for men or women. Women are increasingly going into an employment market with a diversity of trades and/or professions that were believed to be for men only. At the site, there are women who drive huge trucks and other heavy vehicles.”

“Alumbreira gave me learning tools and taught me values over these last 5 years: the focus is always placed on continuous improvement and teamwork. It also provided courses, talks and workshops. As for the values, ethics and morals, commitment and camaraderie stand out for me.”

Salaries

We guarantee a fair remuneration system, where equal salaries are paid regardless of gender, place of origin, age, ensuring equal pay for equal work.

Our salary policy provides that remuneration must satisfy not only the basic household needs of our employees, but they must also allow for the growth of our workforce.

► **\$75,297,943**

were paid by Minera Alumbraera to employees as gross salaries and benefits (including social security payments and other benefits).

Gross salaries paid by Alumbraera since the project started in 1998 to this date –based on the average exchange rate of each year– totalled \$873.3 million. Over our 19 years of operations, the annual average amount is \$45.9 million. The amount of salaries (including social security payments) paid in 2016 is \$70.7 million, which is 53% above the historical average value. Despite the proximity of mine closure, Alumbraera maintains a relatively high level of remunerations for this last stage.

► **\$46.6 million**

is the amount paid by Alumbraera as net salaries, representing a nominal increase of 29.5% against the previous year level⁴. Salaries increased 3,017% between 2002 and 2016, i.e. the amount paid as net salaries nominally increased 31.2 times.

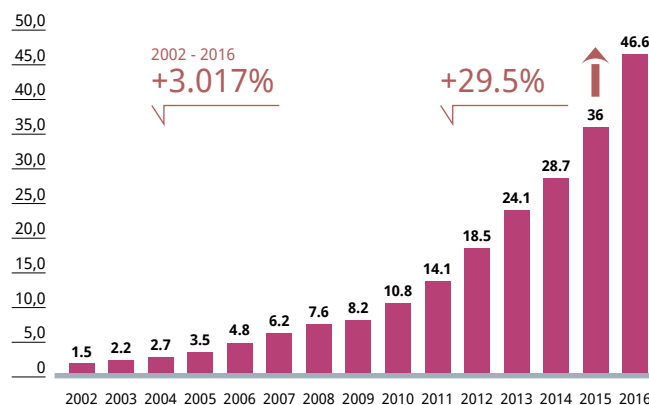
Similarly, such commitment is shown by the remuneration paid to our employees. Since the onset of the project, Minera Alumbraera has increased the total amount paid as salaries due to the increase in the number of workers as well as the sustained increase in the average salary.

Compared with the rest of the Argentine economy, the average salary paid at Minera Alumbraera grew significantly during the life of the project. While the average salary paid to a registered private sector employee increased 14 times in nominal terms between 1998 and 2016, salaries at Minera Alumbraera increased 61 times, i.e. 4.5 times as much.

⁴ At constant values based on average exchange rate for year 2016 equal to ARG\$/US\$ 14,7774.

⁵ As of September 2016, the average salary of a registered private sector employee was \$1,325 per month and the adjustable minimum living wage was \$512 per month, according to the Argentine Labour, Employment and Social Security Department.

Annual net salaries paid by Alumbraera in million dollars for 2002-2016



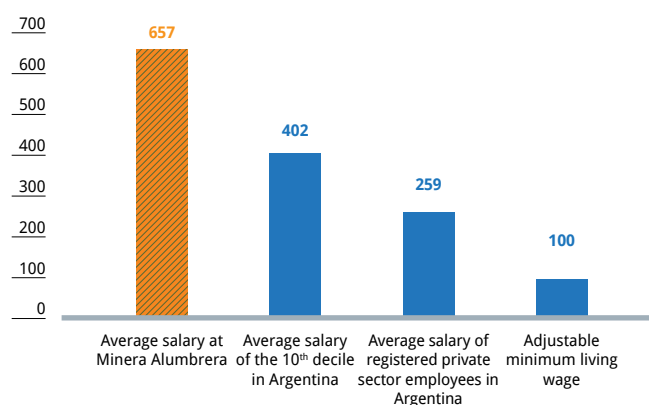
Source: Minera Alumbraera

Minera Alumbraera employees are ranked among the highest paid groups in the Argentine economy, due to their different work conditions, temporary separation from their home during the work period, and the qualifications required to perform their jobs. For example, the average remuneration is 2.5 times the average salary of registered private sector employees in the Argentine economy⁵.

The average gross salary, including social security contributions and severance payments, is \$5,437 per month, which is 44% higher than the previous year level.

Salaries paid by Alumbraera vs. other pay scales, 2016.

Base= adjustable minimum living wage = 100.



Sources: Argentine Statistics and Census Institute (INDEC), the Labour, Employment and Social Security Department (MTEySS), and Minera Alumbraera. The INDEC data (10th decile salaries) applies to Q2 2016. Private sector salary and minimum wage as of September 2016.

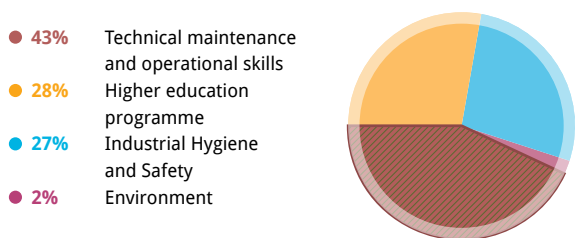
The average net salary at Minera Alumbraera grew 40% against the previous year level. In 2016, the average salary at Alumbraera was 64% higher than the average salary earned by the 10th decile (a group formed by the 1.6 million of the highest paid employees in the country).

Education and training

Having qualified staff is one of the pillars of the development strategies that Minera Alumbreira has implemented over years of operations. Therefore, we consider that it is important to continue spending on the training and education of our employees.

In 2016, 2,071 courses were taught totalling 76,255 hours of training, out of which 81% were allocated to Alumbreira employee courses and 19% to contractor company courses. A total of \$55,693 was spent on training in 2016.

Breakdown of hours of training by course subject, 2016



Total: 76,255 hours

Source: Minera Alumbreira

	Hours for Minera Alumbreira employees	Hours for Contractors	Number of courses	Number of attendees
INDUSTRIAL HYGIENE AND SAFETY	13,498	7,467	1,293	22,491
ENVIRONMENT	1,106	145	83	555
TECHNICAL SKILLS	30,168	2,811	719	2,717
Programa Terciario	17,100	3,960	2	117

6 Más información en el capítulo "Gestión social y ambiental del Cierre de Mina".



HIGHER EDUCATION PROGRAMME (Technical Degree in Mining and Technical Degree in Gastronomy)

This initiative mainly addresses the strategic development goals of our employees in the long term and, at the same time, creates growth opportunities in the region under the Mine Closure Plan. In this way, we seek to improve the employability of our employees upon the end of the life of the deposit.

In 2016, the two site-based courses of study taught after work hours in the building exclusively used for the "Minera Alumbreira Education and Training Centre" ended. Agreements were entered into with the Tucuman Education Department and the National University of Catamarca to deliver such courses. 102 employees obtained their higher education degrees, including 48 Technical Degrees in Mining and 54 Technical Degrees in Gastronomy.



SKILL DEVELOPMENT PROGRAMME

During 2016, we conducted a training preference survey among our employees in order to prepare a comprehensive programme for the development of personal and technical skills to be able to conduct different activities in the future. This programme to be developed in 2017 will have technical and behavioural, as well as financial, training, among other subjects⁶.

► 100%

of non-unionised employees were assessed on their performance in 2016.

No part-time jobs were filled in 2016.

BENEFITS



Company benefits are rolled out equally to all workers, whether they are permanent or contract, full-time and part-time employees. There is no unfair treatment or discrimination in staff hiring conditions.

Accommodation, food and transport services are available to all our employees. Among the services that we provide to our employees, the site has a gym with fitness instructors; football, volleyball, basketball and hockey fields, as well as paddle and tennis courts. It also has a small screening room and a recreation room, including pool billiards, table football and ping

pong tables and video game consoles.

Fitness instructors (one for each work shift) give spinning, aerobicing and cross fit classes. They also teach training routines for both athletic and overweight people.

We provide a suitable place to rest. Accommodation facilities consist of 550 rooms at the permanent campsite and additional 720 rooms at the temporary campsite.

This service is managed by a company from Andalgalá. There are also a laundry room and

three barbecue areas. All these services are provided at no cost.

Employees are transported by bus to and from Andalgalá, Belén, Santa María, and the capital cities of Catamarca and Tucumán by two companies from Catamarca and one from Mendoza. In-house transport services are provided by a bus company from Santa María.

Our caterer has maintained its ISO 22000 Standard Certification since 2010. This management tool ensures food quality and safety.

Labour relations

Labour relations are a major responsibility in managing our human capital. We respect the relationship established between the trade union and our employees. We are also committed to maintaining an effective, honest and ongoing communication and mutual trust between Alumbra and union representatives. There is a commitment by both parties (union and Minera Alumbra) to maintain social peace in the resolution of conflicts and communicate appropriately to address matters of mutual interest.

There were no strikes at our site in 2016.

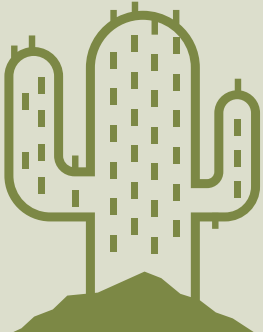
In the event of significant changes occurring in the organisation that could affect our employees and their representatives, we are committed to communicating such changes with sufficient time in advance to ensure a smooth transition. The minimum notice term varies in line with operational requirements and, in some cases, it has been established in the relevant Collective Bargaining Agreement.

Maternity and retirement

We support all those employees who are about to retire by providing them with professional advice, social security counsel, temporary health care coverage and other benefits, depending on each particular case.

Minera Alumbra complies with the Argentine Employment Contract Law and Collective Bargaining Agreement regarding maternity protection, ensuring that all our female employees return to work under the prior work conditions after their maternity leave. In 2016, 90% of our female employees who were on maternity leave returned to work.

Based on our commitment to protect maternity, our female employees who work at the site are benefited with an extended paid leave prior to childbirth, available as from the third trimester of pregnancy.



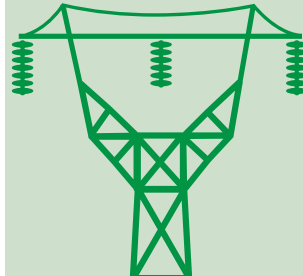
Biodiversity

We protect biodiversity through programmes such as revegetation with native species, relocation of cardon cacti and monitoring of local vegetation and wildlife in our area of influence.



Water

- Water consumption: 675 l/s
- Level permitted by authorities: 800 l/s
- Recycled water: 73%
- No water discharges into rivers or aquifers downstream the site.



Energy

- Direct use: 875,035,834 kWh
- Average ratio: 25 kWh/t
- Indirect benefits of our powerline to communities along the powerline route.



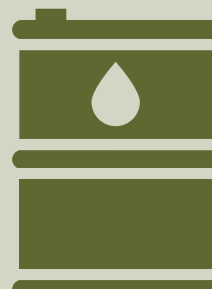
Climate Change

We understand our responsibility in managing Greenhouse Gas (GHG) emissions and seek to contribute to the global transition towards a low-carbon economy. We have three weather stations recording environmental variables from the site and nearby communities.



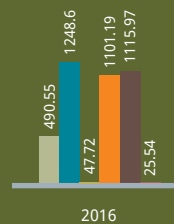
Air

- There are 10 monitoring stations at Bajo de la Alumbrera and in neighbouring communities.
- PM10 concentration: lower than reference value of 150 ug/m³ set out by Law 24,585.
- Lead concentration: well below reference value of 1.5 ug/m³.
- Our mining operations do not affect neighbouring communities.



Waste

Total waste generated in 2016 was 4,029.57 t.



1 It refers to the open pit.

Environmental protection

Técnicos de Alumbraera toman muestras de agua en el río Las Cuevas junto a personal de la Secretaría de Minería de Catamarca.

At Minera Alumbrera, we are committed to protecting, in a responsible way, the environment and the natural landscape surrounding the deposit and the neighbouring communities, where most of our employees and their families live.

OUR COMMITMENT TO THE ENVIRONMENT RELIES ON A POLICY FOCUSED ON THE EFFICIENT USE OF NATURAL RESOURCES, THE MITIGATION OF ANY IMPACTS CAUSED BY OUR OPERATION WHICH COULD AFFECT THE ENVIRONMENT, BIODIVERSITY PRESERVATION, WASTE REDUCTION, LAND REHABILITATION AND MINE CLOSURE PLANNING.

The environmental management system is certified under ISO 14001 standard¹. This system controls mine site and external operations: the Filter Plant in Tucumán, concentrate transport by railway and loading at port facilities in Santa Fe province.

We also have a Quality Management System certified under ISO 9001 for water or soil sampling –an essential process to assess monitoring quality– valid for all sites where we operate.

Just like Alumbrera did during the entire life of its operations, all requests made by the relevant regulators were complied with in 2016.

In addition, the Filter Plant chemical laboratory, where water and soil samples are monitored, had its accreditation under IRAM 301 (ISO 17025) renewed for the fourth consecutive time until 2020.

Main environmental permits renewed in 2016

- Generation and discharge (Tucumán)
- Hazardous waste generation and final disposal (Catamarca, Tucumán, countrywide)
- Pathological waste generation and final disposal (Catamarca)
- Mandatory Environmental Insurance in compliance with Argentine Environmental Law 25,675 for the mine site, Filter Plant, slurry pipeline and port facilities (countrywide).

In 2016, no penalties or fines were applied by the competent regulator in connection with environmental performance.

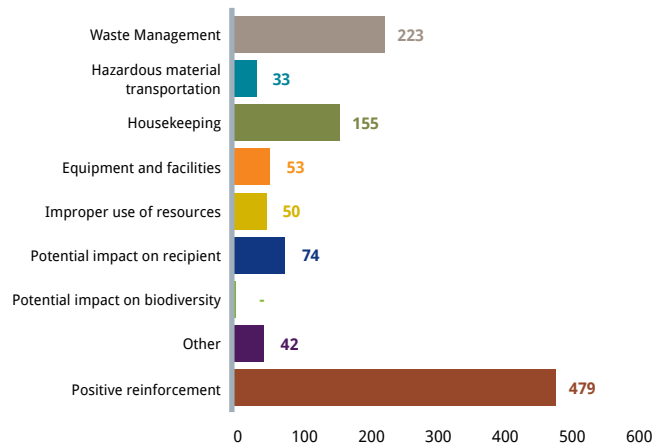
Environmental leaders

Environmental leaders are part of a work team made up by employees from different site areas who provide environmental support. They communicate good practices, solve everyday problems, manage environmental risks and verify compliance with environmental observations.

Environmental observations are proactive tools that help prevent environmental incidents. The greater the number of observations detected, the lower the potential risk of serious incidents occurring.

► **1,106** observations related to environmental protection were made in 2016.

Environmental observations. 2016



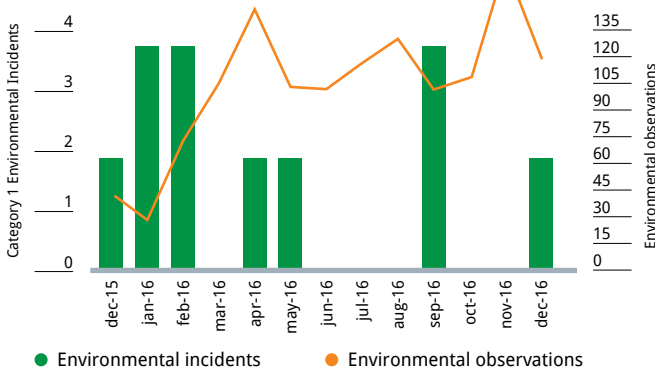
Source: Minera Alumbrera

¹ Recertification of the Environmental Management System was obtained by late 2014 and will be valid until 2017. It includes two external audits per year.



Under Minera Alumbraera's "Reforestation and Green Areas" educational project, rural high school #21, "Punta de Balasto", Santa María district, received 110 carob tree seedlings and educational information.

Proactive indicators in 2016



Source: Minera Alumbraera

In 2016, environmental leaders planned a schedule of crossed environmental inspections across different areas which resulted in environmental observations and improvement opportunities.

NO INCIDENTS HIGHER THAN CATEGORY 1² HAVE BEEN REPORTED IN THE LAST 7 YEARS. IN 2016, THERE WERE 10 CATEGORY 1 ENVIRONMENTAL INCIDENTS.

² Category 1: minor environmental impact which does not damage the environment, is not to be notified to any regulatory authority and does not generate any impact. Categories range between 1 and 5, showing an increase in impact, damage and restoration.

Training

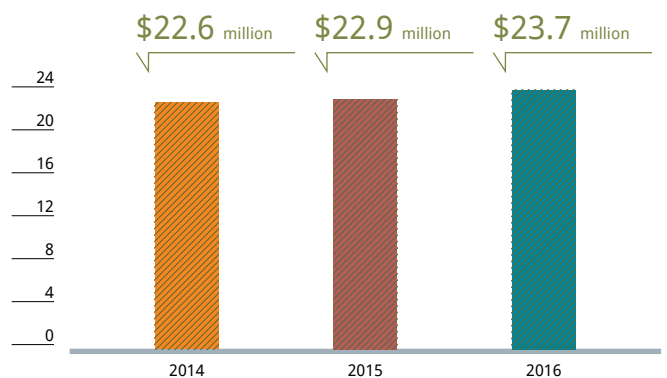
An annual environmental training programme for employees and contractors was developed, and site visits were made. The main goal is to communicate our environmental policies across all work areas.

In 2016, 81 environmental training courses, attended by 1,233 people, were delivered on topics such as waste management, safe work, spill management and prevention, environmental factor identification, biodiversity, certifications, environmental observations, and archaeological heritage, among others.

Expenditure

Minera Alumbraera spent \$23.7 million on environmental initiatives, including operating expenses (monitoring programmes and training), capital expenditure, permits and consulting services.

Environmental expenditure in million pesos for 2014-2016



Source: Minera Alumbraera



Minera Alumbreira technicians conducting quarterly monitoring activities to measure the Los Nacimientos River flow and parameters, together with the Catamarca Mining Department.

WATER MANAGEMENT AND USE

Freshwater is a scarce natural resource that is essential for life and strategic for production activities. The area where we operate is dry and water availability is limited. Therefore, we try to optimise water use by reclaiming and reutilising water in a major part of the process, instead of using freshwater.

• Water withdrawal

Freshwater used for our operations is withdrawn from the Campo del Arenal aquifer, in Santa María district, Catamarca. There is a large unconfined aquifer that stores water flowing from hills surrounding the basin.

To the southwest of the basin, there are 8 deep wells from which water is extracted and then pumped through a 21 km-long pipeline to be discharged into a freshwater dam at the site. Water withdrawal is restricted to this area and does not affect water availability for nearby communities or surface water flows from the rivers close to basin. People from neighbouring communities use water taken from wells drilled in the upper aquifer. Minera Alumbreira withdraws water from the deep aquifer.

The groundwater level quarterly and semi-annual monitoring activities confirm the results obtained from predictive models regarding the extent of the aquifer depression and recovery times.

Approximately every 5 years, the mathematical model is recalibrated adding all the information obtained during that period: water levels and quality, well extraction flows and surface water courses that flow into the basin and supply the aquifer.

• Reutilised water

Alumbreira's operation has a closed system, meaning that water is not discharged outside of the mine site. All water from the concentration process is reused. Water recovery systems are optimised using wells and ponds to reduce freshwater use.

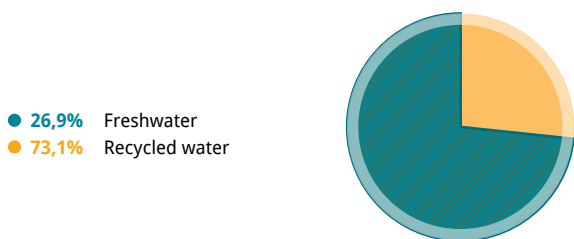
The greatest and only loss of water occurs through evaporation since this is a dry area with low rainfall levels. The areas most affected are free water surfaces, such as the tailings dam and freshwater dam. Nearly 70% of the water used in the ore concentration process is recovered through the pumpback system.

No water is discharged into the rivers or aquifers located downstream the site. The only outgoing water is that used to carry concentrate through the slurry pipeline, representing 2.5% of the freshwater volume.



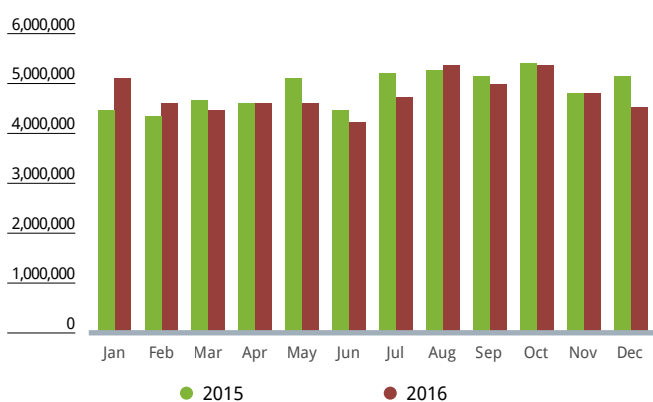
Over 70% of the water used in the process is recovered through a pumpback system.

Percentage of fresh and recycled water. 2016



Source: Minera Alumbrera

Reclaimed water in m³ in 2016.



Source: Minera Alumbrera

The efficiency of the water recovery system is shown by regular pumping volumes.

• Discharge

Copper and gold concentrate is pumped through the slurry pipeline from the mine site to our Filter Plant in Tucumán, where it is dewatered to be later transported by train to the port facilities in Santa Fe province. Water is treated prior to discharge into the rainwater drain canal (DP2). This is the only discharge site owned by the deposit that has the relevant permits and is monitored by authorities.

DP2 is a drainage canal built over 25 years ago to discharge excess water flows during rainy seasons and to drain saline

3 Water used for the first time in the production process

4 To the west, the Campo del Arenal basin borders with Los Nacimientos River basin, the headwaters of Belén River. Geophysical studies and drilling activities have shown the limited connection between the two basins, so an impact caused by the extraction of groundwater from Campo del Arenal on the flow of Belén River is ruled out. Similarly, the water chemistry confirms a minimum connection between the water of these two basins.



Discharge monitoring site at DP2 Canal, before flowing into the Front Dam.

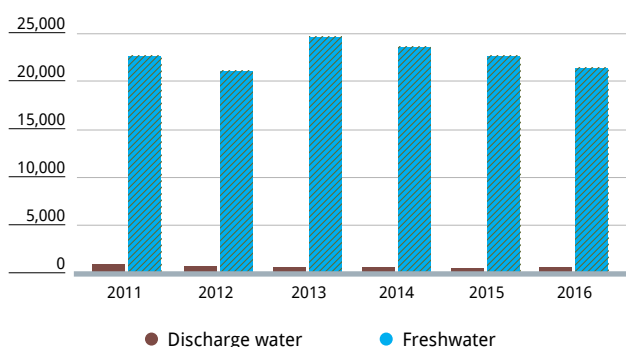
water tables near the surface to the east of Tucumán, thus improving saline soils and their capacity to develop agricultural activities.

Treated water is discharged into the DP2 canal by Minera Alumbrera near the city of Ranchillos, Tucumán.

The quality of the water discharged must meet the requirements of Tucuman Environmental Department Resolution #30. Alumbrera has always complied with the applicable regulation requirements.

In 2016, Minera Alumbrera continued its efforts to reduce water discharge volumes by making improvements to reuse treated water in other processes carried out at the Filter Plant.

Freshwater use and discharge into DP2 canal in m³ in 2016



Source: Minera Alumbrera

Water consumption

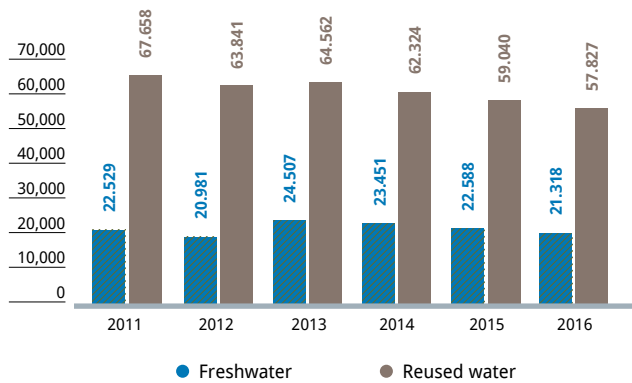
Minera Alumbraera total average water requirement at the Concentrator Plant was 1,833 l/s of reclaimed water and 675 l/s of freshwater. The water use level permitted by the Catamarca Mining Department is 800 l/s.

This shows a decline compared to previous year levels, mainly due to the higher availability of water reclaimed through the pumpback system. There was also a decrease in water use due to lower ore processing volumes.



Reclaimed water collection pond.

Reclaimed water use in million m³ for 2011- 2016



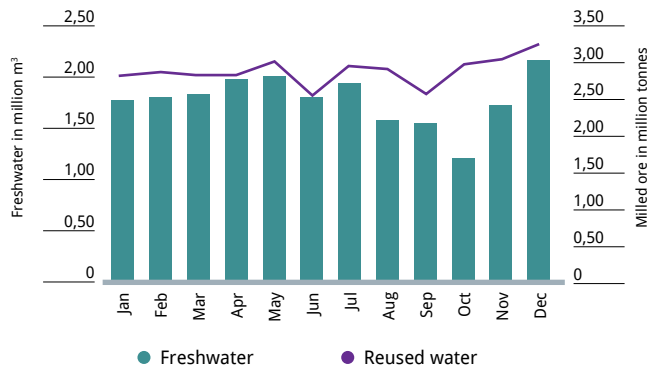
Source: Minera Alumbraera

Water volumes used in processing activities is changeable. Freshwater requirements for milling purposes vary due to the variable volume and characteristics of ore from the Bajo el Durazno deposit.

In 2016, the annual rainfall level was below average, and evaporation affected water availability at the tailings dam. Therefore, there was need to improve average reclaimed water levels to avoid an increase in freshwater use.

Freshwater requirements depended on ore milling, except during the last half of the year when most of the ore came from the BED deposit, although freshwater requirements remained steady despite lower milling activities. Due to its characteristics, the milling of this ore requires the use of larger amounts of water.

Freshwater consumption per tonnes milled in 2016



Source: Minera Alumbraera



Minera Alumbraera is setting up water troughs for cattle from towns in the vicinity of the Campo del Arenal aquifer.

Water availability in nearby communities

Communities close to the Campo del Arenal water well extraction sites, such as Los Pozuelos and Balde La Pampa, have domestic wells where Minera Alumbraera measures water levels. Since conditions there are precarious, Alumbraera drilled a deeper and wider well and each of the towns was given a motor water pump for water withdrawal.

During the dry season, when underground water levels in Campo del Arenal naturally descend affecting water content in the excavations used by local people to supply water to their cattle, Minera Alumbraera conducts maintenance works in such excavations that catch groundwater.



Monitoring activities are conducted by biologists from Catamarca and Tucumán together with regulators of the Catamarca and Tucuman Mining Departments to certify work methods.



BIODIVERSITY

Biodiversity is the variety of life forms developed in a natural environment, including plants, animals, microorganisms and their genetic material. Since the ecological habitat is very important, Minera Alumbrera is focused on mitigating the potential consequences that could affect it through different environmental programmes, such as revegetation with native species, the relocation of species such as “cardon” (cacti tree) recovered from operational areas or reforestation, in addition to monitoring activities to prevent water, soil and air impacts beyond the boundaries of the mining concession.

At Minera Alumbrera, we strive to protect biodiversity through local vegetation and wildlife monitoring activities in the Bajo de la Alumbrera area, trying to identify any potential impact of our operations on living species. These are unique records, since no previous local survey records are available and thus we make a scientific contribution to the community.

➤ **around 1,400 hectares** across the entire mining site is where biodiversity management activities are conducted.

Our guideline is a forestation policy that prioritises a sustained management of native forests, while avoiding the introduction of exotic species.

No species in the International Union for Conservation of Nature (IUCN) Red List or the Argentine conservation list have been observed in the operational areas, and no areas for the protection of local vegetation and wildlife are being created.

Biodiversity Programmes

• Carob tree forestation

During the life of deposit, efforts were made to recover and enrich existing forests close to the deposit. In partnership with local farmers, trees were voluntarily planted on their land under the Carob Tree Management Model. This will allow the implementation of forest grazing systems with the incorporation of pastures, with stable plantations at low maintenance costs.

Carob tree seeds are stored at the site-based Germplasm Bank. These banks, also called “genetic resource centres”, create future benefits for mankind and the environment since they are sources of diversity.

Carob tree seedlings were donated in 2016 at the request of local communities and we took the opportunity to provide training at schools.

• Cardon cacti rescue

Our mitigation programmes included the relocation of cardon cacti from operational sites. The cacti removed and recovered were replanted in areas suitable for their needs, after being kept under care at the Alumbrera greenhouse.

In 2016, no operations were conducted in new areas that could affect cardon cacti and thus no new rescues were made. The cacti relocated in the past were monitored.



Biodiversity monitoring at rain drain canal (DP2).

Biodiversity Monitoring

Any potential and actual impacts on the ecosystem should be known in order to take preventive management measures and corrective actions to address early alerts and restore the impacted areas. Thus, we work to ensure the long-term presence of vegetation and wildlife, water quality and availability, and the natural functioning of the ecosystem in the Bajo de la Alumbra area of influence.

It is essential to study biodiversity and to establish a connection between terrestrial and aquatic communities and the physical

and chemical variables of water and its seasonal variations, and to identify species whose conservation must be prioritised.

Monitoring activities consist of the search, identification and survey of mammals, amphibians, reptiles, birds, limnology, fish and native vegetation to obtain indexes of abundance. These activities are carried out by a group of biologists from different national universities. The Mining Department of Catamarca and the Mining Department of Tucumán are also involved to certify work methods.

BIODIVERSITY MONITORING – 2016

MONITORING	ACTIVITIES	SITE	COMMENTS
Biological monitoring in rivers crossing the slurry pipeline	Physical and chemical parameters were determined. Phytoplankton, zooplankton, benthos, and fish samples were taken.	Vis Vis, Villa Pil, Pisa Vil, Cangrejillos, El Durazno, El Bolsón, Medina, Villa Lola Dam, Río Seco River, Romano, Famaillá, Lules, Salí River.	Between 2005 and 2016, diversity indexes tended to be stable. No significant differences were observed in water samples taken upstream and downstream the slurry pipeline among sample groups. This shows that the slurry pipeline presence has no impact on aquatic communities of the water bodies crossing the pipeline route.
Biological monitoring of DP2 canal	Phytoplankton, zooplankton, benthos, fish and vegetation	It starts at the DP2 canal discharge site and end on the collection canal	Our continuous monitoring activities support the claim that there is no evidence that the quality of rainwater drain canal (DP2) is being negatively impacted by water discharges from Alumbra. The watercourse under review is a canal where effluents from different economic activities (oil plants and sugar mills), and sewage water, are discharged along its route.
Biodiversity monitoring at the mine site	Vegetation, wildlife (fish, reptiles and amphibians, birds, mammals), limnology (phytoplankton, phytobenthos, zooplankton, macroinvertebrates).	Vis Vis Canyon, La Escalera Canyon, Bajo el Durazno, freshwater dam, Campo del Arenal	Vegetation: Vegetation in general is in good condition in all environments represented by samples. Fish: The species identified at the mine site are those expected be found in the area. The populations reported are similar to those found in other environments. Birds: The number of species identified during this campaign added to the 2015 list, with 98 species in the Alumbra area. Mammals: 10 species of native mammals and 5 exotic species were identified.

Revegetation of rehabilitated areas

Trials with direct planting of native species seeds were conducted at the tailings dam and waste dumps. The goal was to verify plants' ability to survive in rehabilitated areas (with capping) in the dam and waste dump⁵.

DISTURBED*, REHABILITATED AND REVEGETATED AREA IN HECTARES. 2016 AND 2003-2016.

		2016	2003 - 2016	TOTAL
REHABILITATED LAND	• Alumbra waste dumps	1.7	79.02	84.18
	• Bajo el Durazno waste dumps	10.43	3.41	
	• Tailings dam	0	1.75	
REVEGETATED LAND	• Tailings Dam	0	1.75	12.27
	• Waste dumps	0	10.52	
DISTURBED LAND*	• Minera Alumbra	0	77.86	1,148.45
	• Alumbra waste dumps	0	235.23	
	• Tailings dam	16	750	
	• Bajo el Durazno deposit	11.95	37.83	
	• Bajo el Durazno waste dumps	21.94	47.53	

Eco-efficiency indicators

In 2016, we complied with eco-efficiency indicators. Due to the shortage of rainfall in December, water availability in the freshwater dam for reutilisation purposes was lower.

PRODUCTION CONSUMPTION

Performance Indicator	Unit of measurement	Target 2014	Target 2015	Target 2016	Result 2014	Result 2015	Result 2016	Ecoefficiency % 2014	Ecoefficiency % 2015	Ecoefficiency % 2016
Freshwater	l/t milled	670	683	720	661	683	616	33	33	33
Recycled water	l/t milled	1,600	1,600	1,600	1,761	1,785	1,671	-	-	-
Energy	GJ/milled	0.085	0.093	0.093	0.086	0.096	0.091	33	33	33
CO₂ eq	t CO ₂ /k t moved	1.84	1.92	2.78	1.80	1.83	2.30	33	33	33
								100%	100%	100%

● Better than budget +5%

● In line with budget +/- 5%

● Worse than budget -5%



Results of the Revegetation Plan with native species at the mine site.

* Disturbed Area: Area altered by action of mining operations, either by excavations as is the case of the open pit, or backfilling as is the case of waste dump disposal.

⁵ For more information on revegetation activities, see the "Mine Closure Social and Environmental Management".

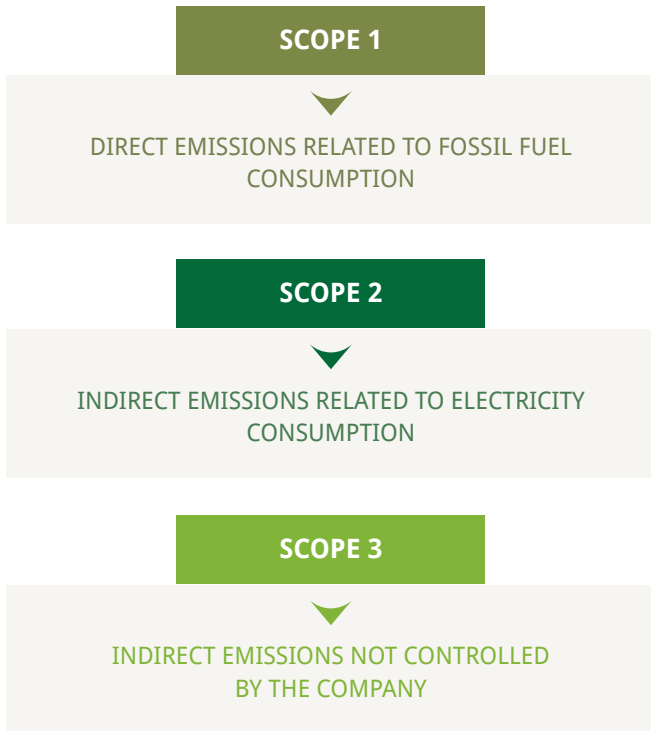
CLIMATE CHANGE

Our mining and processing operations have significant energy requirements.

Since fossil fuels contribute to energy availability, it is necessary to reduce emissions and to be more efficient in our production and energy use. We understand our responsibility in managing Greenhouse Gas (GHG) emissions and seek to contribute to the global transition to a low-carbon economy.

Therefore, contingency cost for carbon is included in our financial models, which help us reduce our greenhouse gas (GHG) footprint.

GHG emissions have three scopes, according to the Greenhouse Gas Protocol:



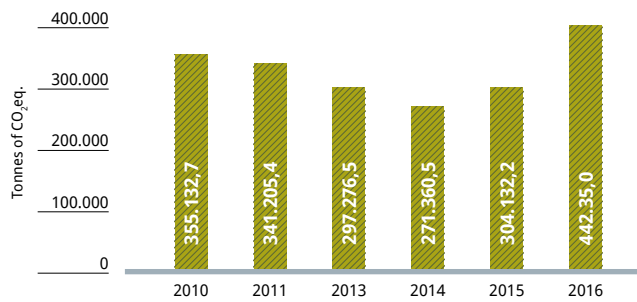
The operation and consumption from activities conducted at the mine site have not changed over the last year. Thus GHG generation remains stable.

The only change in GHG generation is a new Department of Energy resolution which prohibits the renewal of contracts for the supply of electric power from renewable sources. Electricity is directly supplied by the national authority through the Wholesale Electricity Market Administration Company (CAMESA), the national power grid. Thus, it is not possible to identify energy from renewable sources.

IT SHOULD BE NOTED THAT MINERA ALUMBRERA, AFTER PREPARING ITS ANNUAL EMISSION INVENTORY, CONTINUES IMPLEMENTING ACTIVITIES RELATED TO THE MONITORING OF CATEGORY 1 AND 2 GHG EMISSIONS.

We prepared the emission inventory during two consecutive years. Since 2013, it has been developed using international coefficients applied to a database of consumption levels at all Glencore operations. Thus, the evolution of Alumbra's carbon footprint is continuously monitored.

Alumbra's carbon footprint. 2010-2016



Source: Glencore Group database.

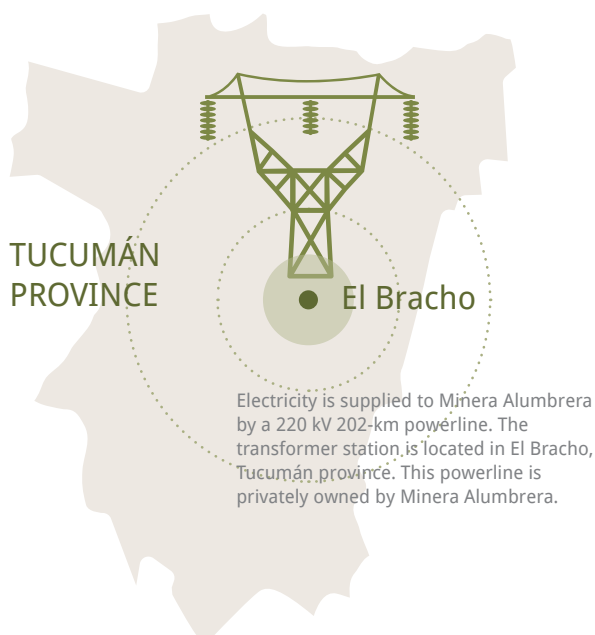
Our GHG emissions increased because Scope 2 GHG emissions, from electricity consumption, which is energy from non-renewable sources, are counted as mentioned above.

We have three weather stations which record environmental variables of the mine site and surrounding areas. This allows us to monitor data and record the potential effect of climate change in the region, which is important information for mine closure activities.

Regarding our efforts to find opportunities to reduce Scope 1 GHG emissions, the Mine Planning area is continuously working to shorten ore and waste rock haulage truck routes to their respective destinations, trying to reduce fossil fuel consumption.

Regarding Scope 2 GHG emissions, electricity consumption is a variable that depends on characteristics of the ore fed into the concentrator plant, which makes it harder to control and reduce consumption.

ENERGY

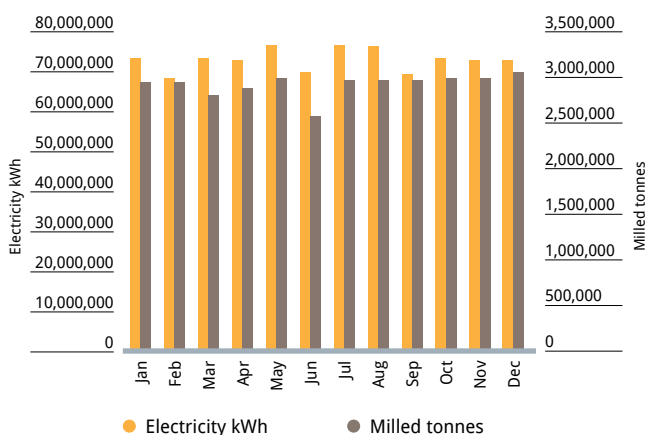


Our total electricity consumption in 2016 was 875,035,834 kWh. The fuels used include those from non-renewable resources, such as natural gas, diesel oil, fuel oil, and coal, and from renewable sources, such as water, wind, and sun.

Energy intensity in 2016 was 25 kWh/t, below the 2015 level (25.79 kWh/t), thus reducing electricity consumption.

As mentioned above, pursuant to Energy Department Resolution No. 95/2013, all base electricity is directly purchased from the Spot market, without having a choice as to the type of generator or energy source that will supply the project, since energy is obtained from the system that is supplied by all its contributing generators.

Electricity consumption vs. milled tonnes. 2016



Source: Minera Alumbraera

Regarding type of energy by source, in accordance with the abovementioned resolution, large users such as Minera Alumbraera are denied the choice of supplier or energy type.

Indirect benefit

OUR POWERLINE SUPPLIED ELECTRICITY TO NEIGHBOURING COMMUNITIES ALONG THE ROUTE. THUS THE AMPAJANGO TRANSFORMER STATION WAS BUILT IN 2000 AT KM 128 IN EL DESMONTE TOWN, WHICH SUPPLIES ELECTRICITY TO SANTA MARÍA CITY AND SURROUNDING AREAS.

While electricity used to be generated isolatedly through diesel oil combustion in the past, today electricity is fully available and, consequently, economic productivity has been improved. At present, the average electricity consumption in this area is 4,100 MWh.

Similarly, a transformer station was inaugurated in 2014 at Km 77 in Tañi del Valle, La Bolsa town, which also supplies power to El Mollar. This new power availability helped eliminate existing thermal generation, thus reducing toxic and noise emissions. The local monthly average electricity consumption is 2,200 MWh.

Finally, at the end of the powerline, at Km 202, there is the Alumbraera station located in Hualfín town, Catamarca, which supplies electricity to the entire project.

Our powerline and the associated transformers are operated and maintained by Transener S.A., under Minera Alumbraera's supervision. Our power contractor has been certified under the ISO 14001 Environmental Management Standard, which is applicable to the above facilities.

Our powerline is subject to the Argentine Power Regulator (ENRE) Public Safety policies, regarding electromagnetic field measurements, information sessions at schools close to the powerline, signage installation, and waste classification practices, among others.

6 It indicates the amount of energy used to process one tonne of ore.
7 The spot market is that where all assets purchased or sold are delivered immediately (or within a short period of time) at the market price applicable at the time of the purchase/sale and not at the price applicable when the asset is delivered.

AIR QUALITY

AN AIR QUALITY MONITORING PROGRAMME HAS BEEN IMPLEMENTED SINCE 2010. AT THE MINE SITE, THERE ARE 10 STATIONS THAT HELP OBTAIN MORE DATA AND IMPROVE THE ACCURACY OF THE PARTICLE DISPERSION MATHEMATICAL MODEL FOR NEW ACTIVITIES.

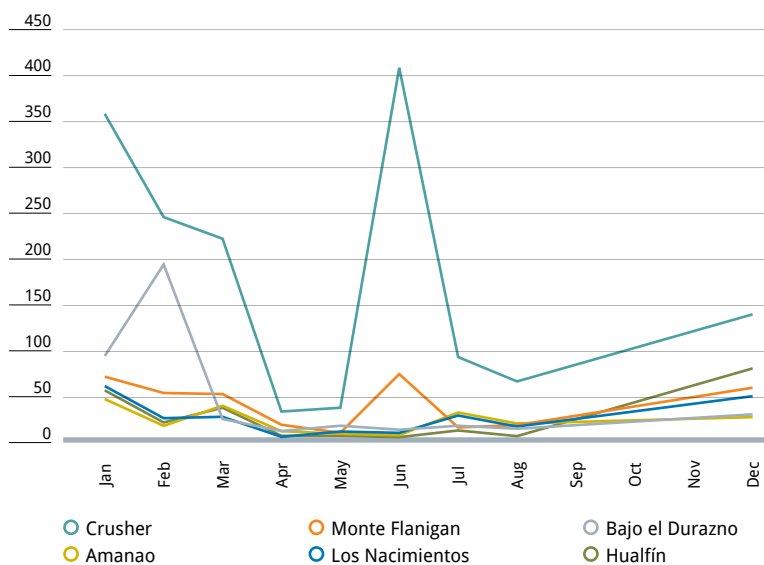
Five stations are within the Bajo de la Alumbrera operational area, two in the Bajo El Durazno area of influence and the remaining three are located in the neighbouring towns of Hualfín, Los Nacimientos and Amanao.

Monitoring activities are conducted on a monthly basis by sampling Particulate Matter smaller than 10 microns (PM10), Total Suspended Particulate Matter (TSP) and Settleable Particulate Matter (SPM), with a view to adjust operational controls while taking preventive and/or corrective action, as required.

The annual average concentration results show a similar trend as in previous years: PM10 was found to be lower than the applicable standard set out by Law 24,585 (150ug/m³), and in the case of air lead concentration –the only regulated standard- it was found to be significantly lower than the applicable standard (1.5 ug/m³).

In neighbouring communities, natural soil erosion contributes to the air quality level. PM10 and PTS values are lower than those measured near the mine site. This confirms our good environmental performance and that mining operations do not affect neighbouring communities.

PM 10 IN Ug/m³. 2016



Air quality is monitored at 10 stations, five of which are at the mine site and the rest, in the neighbouring communities of Hualfín, Los Nacimientos and Amanao.

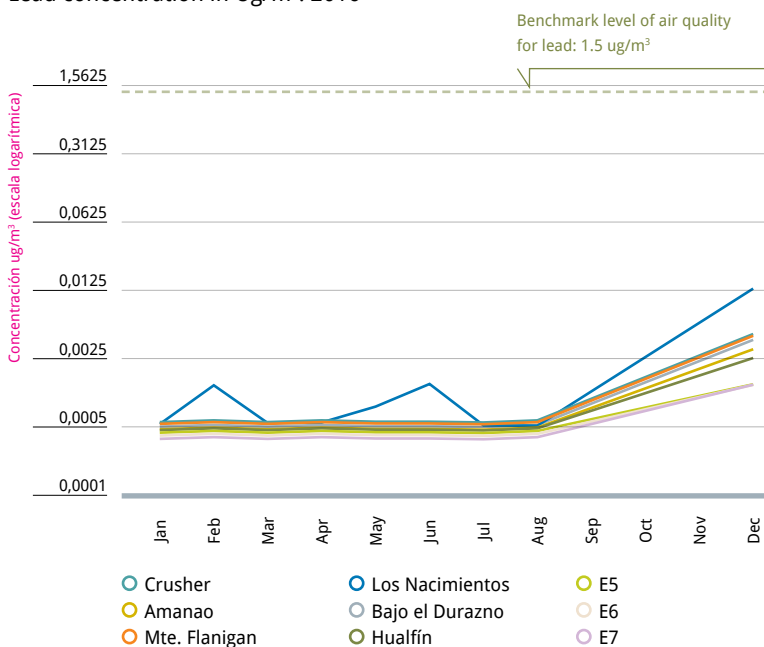




PM10 IN UG/M³. 2012-2016

	2012	2013	2014	2015	2016
OPEN PIT	129	36	38	66	54.75
AMANAO	56	25	20	24	17.21
LOS NACIMIENTOS	69	31	31	32	21.65
HUALFÍN	113	21	20	33	20.73

Lead concentration in Ug/m³. 2016



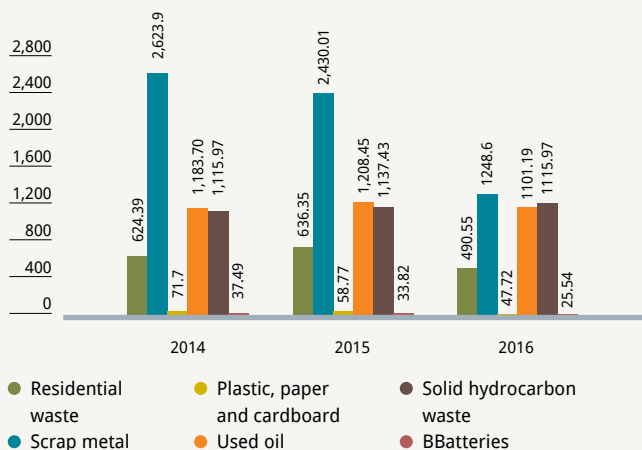
LEAD CONCENTRATION IN UG/M³ FROM 2012 TO 2016

	2012	2013	2014	2015	2016
OPEN PIT	0.04 ug/m ³	0.00646 ug/m ³	0.0098 ug/m ³	0.00054 ug/m ³	0.0009576 ug/m ³
AMANAO	0.03 ug/m ³	0.00050 ug/m ³	0.0005 ug/m ³	0.00047 ug/m ³	0.0005821 ug/m ³
LOS NACIMIENTOS	0.04 ug/m ³	0.00050 ug/m ³	0.0005 ug/m ³	0.00051 ug/m ³	0.0006232 ug/m ³
HUALFÍN	0.003 ug/m ³	0.00051 ug/m ³	0.0005 ug/m ³	0.00050 ug/m ³	0.0006116 ug/m ³

WASTE MANAGEMENT

At Minera Alumbraera, our waste management programme is a key component of our environmental management efforts.

Total waste in tonnes for 2014-2016



Source: Minera Alumbraera

WASTE CLASSIFICATION AND DESTINATION

TYPE	WASTE	FINAL DISPOSAL
Residential 	Non-industrial waste generated in our daily life.	At an authorised waste dump in the mine site.
Hazardous 	Used oil, grease, solid waste, hydrocarbon-contaminated soil, cans and batteries.	Final destruction by qualified operators.
Industrial 	Scrap metal, wires, wood and tyres.	They are melted for recycling purposes.
Recyclable 	Paper, cardboard and plastic.	They are donated to recyclers.



Hazardous waste (oil, grease, hydrocarbon-stained cloths) is stored at the site to be later transported and disposed by authorised companies.

• Residential waste

The Urban Solid Waste (USW) generated at the mine site is stored in the dump controlled by Minera Alumbraera. Each worker generated an average of 1.7 kg/day of USW in 2016.

We continue with our waste classification and sorting initiatives at the workplace and our material recycling programmes.

• Recycling programme

The selective collection of paper, cardboard and plastic seeks to help protect the environment. For every tonne of recycled paper or cardboard, 7% of water and 45% of electricity used to manufacture traditional paper is saved. We also donated materials to help raise funds for the Hospital Garrahan Foundation and Cottolengo Don Orione, charitable institutions located in Tucumán. In 2016, 47.6 tonnes of paper, cardboard and plastic were collected.

• Hazardous Waste

Solid and liquid hazardous waste is transported and final disposed of by qualified contractors. This waste is used in local and national businesses as alternative fuels obtained through thermal destruction.

• Industrial Waste

In 2016, 1,248 tonnes of scrap metal were sent away for final disposal. After having been melted, it is turned into steel bars which are traded again.



At the mine site, workers travel by buses provided by a carrier from Santa María.

MATERIALS USED IN 2016

SUPPLIES	UNITS	QUANTITY
CONVEYOR BELTS	Metres	3,027
DIESEL FUEL	Litre	61,957,639
ELECTRICITY	MW/h	852,557
ANFO EXPLOSIVES	Tonnes	10,889
ANFO EXPLOSIVES - EMULSION	Tonnes	7,992
MILL BALLS	Tonnes	19,398
LIME	Kilogramme	29,224,527
LPG	Litre	515,498
LUBRICATING OIL	Kilolitre	2,478
TYRES - HEAVY VEHICLES	Units	358
TYRES - LIGHT VEHICLES	Units	789
FUEL	Litre	19,218
XANTHATES	Kilogramme	0
RECYCLING MATERIAL	Paper, cardboard, plastic	Sent to recycling organisations for charity purposes

IMPACT BY EMPLOYEE AND CARGO TRANSPORT = 2016

Employee transport (by road)	2014	71,882 km	17,920 l of diesel fuel
	2015	69,613 km	17,350 l of diesel fuel
	2016	64,732 km	16,120 l of diesel fuel
Cargo ⁸	2014	10,804,800 km	34,575,360 l of diesel fuel
	2015	9,500,384 km	30,401,229 l of diesel fuel
	2016	9,432,247 km	30,183,191 l of diesel fuel

PRODUCT STEWARDSHIP

Through the distribution of its products, Glencore seeks to supply commodities at competitive prices that meet stakeholders' needs and add value globally, while reducing any risk associated to their use.

Therefore, Glencore is fully committed to ensure that its customers understand the properties of its products and works with regulators to encourage safe practices and an efficient use of products and technologies around the world.

Our products have material safety data sheets that provide relevant information on product chemistry, toxicology relating to human health and the environment, handling, storage and exposure as well as recommendations to manage spills and disposal.

In addition, we inform our employees, contractors, customers and other stakeholders about these potential hazards and product handling best practices.

No environmental incidents associated to concentrate or dore gold transportation have occurred in 2016. No fines have been imposed for non-compliance with the laws or regulations concerning the supply and use of our products.

MINERA ALUMBRERA'S SHIPMENTS ARE STRICTLY MONITORED BY AFIP (ARGENTINA'S TAX AUTHORITY) THROUGH THE GENERAL CUSTOMS DEPARTMENT. IN ADDITION, EACH OF OUR SHIPMENTS IS REGULARLY TESTED TO DETERMINE THE CONCENTRATE'S FULL CHEMISTRY IN ORDER TO IDENTIFY ANY POTENTIAL CHANGES IN ORE CONTENT. OUR PRODUCT IS IN VERY HIGH DEMAND BY INTERNATIONAL MARKETS, GIVEN ITS METAL PURITY.

⁸ Incoming general cargo (including spares, food, fuel, mill balls, lime, lube oil) from Buenos Aires, Santa Fe, Córdoba, San Luis, San Juan, Catamarca, Tucumán, Salta and Mendoza provinces, and Chile and Peru.

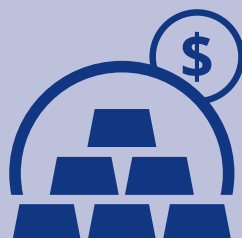


Production

321,979 tonnes of copper concentrate

0.8 tonnes of dore gold

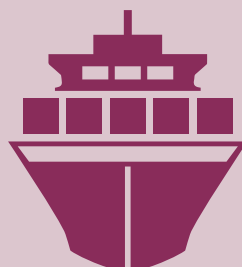
957 tonnes of molybdenum



Production value

- **\$673.6** million

- Copper price in the international market was 11.5% lower than in 2015.



Exports

\$686 million



Tax revenues

- **National tax revenues**
2016: \$41.1 million

- Since the start of the project, Alubrera has paid \$5.037,5 billion in fiscal revenues (taxes, mining royalties and YMAD's profit share)¹



Mining royalties to Catamarca

2016:
\$18,4 million

Catamarca has received **\$1.177** billion over the last 12 years



Total contributions from Alubrera to the Argentine economy

- \$378,9 million in 2016.
- Purchases totalled \$322.8 million in 2016.
- Domestic purchases from Catamarca suppliers totalled \$17.9 million in 2016.

¹ Based on annual payments conversion at average exchange rate of each year. Accumulated value in Argentine pesos equals ARG\$ 21.3 billion (\$1.4 billion converted at exchange rate of year 2016).



Creating shared value

Alumbra has port facilities
in General San Martín,
Santa Fe province.



During 19 years, Minera Alumbreira has contributed to the creation of quality jobs, business opportunities for local companies and economic growth for thousands of families from communities close to the deposit.

The economic impact of the Bajo de la Alumbreira project has been quantifiable and observable over our 19 years of operations in the form of job creation, purchases from local suppliers and taxes paid to the national, provincial and municipal governments.

In addition to our economic contribution, the qualitative aspect is more significant. Alumbreira has helped create a work ecosystem based on values such as efficiency, transparency, ongoing training, stakeholder engagement, and community sustainable development.

During this long run, the mining project fostered capital accumulation locally in many ways; for instance, in local businesses that supplied goods and services, and families of our direct employees. Additionally, capital has accumulated from the inflow of revenues into the economic system resulting from direct and indirect employee salary spending and payments of taxes and royalties to governments, and profits to YMAD. Finally, there are Alumbreira’s expenditures on community development programmes.

Tangible resources have accumulated over these years in the form of machinery, tools and vehicles of suppliers, school supplies and hospital equipment, infrastructure works (water works, irrigation systems), sport centres in the primary area of influence. Most of the public works carried out in Catamarca province, and in other parts of Argentina, by the national government were funded with fiscal revenues generated by Minera Alumbreira, which total \$5.037,5 billion in 19 years.

Other equally important forms of accumulated capital are provided by supplier companies and their workers, including technical knowledge, professional skills related to the implementation of work technologies and processes, labour standards and best practices, skills gained through teacher training programmes, farmer training programmes, and association initiatives, among others.

In short, our cumulative economic contribution in terms of quantifiable capital and, especially qualitative contributions and transformations, is particularly meaningful in the face of mine closure, since they are resources available to deal with the challenge of sustainable development in the area.

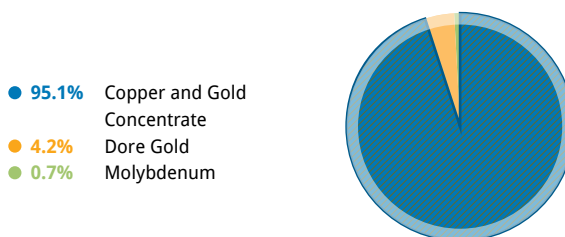
Production

▶ 321,979

tonnes of copper and gold concentrate, 0.8 tonnes of dore gold and 957 tonnes of molybdenum were produced by Minera Alumbreira in 2016.

The Gross Production Value (GPV)² for the three products was \$673.6 million³. This GPV measured in Argentine pesos is 112% higher than that of the previous year. This increase needs to account for the foreign exchange rate variation of the Argentine peso against US dollar during that period. The annual average exchange rate increased by 59.4%⁴. In USD, the GPV increased 33.1% compared to 2015.

Breakdown of Minera Alumbreira’s products in total production value. 2016.



Gross Production Value: \$ 673.6 million

Source: Minera Alumbreira

² GPV represents the value of the Alumbreira’s total production at international prices.

³ 1 Central Bank’s average annual exchange rate of ARS/USD 9,2682 (2015) and ARS/USD 14.7774 (2016)

⁴ In 2015, the BCRA annual average exchange rate was AR\$/US\$ 9.2682. The GPV was \$506,204,233 in 2015 and \$673,605,141 in 2016.

⁵ Annual average price in 2016: USD/ounce 1250.7 as quoted by Handy & Harman N.Y.

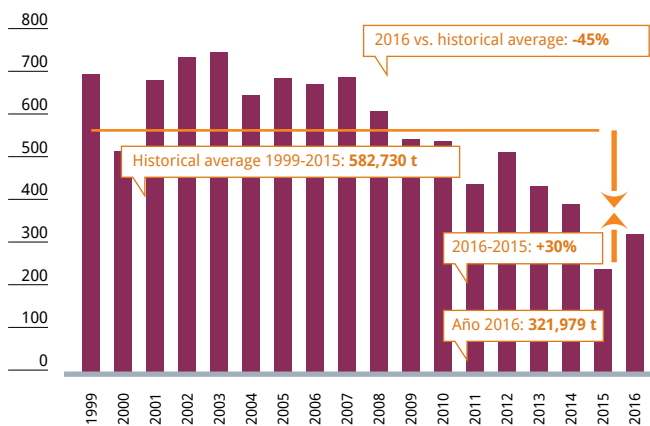
COMPARED TO 2015, PRODUCTION VOLUMES INCREASED 30.4% FOR COPPER AND GOLD CONCENTRATE AND 21.2% FOR DORE GOLD, AND DECREASED 44.7% FOR MOLYBDENUM CONCENTRATE.



Copper and gold concentrate during flotation process.

Interannual variations should be examined taking into account the project stage. This final stage is characterised by a depletion of mining resources. Although interannual production increases are reported, the project is in a stage where production levels are lower than historical levels. Therefore, the amount of copper and gold concentrate produced in 2016 was 45% lower than the average level of the previous 18 years, at nearly 583,000, where there were many years when it exceeded 700,000 tonnes.

Alumbra copper and gold concentrate production evolution in thousand tonnes. 1999-2016



Source: Minera Alumbra

The price of refined copper in the international market is the main benchmark variable to determine copper and gold concentrate prices.

In 2016, the annual average price of refined copper in the international market was $\text{¢}/\text{lb}$ 220.6 (220.6 cents of US dollars per pound of copper), representing an 11.5% reduction against the previous year level. However, in late 2016, the price rose and reached a monthly average value of $\text{¢}/\text{lb}$ 257 in December, which is 3% above the 2015 average value.

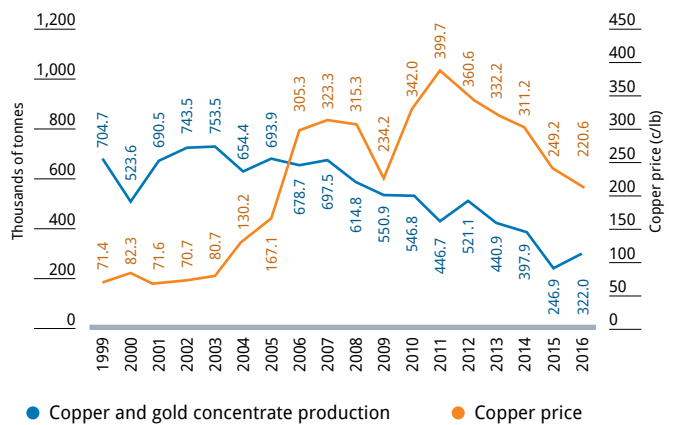
Although a comparison between annual averages shows a decline in copper price, the price of the Alumbra copper and gold concentrate tonne had a slight interannual increase of 2%, reaching an average of \$1,989 in 2016. Such an increase, in spi-

te of a drop in refined copper prices in the international market, is explained by the 7.9% increase in gold price⁵, which is also a concentrate component.

Unlike other industries, miners cannot immediately respond to higher prices with an increase in production levels. These decisions take time or are technically unfeasible for an ongoing project.

The Bajo de la Alumbra project experienced a stage with higher production levels in a context of low metal prices. Until 2005, when Alumbra produced over 700,000 tonnes of concentrate per year, the average price of refined copper between 1999 and 2005 was $\text{¢}/\text{lb}$ 96.3. When copper price reached relatively high levels with a peak in 2011 at an annual average price of $\text{¢}/\text{lb}$ 399.7, Alumbra's production levels started to decline to below 500,000 tonnes. Therefore, the project required the implementation of efficiency-based management actions.

Evolution of Alumbra concentrate production levels versus copper prices in thousand tonnes and cents per pound (1999-2016)



Source: Cochilco and Minera Alumbra.



Minera Alumbraera owns three trains that transport concentrate from Tucumán to the port facilities in Santa Fe.

Exports

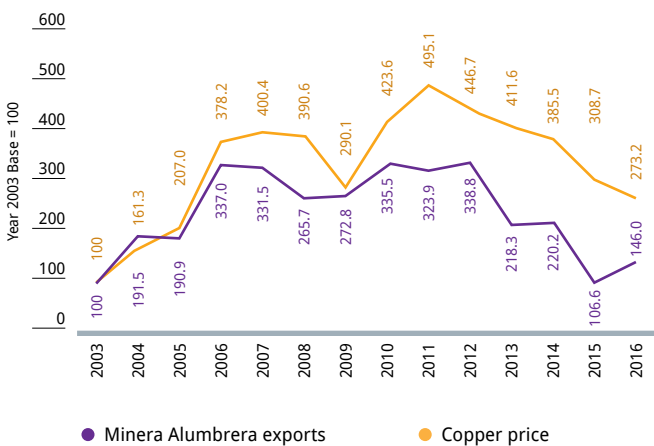
Minera Alumbraera's total production is exported. In 2016, exports totalled \$685,991,133, which is 36.9% above the 2015 level.

Alumbraera exported 330,090 tonnes of copper concentrate, 0.96 tonnes of dore gold and 2,470 tonnes of molybdenum. The amounts exported of these three products are above the levels exported in 2015, representing an increase of 33%, 60% and 30%, respectively.

This increase in exports is mainly the result of higher production levels of copper and gold concentrate, which is Alumbraera's main commodity and represented 93.5% of its sales abroad in 2016.

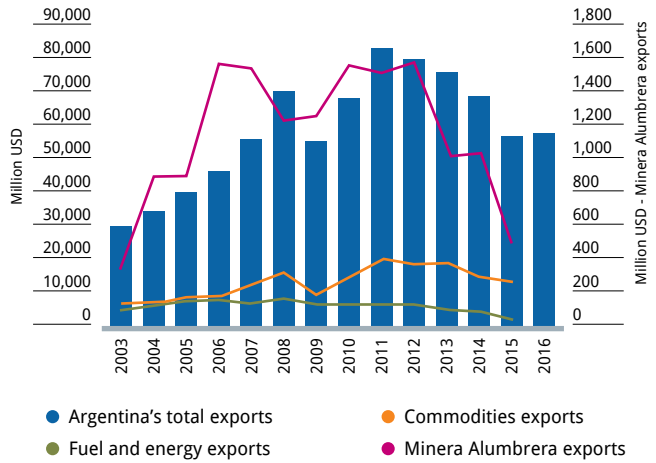
The average price of the concentrate tonne exported by Minera Alumbraera increased slightly compared to the 2015 level. Therefore, sales levels increased mainly because concentrate production volumes also increased.

Alumbraera exports versus copper prices (2003-2016). Year 2003 base = 100.



Source: Minera Alumbraera

Argentina's total exports, including commodities, fuel, energy, and Minera Alumbraera exports in million USD (2003-2016)



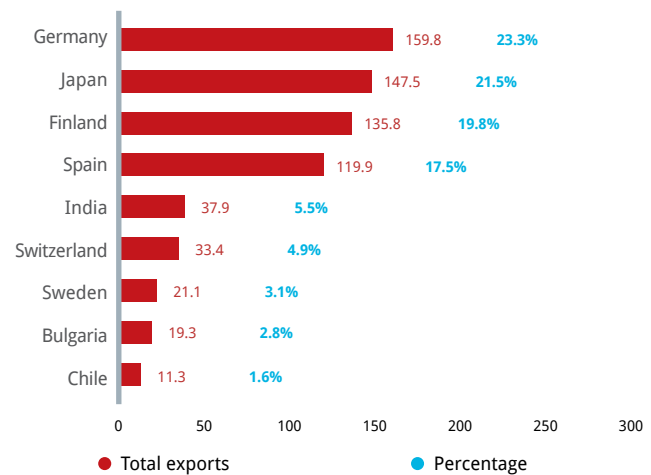
Source: INDEC and Minera Alumbraera

In 2016, Minera Alumbraera's exports represented 1.2% of Argentina's total exports⁶, 4.4% of commodities exports and 34.4% of fuel and energy exports.

Also in 2016, Alumbraera's exports represented 22% of total Argentine mining exports estimated at \$3.145 billion⁷.

Minera Alumbraera exported its products to nine countries in 2016. Copper concentrate was mainly exported to Germany, Japan, Finland and Spain, and also to India, Sweden and Bulgaria. All dore gold was exported to Switzerland and all molybdenum was exported to Chile.

Alumbraera Export Destination, in million USD and percentage of total exports. 2016



Source: Minera Alumbraera

Fiscal Revenues and YMAD's Profit Share

Minera Alumbrera's payments to the government include tax and non-tax payments. The former includes fiscal revenues from taxes, charges and contributions at the national level, while the latter consist of mining royalties and YMAD's profit share. YMAD (Yacimientos Mineros Aguas del Dionisio), the owner of mining rights, and Minera Alumbrera entered into an unincorporated joint venture agreement.

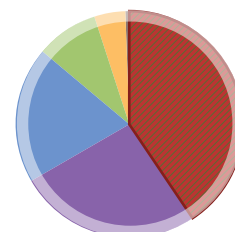
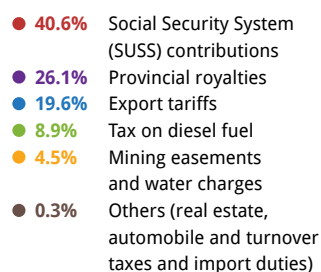
YMAD's profit share represents 20% of the Bajo de la Alumbrera net proceeds and they are non-tax provincial revenues since YMAD is owned by Catamarca province and the National University of Tucumán, which hold an interest 60% and 40% respectively.

Tax and non-tax revenues are a significant component of the added value or wealth generated by Alumbrera. Since the onset of our operations, Minera Alumbrera has paid a total of \$5.037,5 billion in fiscal payments, after the conversion using the average exchange rate of each year.

In 2016, these two types of revenues totalled \$ 59.5 million, 14.4% below the 2015 level. This reduction was mainly due to lower export tariffs, which totalled \$ 11.6 million during this period.

In addition, no income tax had to be paid due to the tax losses reported in previous year. The same applies to YMAD's profit share.

Direct fiscal revenues and YMAD's profit share from Minera Alumbrera. 2016



Total: **\$59.5 million**

Source: Minera Alumbrera

Tax revenues accrued for 2016 represented 74% of such an amount and totalled \$ 43.9 million, a 31% reduction compared to the 2015 level.

MINERA ALUMBRERA CONTRIBUTIONS TO THE ARGENTINE ECONOMY – 2014-2016. IN MILLION DOLLARS⁶

DESCRIPTION	2014	2015	2016	Accumulated in 2014-2016
Income Tax	18,0	0,0	0,0	18,0
YMAD's profit share	50,5	0,6	0,0	51,1
Domestic goods and services	223,5	228,4	268,1	720,0
Provincial royalties	12,9	5,5	15,6	33,9
Salaries	28,7	36,0	51,2	115,8
Contributions	15,4	20,8	24,1	60,3
Grants	1,4	1,0	0,2	2,6
Wealth tax	0,9	0,0	0,0	0,9
Mining easements and water charges	1,6	2,7	2,7	7,0
Tax on diesel fuel	4,1	6,4	5,3	15,8
Turnover tax	0,1	0,0	0,1	0,2
Miscellaneous charges	0,05	0,1	0,1	0,2
Import duties	0,01	0,02	0,01	0,0
Export tariffs	56,1	33,3	11,6	101,1
Total	413,3	334,9	378,9	1127,1

Source: Minera Alumbrera

⁶ Argentine exports totalled \$57.733 billion in 2016. Commodity exports totalled \$15.649 billion and fuel and energy, \$1.950 billion (INDEC, preliminary data)
⁷ According to data provided by INDEC following Mercosur's Common Nomenclature (NCM). We included Section V (Mineral Products) exports except for chapter 27 (Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes) and we also included the tariffs of other sections which belong to the

exports of gold alloy or gold bullion, lithium chloride and different forms of bentonite and borates.

⁸ Values accrued and estimated applicable to December 2016. At constant values in US dollars of year 2016, conversion made using average exchange rate for this year to ARG\$/US\$ 14,7774.



View of the Filter Plant, located in Tucumán, where the concentrate is dewatered and water is treated and subjected to quality controls at our ISO 17025 certified laboratory.

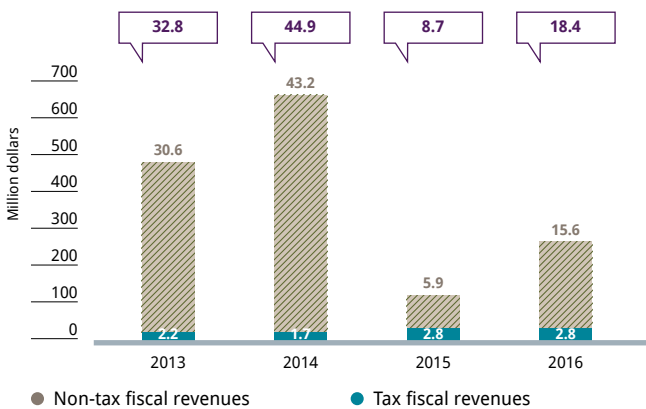
Economic contribution to Catamarca

Throughout the life of the project, fiscal revenues obtained by Catamarca province from Alumbreira’s operations mainly consisted of non-tax revenues, such as mining royalties and YMAD’s profit share. They also included tax revenues, such as water charges, mining easements, turnover tax, real estate and automobile taxes.

In 2016, fiscal revenues paid by Bajo de la Alumbreira to Catamarca province amounted to \$18,402,076, which is 112% above the 2015 level. The fact that there were no profits to distribute to YMAD did not have a significant impact since profits had greatly declined in 2015. However, the increase in mining royalties had a significant positive interannual impact.

The fiscal revenues of Catamarca province generated by Alumbreira represent 15% of the total provincial tax collection for 2016⁹.

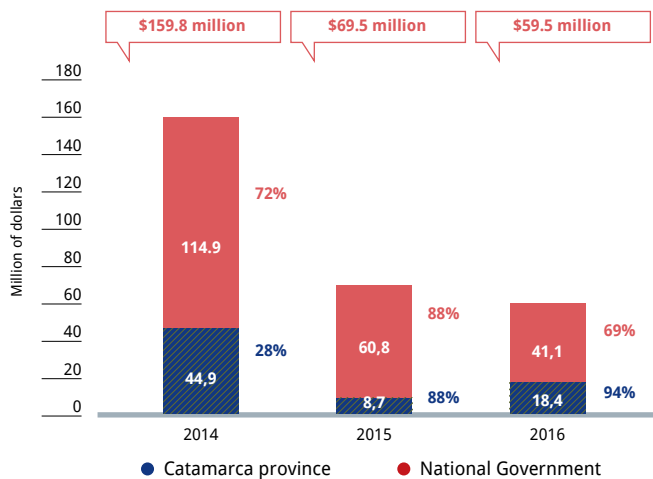
Catamarca tax and non-tax fiscal revenues generated by Minera Alumbreira for the 2013-2016 period. In million dollars



Source: Minera Alumbreira

OUT OF THE \$59.5 MILLION ACCRUED IN FISCAL REVENUES IN 2016 BY ALUMBRERA, 69% (\$41.1 MILLION) WERE ALLOCATED TO THE NATIONAL GOVERNMENT¹⁰ AND 31% (\$18.4 MILLION) TO CATAMARCA PROVINCE. IN 2015, 88% HAD BEEN ALLOCATED TO THE NATIONAL GOVERNMENT AND 12% TO CATAMARCA PROVINCE.

Fiscal revenues contributed by Minera Alumbreira to the national government and to Catamarca province. 2014, 2015 and 2016. In pesos and percentage.



Source: Minera Alumbreira

⁹ In 2016, Catamarca tax revenues totalled \$ 123,002,856, including Real Estate, Automobile, Turnover and Stamp Taxes, among others.
¹⁰ The national government includes the National University of Tucumán and other national universities receiving 40% of YMAD profits.

Regalías

The amount accrued as mining royalties paid by Minera Alumbreira in 2016 was \$15.6 million¹¹, representing 84.6% of total payments made by Alumbreira to the Catamarca tax authority.

Mining royalties paid by Alumbreira in 2016 represent 91.2% of the total royalties paid to Catamarca province. The rest is paid by FMC Minera del Altiplano.

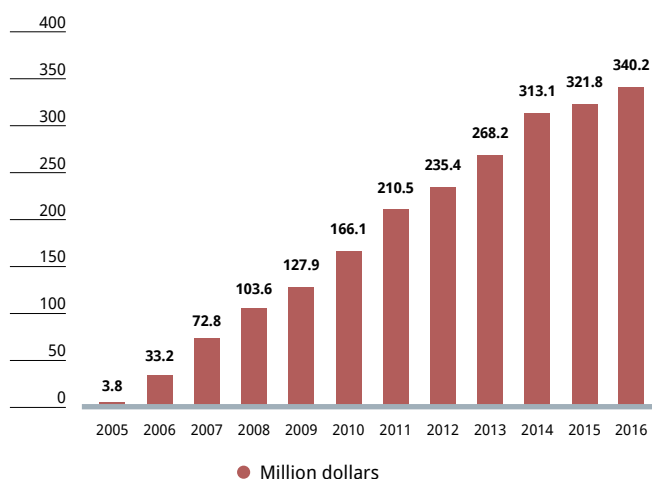
Since 2004 to this date, the PIA towns have accumulated revenues from mining royalties amounting to \$44.2 million, which is 38.3% of the total royalties paid by Alumbreira, i.e. \$115.5 billion¹². In US Dollars, based on the average exchange rate of each year, mining royalties paid since the start of the project total \$433.7 million.

DISTRIBUTION OF MINING ROYALTIES PAID BY ALUMBRERA IN CATAMARCA. IN DOLLARS. FOR 2014-2016¹³ AND ACCUMULATED DURING 2004-2016

DISTRICT/TOWN	2014	2015	2016	Accumulated during 2004-2016
ANDALGALÁ	1.975.604	1.188.465	3.089.213	19.511.663
Aconquija	431.472	566.362	674.684	4.568.148
Andalgalá	1.544.132	622.103	2.414.529	14.943.515
BELÉN	1.975.604	1.188.465	3.089.213	19.511.663
Belén	693.832	417.389	1.084.932	6.852.523
Corral Quemado	142.441	117.229	222.732	1.438.332
Hualfín	256.828	122.960	401.598	2.504.975
Londres	199.734	120.154	312.319	1.972.629
Pozo de Piedra	141.256	113.139	220.879	1.423.247
Puerta de Corral Quemado	124.265	74.754	194.311	1.227.283
Puerta de San José	102.336	72.294	160.021	1.021.436
San fernando	71.517	51.520	111.829	714.820
Villa Vil	243.394	99.026	380.591	2.356.417
SANTA MARÍA	515.607	373.331	803.195	5.182.925
San José	232.023	120.298	361.438	2.284.694
Santa María	283.584	253.033	441.757	2.898.231
Subtotal PIA	4.466.814	2.750.261	6.981.621	44.206.251
Rest of Catamarca towns	1.834.489	1.039.244	2.868.555	18.053.615
Total towns	6.301.303	3.789.506	9.850.175	62.259.867
Rest: Treasury and Promotion Fund	5.503.467	3.001.723	7.802.469	53.241.722
Total Royalties	11.804.770	6.791.229	17.652.644	115.501.589

Source: Catamarca Province Official Gazette and Provincial Office of Mining Social Promotion.

Provincial tax and non-tax fiscal revenues generated by Alumbreira and accumulated between 2005 and 2016. In million dollars



Source: Minera Alumbreira

IN THE LAST 12 YEARS, CATAMARCA PROVINCE HAS ACCUMULATED FISCAL REVENUES TOTALLING \$1.1769 BILLION MEASURED AT THE ANNUAL AVERAGE EXCHANGE RATE OF EACH YEAR.

¹¹ The total amount of mining royalties publicly reported by Catamarca province, paid by Minera Alumbreira, is \$ 17,652,642. This amount is distributed pursuant to Provincial Law No. 5128 between the different districts, Catamarca's General Treasury and the Development Promotion Fund. This figure includes amounts paid by Alumbreira during the four quarters of 2016 and three official assessments corresponding to the following terms: Q4 2013; Q1, Q2 and Q4 2014; Q1, Q2, Q3 and Q4 2015.

¹² Conversion made at constant values based on average exchange rate for year 2016, ARG\$/US\$ 14,7774

¹³ 2015 includes official assessment of Q4 2012; Q1, Q2, Q3 2013. 2016 includes official assessment of Q4 2013; Q1, Q2 and Q4 2014; Q1, Q2, Q3 and Q4 2015.

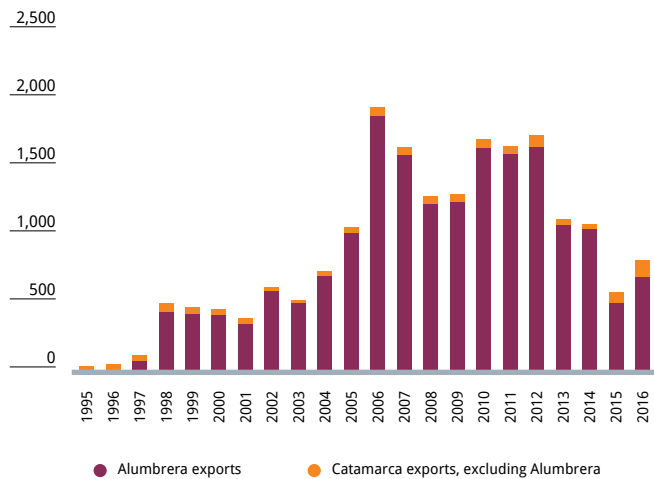
Importance of Catamarca exports

Since the onset of our operations, Minera Alumbreira exports have been the main component of Catamarca exports.

Catamarca exports totalled **\$803 million** in 2016, out of which 85.4% were Minera Alumbreira exports.

Other exported goods include olive, vegetables and cereal grains.

Percentage of Minera Alumbreira exports in total Catamarca exports. 1995-2016. In million dollars



Source: Minera Alumbreira and INDEC.

Contributions to the Argentine economy

Minera Alumbreira’s annual contribution to the Argentine economy totalled \$ 378.9 million in 2016, including tax revenues, purchases and wages.

This direct contribution represents monthly revenues of \$ 31.6 million and daily revenues of \$ 1.04 million that flow into the Argentine economy.

Particularly, direct revenues from wages and local purchases have significant indirect impact on the Primary Impact Area (PIA). Thus, 1,154 direct jobs represent 1,731 indirect jobs in other PIA companies. Therefore, we estimate an employment multiplier of 2.5 for the PIA, and a total of 2,885 (direct and indirect) jobs in this area.

Considering the impact of revenues on employment in Argentina, such impact is relatively higher at the national level than in the PIA, since there are more productive relationships and impacts on the different links of the value chain located in different provinces. The impact on employment caused by 1,154 direct jobs is the creation of 7,386 indirect jobs. In this case, employment multiplier at the national level is 7.4, i.e., for every 10 direct jobs at Minera Alumbreira, 64 jobs are created in other economic sectors.

The Bajo de la Alumbreira project also represents an additional benefit as a source of US dollars inflow. In 2016, the net inflow of foreign currency contributed by the mining project (exports inflow minus imports outflow) has a positive balance of \$631 million.



In 2016, Catamarca received \$ 18.4 million in fiscal revenues from Minera Alumbreira.



Road maintenance by loader in a snow-covered area.



Alumbrera's employment multiplier at the national level is 7.4; for every 10 direct jobs, 64 jobs are created.

VALUE CHAIN

SINCE THE START OF OUR OPERATIONS, MINERA ALUMBRERA HAS IMPLEMENTED SUPPLIER DEVELOPMENT PROGRAMMES THAT SEEK AN EFFICIENT AND SUSTAINED GENERATION OF WEALTH IN ALL LINKS OF OUR VALUE CHAIN.

The results obtained go beyond the life of the Bajo de la Alumbrera project. Due to the efforts made to strengthen the chain value, we now have key intangible resources to contribute to the local economic development in the future.

These resources include the human and social capital accumulated over 19 years. Human capital includes the valuable lessons learnt by suppliers of goods and services, both globally by organisations and individually by their employees.

They comprise technical knowledge, hard and soft labour skills, such as the knowledge to operate machinery or the ability to work as a team and communicate appropriately at the workplace; the acquisition of work habits under rules and processes that meet international standards of a world-class project, and, in general, the adoption of principles and values that combine good labour practices with the joint pursuit of individual and collective benefits, particularly, the wellbeing of future generations from the Andalgá, Belén and Santa María districts.

Purchase of goods and services

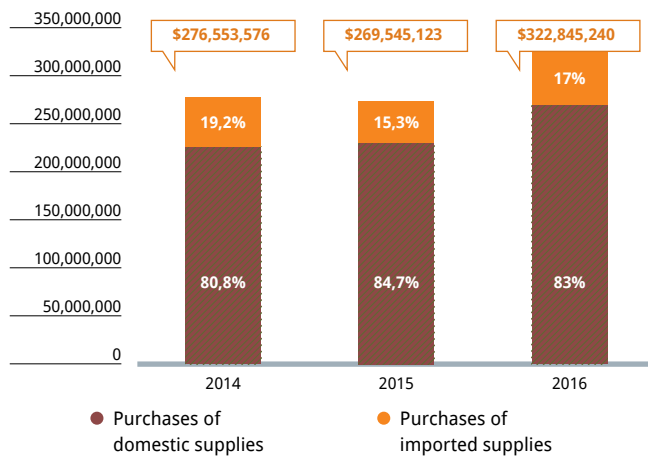
IN 2016, MINERA ALUMBRERA PURCHASED GOODS AND SERVICES FOR A TOTAL OF \$ 322.8 MILLION. \$83 OUT OF \$100 WERE SPENT ON GOODS AND SERVICES FROM ARGENTINE SUPPLIERS AND ONLY \$17 WERE SPENT ON IMPORTED GOODS.

Purchases of imported goods totalled \$ 54.7 million, while purchases of domestic goods totalled \$ 268.1 million. They represent monthly revenues of \$ 22.3 million in the Argentine economy or daily purchases of over \$ 734,000.



Truck maintenance shop follows the guidelines of Caterpillar's 5-star Environment Control Plan, thus reducing safety risks and protecting the environment.

Supplies purchased by Alumbreira by domestic or imported origin. 2014, 2015 and 2016



Source: Minera Alumbreira

► 19,8%

Total purchases of goods and services were 19.8% higher than in 2015¹⁴.

This increase measured in current Argentine pesos should be considered in the context of mine closure and inflation in the Argentine economy.

Measured in US Dollars considering annual exchange rates of each year, total purchases of goods and services totalled \$322.8 million and dropped 25% compared to the 2015 level. Purchases of domestic goods and supplies totalled \$268 million and also decreased by 26.4% against the previous year level.

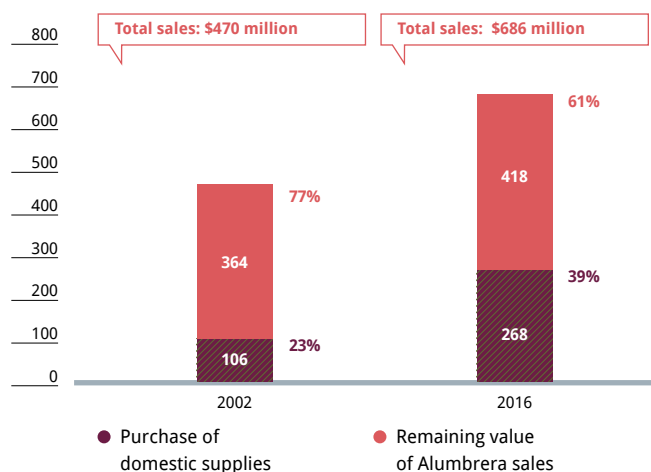
¹⁴ Comparison made in nominal terms in Argentine pesos. Conversion made at constant annual average exchange rate of year 2016 (ARG\$/US\$ 14,7774).

Replacement of imports

Due to the efforts made by Alumbreira through its supplier development programmes, as well as its involvement in related initiatives promoted by governmental agencies, there was a sustained increase in the replacement of imported goods by domestic supplies.

The results of our efforts to develop local suppliers can be noted in the increase of our domestic goods purchases over the years, expressed as a percentage of Alumbreira sales. In addition to the increase of domestic goods purchases in absolute terms, purchases from Argentine suppliers represented over the years a higher volume in Alumbreira's GPV. In 2002, our purchases of domestic supplies totalled \$106 million, representing 23% of our total sales, whereas in 2016, such purchases totalled \$268 million, representing 39% of our sales.

Percentage of domestic supplies purchased by Alumbreira in total sales. In US Dollars. 2002 and 2016



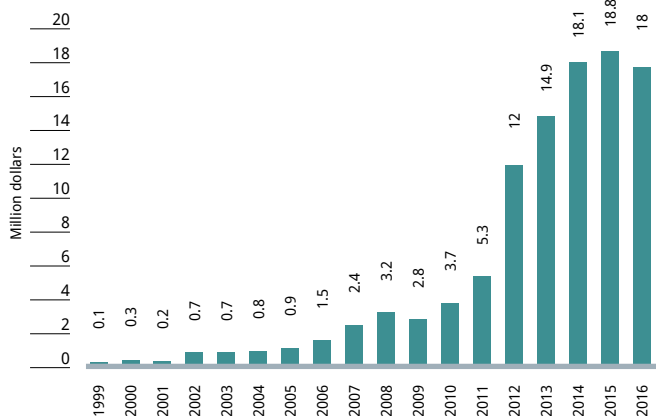
Source: Minera Alumbreira

Purchases from Catamarca

IN 2016, MINERA ALUMBRERA PURCHASES FROM CATAMARCA SUPPLIERS TOTALLED \$17,977,462, WHICH IS 4.6% LOWER THAN IN 2015.

Despite this reduction in purchases of Catamarca goods and services in the current mine closure scenario, throughout life of the mine, Minera Alumbreira has steadily increased locally-sourced purchases totalling \$262 million in 19 years. While in 1999 purchases from local suppliers totalled \$950,000 they have reached an annual average of \$36 million over the last four years, taking into account annual exchange rates of each year.

Minera Alumbreira's purchases from Catamarca suppliers. In Million Dollars¹⁵. 1999-2016



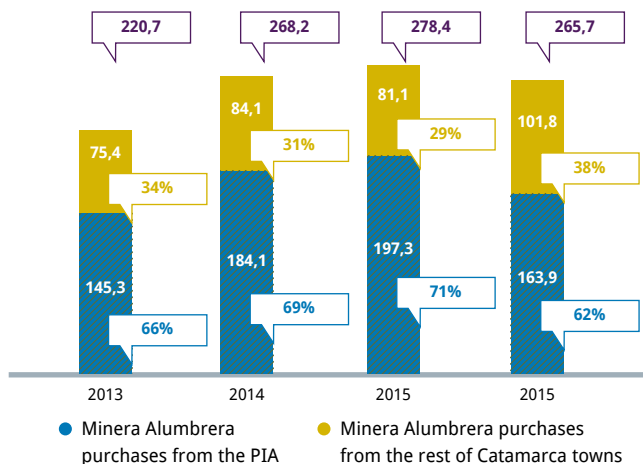
Source: Minera Alumbreira

Purchases from the PIA

IN 2016, ALUMBRERA'S PURCHASES FROM THE PIA TOTALLED \$11,088,961, REPRESENTING 61.7% OF OUR PURCHASES IN CATAMARCA, 4.1% OF DOMESTIC PURCHASES AND 3.4% OF THE TOTAL PURCHASES OF DOMESTIC AND IMPORTED GOODS AND SERVICES.

In 2016, the purchases of goods and services from the rest of Catamarca towns totalled \$6,888,501.

Supplies sourced from Catamarca. In Million Pesos. 2013-2016

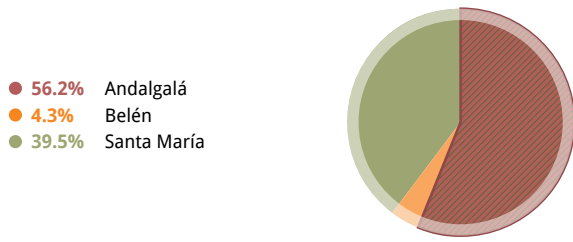


Source: Minera Alumbreira



Daniel Andreola and Enzo Faedda overseeing the opening of roads to Bajo el Durazno.

Supplies sourced from the PIA. 2016



Total: : \$11,088,961

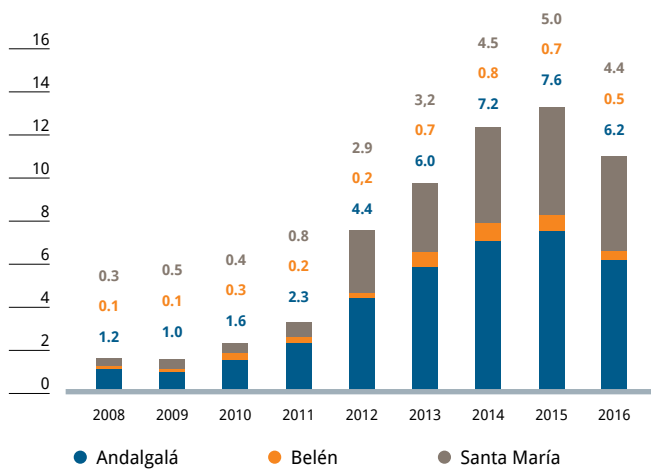
Source: Minera Alumbreira

Purchases from Andalgala totalled \$6,227,157, out of which 69% were spent on the hiring of skilled workers' services, such as laboratory assistants and engine drivers, asset security guards and housekeeping employees. Purchases from Belen totalled \$476,514, out of which 80% apply to freight transport services. Regarding Santa Maria, purchases totalled \$4,385,290, out of which 81% were applied to hire skilled workers' services and people and fuel transportation services.

Local suppliers of the PIA include single-person businesses, which are in the process of growing, and small and medium-sized companies that have grown in terms of turnover, number of employees and physical assets, including machinery, tools, vehicles and facilities.

Out of the \$6,888,501 spent by Alumbreira in purchases from Catamarca suppliers, outside the PIA, mainly in San Fernando del Valle de Catamarca, 77% were spent on hardware, construction and medical care services.

Supplies sourced from Andalgala, Belen and Santa Maria. 2008-2016. In million dollars



Source: Minera Alumbreira



Aerial view of the Concentrator Plant thickeners.



Other goods and services purchased by Alumbreira include lime, lubes, spare parts, surfactants, mill steel balls, tyres, food, vehicle maintenance, freight transport, transportation of staff, skilled workers' services, housekeeping, catering, security, and medical services, among others.

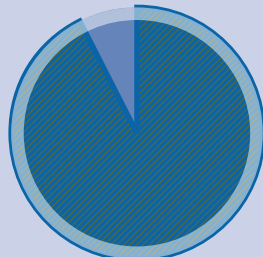
MAIN GOODS AND SERVICES PURCHASED FROM LOCAL SUPPLIERS OF THE PIA. 2016

ITEM
Equipment rental and earth movement works with or without operators
Skilled workers (general or specific qualifications)
Light vehicle rental
Office and Housing Rental
Pest control and related activities
Hardware and electricity
Construction materials
Light and heavy vehicle maintenance
Building maintenance
Greenhouse maintenance
Provision of spare parts for light and medium vehicles (trucks and/or vans)
Asset and physical security
Medical care services and medicines
Food catering and cleaning products
Office and annex areas cleaning services
Industrial safety services
Bulk lime transportation
General freight transportation
Fuel transportation
People transportation to/from and inside the site
Employee transportation by van
Media - Advertising



Sustainable development programmes expenditure

\$352,411 million



Sustainable development expenditure

- 92.6%** Community Programme
- 7.4%** Infrastructure works completed in the last few years



Since the onset of our mining project, we have spent \$62 million in sustainable development programmes, out of which 46% was allocated to infrastructure works and 54% to community development projects.



In 2016, the PIA districts received 73.6% of the funds spent on sustainable development initiatives, while Tucumán province received 21.7% and San Fernando del Valle de Catamarca, 4.7%.



Since 2010 to this date, the average annual expenditure in the PIA was \$3,651,768.



Over 19 years of operations, Alumbreira spent an average of \$4.8 million annually on sustainable development projects.



Commitment to the community

Primary Impact Area (PIA)

BAJO DE LA ALUMBRERA

ANDALGALÁ
BELÉN
SANTA MARÍA

Total population: 68,523 inhabitants

Total surface area: 23,674 km²



Under Alumbreira "We Preserve our Environment" programme, School #241 in Fuerte Quemado, Santa María district, Catamarca, received 150 carob tree seedlings and a handbook to learn how to preserve local vegetation species.

Based on our sustainable development approach, we seek to create growth opportunities in the region that help the communities develop and improve their standard of living beyond the life of the deposit.

We work based on a sustainable mining approach under which we seek to generate long-term social and economic benefits, creating shared value for our stakeholders.

Not only does this include fostering local production activities with business potential in the region, supporting local projects, improving the workforce skills, but also protecting the environment around us, working in harmony with the environment while minimising the risks that may be caused by mining operations.

Our programmes are the result of joint efforts between civil society, the government and Minera Alumbra. This cooperation approach is based on the recognition of the knowledge and leading role played by each local participant in managing their development process.



Students of Rural School #21, Punta de Balasto, Santa María district, planting carob tree saplings provided by Minera Alumbra.

Our accomplishments over the last few years prove that this work is carried out with responsibility, transparency and ongoing commitment by all parties involved.

During 19 years we have maintained a Community Programme based on three pillars of interest: health, education, production development, as well as sports and culture.

In 2006, major infrastructure works that create direct benefits for the communities were added through the construction of education, health, sports and social facilities locally.

This work programme in particular was executed under framework agreements signed with the Catamarca and Tucumán governments during 2006-2015. Alumbra, together with the unincorporated joint agreement (UTE) parties, built hospitals, schools, sports centres, intensive care units and provided high-tech health equipment¹.

The works to be performed were chosen by provincial authorities, while Alumbra delivered them ready to be used. Safety standards were as strict as those applied at the mine site on a daily basis. In addition, construction companies hired local workforce, creating indirect benefits in the form of procurement and jobs in the area where works were carried out.

Geographically speaking, our programme was focused on the Primary Impact Area (PIA) consisting of Andalgalá, Belén and Santa María.

PIA population

► **68,523** inhabitants
and a surface area of 23,674 km², representing 19% of Catamarca's population and 23% of its total surface area.

Additionally, we have also spent significant funds, particularly on health infrastructure works in the towns of San Miguel de Tucumán, San Fernando del Valle de Catamarca and Concepción de Tucumán, and on production development in Amaicha del Valle.

¹ For more information, see the list of works completed in the Social and Environmental Mine Closure Management chapter.



Training on walnut tree growing and pruning in Piedra Larga, Belén district, Catamarca. Local crop production development programmes are supplemented by infrastructure works to improve water supply and use with irrigation channels.

Social capital

In addition to our financial contribution, we developed a working practice based on the principles and values discussed in this report. In terms of sustainable development, our long-term vision in selecting our projects and prioritisation of results that entail benefits that go beyond the life of the mining project are particularly relevant.

PROJECTS MUST INCREASE THE COMMUNITIES' ABILITY TO FURTHER THE COMMON GOOD IN A LONG-LASTING MANNER AND, THEREFORE, THE EXPECTED RESULT IS AN INCREASE OF RESOURCES OR THE SUPPLY OF DIFFERENT FORMS OF CAPITAL LOCALLY.

On the one hand, we have contributed to the accumulation of physical capital mainly in the form of infrastructure works for the local education, health and production system. They are large civil works developed locally, such as hospitals, sports

centres, schools, irrigation systems, and water works, among others. This also comprises the supply of machinery, equipment and tools that supplement such works or that were allocated to other projects. These are tangible and easily visible results, which we have reported in successive sustainability reports.

On the other hand, our sustainable development programme in the communities also provides another type of results consisting in intangible resources not directly visible. In particular, we have contributed to increasing human capital, represented by technical knowledge, skills, and experience-based learning, both in the PIA education system and projects with agricultural farmers.

We also contributed by strengthening collective actions and the bond between individuals for the organisation of group projects. This is social capital represented by association projects, farmer cooperatives, small-scale entrepreneur groups, and teacher group training projects, among others.

Due to the long-term vision of our projects, we are currently dealing with the challenge of sustainable development upon mine closure based on the tangible and intangible results of our work with the communities for nearly two decades.

SUSTAINABLE DEVELOPMENT PROGRAMME

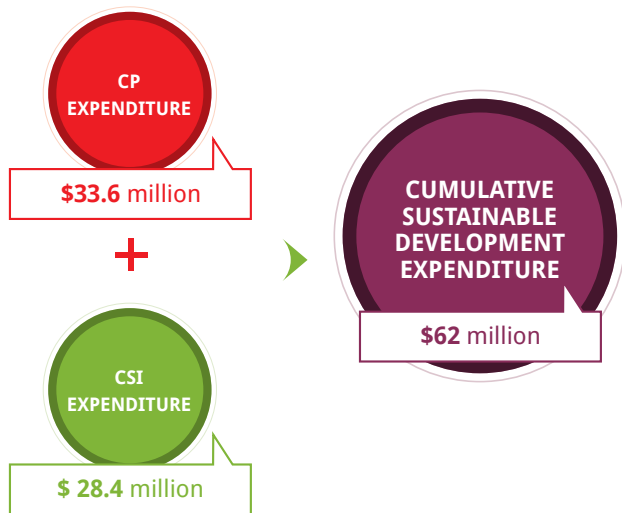
Minera Alumbrera's SD expenditure between 1999 and 2016 totals \$62 million².

OUR SOCIAL DEVELOPMENT PROGRAMME CONSISTS OF TWO TYPES OF PROJECTS: COMMUNITY PROGRAMME (CP) PROJECTS AND CORPORATE SOCIAL INVOLVEMENT (CSI) PROGRAMME INFRASTRUCTURE WORKS PROJECTS.

The former seeks to increase local human, social and cultural capital, while the latter, in addition, seeks to increase the local physical capital in the form of civil works and equipment and machinery set-ups⁴.

Out of the total cumulative expenditure made over 19 years, 45.8% was spent on infrastructure projects and 54.2% on community projects.

Cumulative sustainable development expenditure in million dollars for 1999-2016



Source: Minera Alumbrera

² Conversion made on the basis of annual average exchange rate of each year.
³ Although the concept of Corporate Social Involvement comprises all actions stated above, the CSI Programme as part of the SD actions specifically includes infrastructure works.

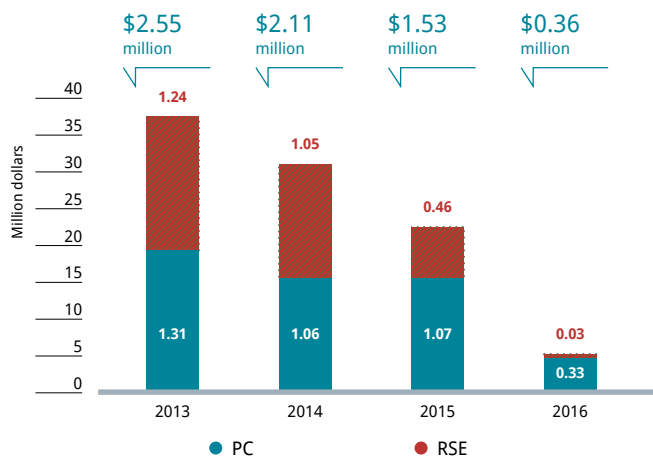
Since we are at the final stage of the life of the mining project, the sustainable development programme activities and projects are time constrained and thus the amounts spent over the last few years have been reduced.

At present, a number of community activities are being ended, and many infrastructure works have been completed and are now enjoyed by the communities. For instance, health expenditure has decreased –against the previous year level– since we recently completed the construction of the Andagalá Hospital and Aconquija Hospital, and the refurbishment of the Belén Hospital and the maternity ward and paediatric emergency unit of the Concepcion Hospital in Tucumán, works that required an expenditure of \$6 million⁴.

Similarly, other projects had a relatively major impact in economic terms, such as the Santa María sports centre, where we spent \$0.8 million and which was completed in 2015.

For the reasons stated above, our expenditure in 2016 was significantly lower than in previous years of the programme. The average annual sustainable development expenditure by Minera Alumbrera from 2004 to this date –measured in dollars⁵– is \$4,773,313. Therefore, the amount spent in 2016 was \$352,411, representing 7.4% of the average annual amount.

Minera Alumbrera's sustainable development expenditure on the Community Programme (CP) and infrastructure works (CSI) in million dollars⁶ for 2011-2016



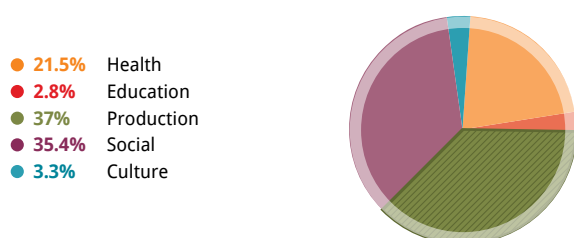
Source: Minera Alumbrera

⁴ Conversion made on the basis of annual average exchange rate of each year of these investments.
⁵ Conversion to dollars of yearly amounts applying the Central Bank of Argentina's average annual exchange rate for the relevant year.
⁶ Conversion at constant value on the basis of exchange rate of year 2016 (ARG\$/US\$ 14,7774)

In 2016, Alumbreira spent \$352,411 on SD programmes, out of which 92.6%, i.e. \$326,270, was allocated to Community Programme projects and the remaining 7.4%, totalling \$26,141, was used to complete infrastructure works under the Corporate Social Involvement Programme.

The proximity of mine closure emphasizes the importance of our long-term vision and the relevance of our sustainable development project selection and assessment criteria, which create value and contribute to the common good on an ongoing basis, beyond this limited timeframe.

Total Minera Alumbreira's Sustainable Development expenditure by area in 2016



Total: **\$352,411**

Source: Minera Alumbreira

MAIN PRODUCTION SUPPORT PROJECTS CONDUCTED IN THE PIA IN 2016

PROGRAMME	DISTRICT		TOTAL AMOUNT SPENT	DIRECT BENEFICIARIES
Farmers	Andalgalá (Villa Vil)	Andalgalá	\$14,888	40
Walnut farmers	Andalgalá (Potrero)			25
Goat farming	Andalgalá (Amanaos)			10
Pig farming	Andalgalá (Malli, Huaco, Amanaos)			10
Potato farming	Andalgalá (Villa Vil)			2
Walnut	San José - Santa María	Santa María	\$16,845	30
Forage	Santa María			50
Fruit	Santa María			150
Farming and livestock raising	San José - Santa María			26
Aromatic seeds	Belén (Londres)	Belén	\$32,136	40
Aromatic seeds	Belén			50
Vegetables	Belén (Londres)			10
Walnut	Belén			25
Grapevine	Belén (Hualfin)			50
Fruit	Belén			100
Quince	Belén			70
Grapevine	Tucumán (Amaicha, Colalao*)	Amaicha**		\$54,915***
Walnut	Tucumán (Amaicha, Colalao)		20	
Fruit	Tucumán (Amaicha, Colalao)		150	
Forage	Tucumán (Amaicha, Colalao)		60	
Total of main production projects in 2016			\$118,784	948

* Colalao del Valle includes Quilmes, El Bañado, Anjuana, Yasyamayo and Colalao del Valle.

** Amaicha del Valle includes Amaicha del Valle, Los Zazos, Ampimpa, El Sauzal, El Paraíso and Encalilla.

*** This amount was spent on the production area as a whole, as the sole contribution made to Tucumán province during the reporting period. Expenditure includes travel expenses, machinery, road opening and man-hours.

• Source: Minera Alumbreira

\$130,244

In 2016, the production area received the largest share of the total expenditure, i.e. 37% given to farmer support projects that year.

Production development projects include the provision of supplies, such as seeds, seedlings, agrochemicals, fencing posts and work tools to various local farmer groups.

They also comprise technical assistance for health management and training on varietal re-engineering of crops such as walnuts, grapevine, fruits, quince, aromatic seeds (aniseed and cumin), and potatoes.

Regarding livestock raising activities, projects to provide technical assistance and training on forage to goat and pig farmers were carried out and followed up, and association initiatives were facilitated.

Beneficiaries

Production support projects in the PIA have 2,541 direct and indirect beneficiaries.

BELÉN

CATAMARCA PROVINCE

▶ 345

direct and 275 indirect beneficiaries. The impact on Hualfín grapevine, aromatic seeds and fruit farmers is notable. Walnut, quince and vegetable farmers were also benefited.

SANTA MARÍA

CATAMARCA PROVINCE

▶ 256

direct beneficiaries who conduct forage, fruit and walnut farming and livestock raising activities. There also 768 indirect beneficiaries.

ANDALGALÁ

CATAMARCA PROVINCE

▶ 87

direct and 261 indirect beneficiaries, who conduct farming (walnut and potatoes) and livestock raising activities.

AMAICHA

CATAMARCA PROVINCE

▶ 260

beneficiarios directos y 290 indirectos, que se dedican a la producción de frutales, forrajes, nogal y vid.

PRODUCTION DEVELOPMENT IN RURAL COMMUNITIES

	PROJECT	PLACE	DESCRIPTION	CONTRIBUTION
BELÉN	AROMATIC SEEDS, CUMIN AND ANISEED PROJECT	Londres, Belén	Supplies were provided to small-scale aromatic seed farmers. 20 ha were planted. Harvest expected by early December. Direct beneficiaries: 24 farmers	Alumbrera provided training and basic supplies and foliar fertilizers. The municipal administration provided tractors equipped for land ploughing.
	AROMATIC SEEDS	Belén	This project similar to the one carried out in Londres. 20 ha. were planted with cumín and 6 ha. with aniseed. The cumín yield was 500-550 kg/ha. Harvest is expected by November. This crop has better yield, meaning revenues 25% higher than cumín. Beneficiaries: 20 farmers	Alumbrera provided agrochemicals and fertilizers, and training. The municipal administration contributed with land ploughing.
	QUINCE PLANTING	Belén	Quince planting. Survival rate was nearly 100% in all land lots and new plants started to grow. Beneficiaries: 10 farmers	Alumbrera provided 2,850 quince saplings, training (on planting, fertilisation and pruning) and organised the project. The municipal administration selected beneficiaries and contributed with land ploughing.
	GRAPEVINE PROJECT	Hualfín	Intended to replace 1 to 3-year old plants destroyed by late frosts and hail. Plants are currently growing normally with a survival rate above 90%. Grapevine plants across the district show good blooming and setting. Total beneficiaries: 20 farmers	Alumbrera provided 4,000 Malbec grapevine saplings to the Department of Agriculture. The municipal administration provided saplings to 20 beneficiaries across Los Nacimientos, La Quebrada and Villa de Hualfín.
	WALNUT VARIETAL CROP RE-ENGINEERING	Pozo de Piedra	Chandler walnut varietal re-engineering. On average, plants have a good growth rate with a survival rate above 95%. Total beneficiaries: 24 farmers	Alumbrera provided 940 walnut saplings and training (on land ploughing, design, and plant orientation).
	VEGETABLE FARMING PROJECT: LEAF VEGETABLES	Londres, Belén	Consolidated family project. Most farmers spend all of their time on this activity and have been planning sowing to organise farm produce sales all year round for the last 10 years. Leaf vegetables, eight-ball zucchinis, hard-shell squash, and pepper were planted with good progress.	Alumbrera provided basic supplies, seeds, preventive fungicide and foliar fertilizers, as well as training.
SANTA MARÍA	FRUIT AND SELF-SUPPLY FARMING PROJECT	Belén, Puerta de San José y Hualfín	Social project to improve the diet and self-supply of 200 families from rural areas.	Alumbrera provided plants to more than 260 families.
	WALNUT VARIETAL RE-ENGINEERING	San José, Santa María	All walnut growing projects were visited to give beneficiaries guidance on pruning and sprout removal to form the production structure consisting of 1 to 3-year old plants. Beneficiaries: 12 farmers	Alumbrera provided 540 Chandler walnut saplings to those who ploughed the land. Farmers received training on crop management and recommendations for fast plant growth.
	LIVESTOCK RAISING PROJECT	Santa María	Annual (barley and oat) and perennial (lucerne) pasture planting project for low-income earning farmers. Total beneficiaries: 38 farmers	Alumbrera provided seeds and training to beneficiaries (preparation and sowing of these pastures as part of an agro-food chain). Joint efforts with the local Department of Agriculture.
	LIVESTOCK RAISING PROJECT	Santa María	Assistance was provided to farmers from the Fambalasto, La Quebrada, El Tesoro, Punta de Balasto, and San José towns to grow pastures, including barley, oat and lucerne. The project has two stages: planting of annual and perennial pastures, and farming of goats, sheep and cattle. Total beneficiaries: 40 farmers	Alumbrera provided wire rolls for small land lots, insecticides, and training.
	FRUIT PROJECT	Santa María	Social project to improve self-supply. Families use part of their produce to make artisanal jams and sweets in order to sell home-made sweets at fairs.	Alumbrera provided fruit saplings to schools.

• Social and health

In terms of importance, production support expenditure is followed by social expenditure, with \$124,919 spent by Alumbreira, i.e. 35.4% of the total expenditure, and health expenditure, with \$75,771.

The projects developed in these areas comprise actions and the provision of items that supplement infrastructure works, such as critical equipment and supplies given to hospitals and health centres, sport gear and items for sports centres, vaccination campaigns, training to improve health care quality at hospitals, training courses delivered by first aid, and industrial safety and hygiene, experts, and drinking water supply improvements, among others.

• Culture and education

The funds spent to support cultural activities totalled \$11,770 and education expenditure was \$9,770, representing 3.2% and 2.9% of the total expenditure respectively.

Education has had a relatively much more significant participation since the start of the programme, due to infrastructure and civil works carried out in schools and, especially, our expenditure in the education improvement and teacher training programme ended in 2015.

PRODUCTION DEVELOPMENT IN RURAL COMMUNITIES

	PROJECT	PLACE	DESCRIPTION	CONTRIBUTION
TUCUMÁN	LIVESTOCK RAISING PROJECT	El Bañado y Yayasmayo	The project aims at increasing winter and perennial pasture availability to have reserves. 32 ha. were planted with green pasture seeds. Total beneficiaries: 12 farmers	Alumbreira: semillas de alfalfa para implantar 10 ha; obras hídricas como la perforación de pozo de riego y entubamiento de cañería de PVC.
	GRAPEVINE PROJECT	Los Zazos, El Paraíso, Colalao del Valle, provincia de Tucumán	Good sprouts; plants have a good growth rate. Most vineyards have pressurised irrigation systems and had good harvests over the last 3 years.	Alumbreira: provided 4,500 plants, and training, to farmers from Los Zazos and El Paraíso. The Winemakers Chamber provided 6,000 plants to farmers from Colalao del Valle in order to plant new lots in full with Malbec grapevines.
	WALNUT PROJECT	Los Zazos, Ampimpa y Salas	Project to diversify the main grapevine crop to fruits and livestock raising activities. 14 ha. were planted, and now there are trees that started to yield the first fruits.	Alumbreira: provided training to farmers and approximately 3,300 plants over the last 5 years.
	FRUIT PROJECT	El Bañado, Anjuana, Yasiamay, Los Zazos, Amaicha, Ampipa y Salas, provincia de Tucumán	The goal of this project is to improve self-supply. There are 10 small-scale projects to make regional sweets for commercial purposes, i.e. to sell them to tourists visiting the area. Total beneficiaries: 230 families	Alumbreira and Los Zazos Agro-Industrial Cooperative organised and provided 1,450 peach, apple, pear, plum and quince plants.
	LIVESTOCK RAISING PROJECT	Los Zazos y Salas, provincia de Tucumán	Project to plant lucerne, barley and oat seeds. At present, all land lots are planted. Total beneficiaries: 12 farmers	Alumbreira aprovided lucerne, barley and oat seeds, and training to farmers.
ANDALGALÁ	WALNUT VARIETAL RE-ENGINEERING	Distrito El Potrero, Andalgalá	The town mainly produces native walnuts, but this variety has low productivity so a varietal re-engineering to a walnut that is more competitive in the market was sought. Direct beneficiaries: 25 families	Alumbreira provided 1,500 Chandler walnut plants, pollinators, pruning tools, training, and fertilisers and contributed with crop management.
	VEGETABLE PROJECT	Distrito Villa Vil, Andalgalá	Farmers from the "Santa Rita" neighbours centre require phyto-sanitary treatment equipment to eradicate pests from vegetables and fruits and to provide this service to other farmers. Direct beneficiaries: 40 farmers	Alumbreira provided a motorised sprayer, personal protection equipment, training, and applied pesticides.
	GOAT FARMING	Distrito Amanao, Andalgalá	Goat farming is the main production activity in Amanao and a source of income for local families. A more efficient production requires technical improvements, from goat health care, food management and facilities. This project represented an increase in the goat birth rate and a reduction in their mortality rate. Direct beneficiaries: 10 farmers	Alumbreira provided materials for perimeter fencing and goat pens; training on goat farming, feeding, reproduction and health.
	PIG FARMING	Distritos Huachaschi, Malli, Huaco, Andalgalá	The farming of pigs for sale is a home-based activity carried out by small-scale farmers. The facility improvements made helped increase the survival rate of new-born pigs.	Alumbreira provided tin sheets and cement bags.
	POTATO FARMING	Distrito Villa Vil, Andalgalá	Vegetable production in the Villa Vil town consists in potato growing. Seed potatoes were planted in 2.5 ha., representing an average of 9,000/ha. The result was highly positive since no fertilisers were used and weeds were removed manually. Farmers sold potatoes in bags and in bulk. Direct beneficiaries: 2 families	Alumbreira provided 4,000 kg of Spunta seed potatoes and technical advice.



Students from School #241 in Fuerte Quemado, Santa María, received training on the preservation of native vegetation species.

SUSTAINABLE DEVELOPMENT EXPENDITURE IN THE PIA

CUMULATIVE SD EXPENDITURE BETWEEN 2010 AND 2016 TOTALS \$37,617,972. THIS IS EQUIVALENT TO 8 HOSPITALS, SUCH AS THE ONE BUILT IN ANDALGALÁ, OR 45 SPORTS CENTRES, SUCH AS THE ONE BUILT IN SANTA MARÍA.

71% of the funds were allocated to the Andalgalá, Belén and Santa María districts, while 29% were spent in the rest of Catamarca and in Tucuman, where mainly major infrastructure works were carried out in San Fernando del Valle de Catamarca, San Miguel de Tucumán, Concepción de Tucumán, and community projects were completed in Amaicha del Valle. These expenditures are important because they improve the present and future standard of living of the Catamarca and Tucuman people.

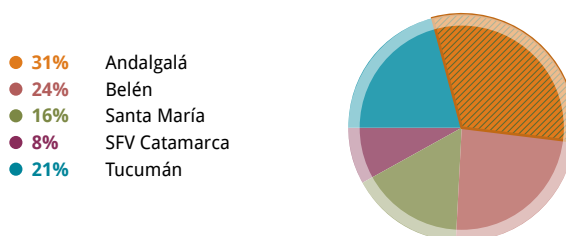
In 2016, expenditure in projects carried out in the PIA totalled \$259,401, representing 73.6% of the total SD expenditure, out of which 89.9% was allocated to community development projects.

The recent completion of major projects in the PIA and the end of our operations entail a reduction in the total SD expenditure. Like any sustainable development initiative, the long-term goal is to gradually lessen our support so that the project gets

stronger on its own. This is achieved through prior, robust and sustained preparation, in which beneficiaries use the tools and training received over these decades to continue their growth during this maturity stage.

Since 2010 to this date, our average expenditure in the PIA was \$3,651,768 per year. Therefore, the amount spent in the PIA in 2016, applies to this final stage of operations and does not represent the expenditure made by Alumbreira over the last few years.

Cumulative SD expenditure by geographical area between 2010 and 2016 in dollars

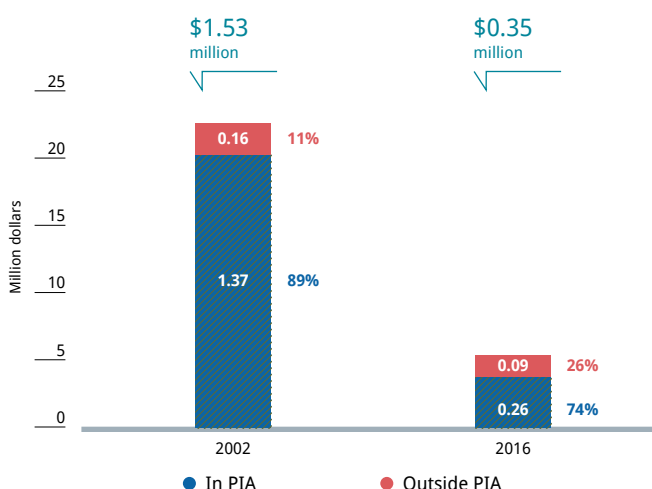


Total: \$37,617,972

Source: Minera Alumbreira

⁷ Conversion made on the basis of annual average exchange rate of each year.

Alumbreira's SD expenditure by geographical area in million dollars and percentage for 2015 and 2016



Source: Minera Alumbreira

Outside of the PIA, Alumbreira's sustainable development expenditure in 2016 was \$76,372 in the Valles Calchaquíes area, Tucumán province, and \$16,368 in San Fernando del Valle de Catamarca. In both cases, funds were spent on community development projects.

In Tucumán, Alumbreira has spent \$8,666,477 since 2010 to this date, a period during which major health infrastructure works were carried out in San Miguel de Tucumán, and projects were completed in Concepción and Amaicha del Valle over the last few years., out of which 64% went to infrastructure works and 36% to community development projects. This amount represents 13.9% of Alumbreira's total cumulative sustainable development expenditure.

Similarly to what was stated above about PIA, our expenditure in Tucumán in 2016 does not represent the average expenditure level of the last seven years. The annual average expenditure in Tucumán since 2010 has been \$1,238,068, and the amount spent in 2016 was \$76,372, mainly on community projects in the areas of health and production system.

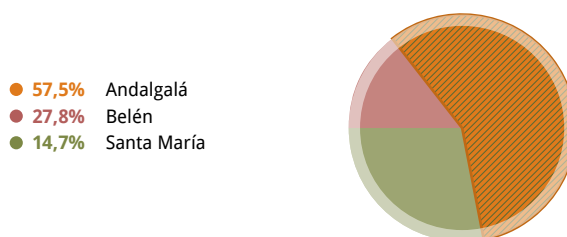
During that same period, since 2010 to this date, Alumbreira spent \$3,389,331 in San Fernando del Valle de Catamarca.

OUR EXPENDITURE IN CATAMARCA PROVINCE, INCLUDING THE PIA AND CAPITAL CITY, SINCE 2010 TO THIS DATE TOTALLED \$28,951,495.

In 2016, Alumbreira's expenditure in Catamarca province (PIA plus San Fernando del Valle) totalled \$276,039, representing 78.3% of the total expenditure for that year.

In general, fund allocation among the PIA districts over the years has been proportional to their respective population numbers. However, due to the reasons stated above, the decrease of the total expenditure and completion of projects that required significant amounts of money show a less proportional allocation over the last few years.

Breakdown of sustainable development expenditure by PIA district, 2016



Total PIA: \$259,401

Source: Minera Alumbreira



Under the Production Development Programme, farmers from La Puntilla, Belén district, received training on direct growing of onions.

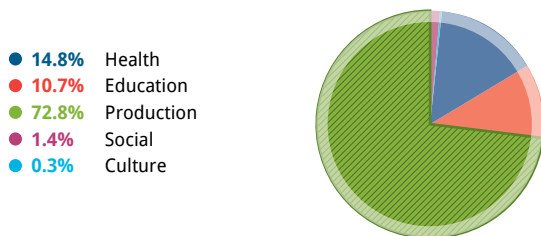


▶ ANDALGÁ

THE CUMULATIVE SD EXPENDITURE IN ANDALGALÁ DISTRICT BETWEEN 2010 AND 2016 TOTALS \$10,047,673.

Measured on the basis of the average exchange rate applicable of each year. In 2016, Alumbraera spent \$149,197.

Sustainable development expenditure in Andalgalá by area in 2016



Total: \$149,197

Source: Minera Alumbraera

• Production development

72.8% of our expenditure went to production projects. In addition to farming and livestock raising activities, including walnut and potato farming, and cattle, goat and pig raising, Alumbraera also funded a project to produce handicrafts made of rhodochrosite, a semi-precious stone traditionally mined from the region and known as the Argentine national gemstone.

Alumbraera made contributions to support training at the Catamarca Metalsmithing School and acquired machinery for artisans.

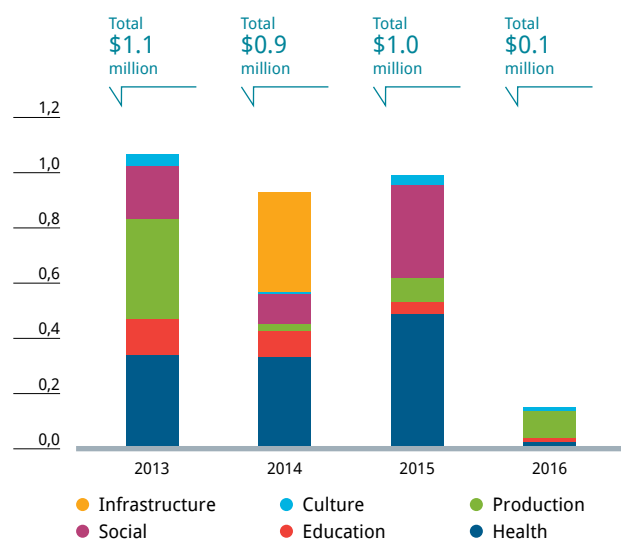


Another project aimed at supporting local farmers that was completed this year was the irrigation channelling works in Amanao and Villa Vil. 6,000 m-long waterproof channels were built in these towns, representing a major step towards infrastructure modernisation for farmers for a rational and more efficient use of water.

• Health

Alumbraera aportó material y equipamiento para complementar las importantes obras de infraestructura finalizadas el año anterior.

Alumbraera's SD expenditure in Andalgalá by area in million dollars (2013-2016)



Source: Minera Alumbraera

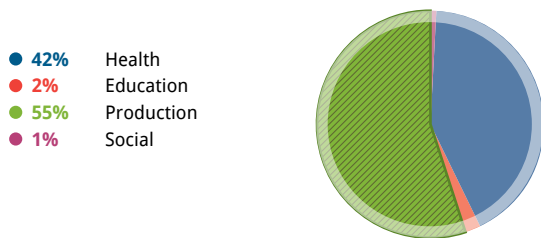


► BELÉN

OUR CUMULATIVE SUSTAINABLE DEVELOPMENT EXPENDITURE IN BELÉN DISTRICT SINCE 2010 TO THIS DATE TOTALS \$9,982,296.

In 2016, Alumbreira spent \$72,214 on SD projects in Belén.

Sustainable development expenditure in Belén by area in 2016



Total: \$72,214

Source: Minera Alumbreira

• Production development

55% of the funds, i.e. \$39,814, were spent on this initiative. Projects are aimed at grapevine, aromatic seed, fruit, walnut, quince and vegetable farmers.

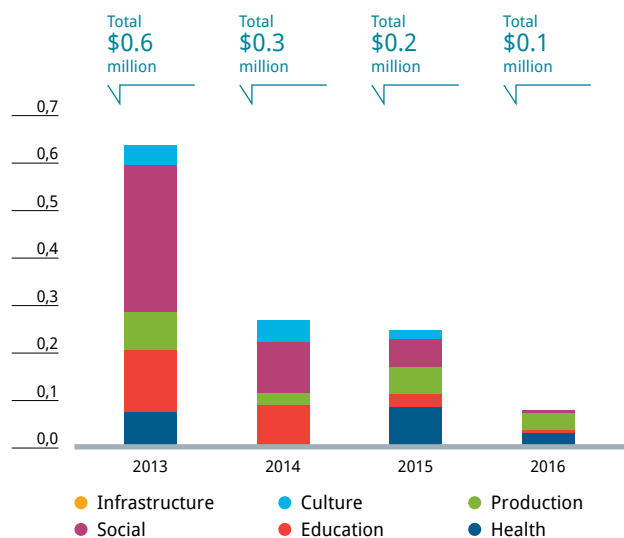
In Londres town, Belén district, Alumbreira has spent over \$135,000 on equipment for the walnut processing plant. In addition, further support was given in the form of technical advice for its operation in last years.



• Health

Health projects totalled an expenditure of \$30,248, i.e. 42% of the funds, and supplemented the infrastructure works completed on the previous year in the paediatrics ward and intermediate care unit at Belén Hospital.

Alumbreira's SD expenditure in Belén by area in million dollars (2013-2016)



Source: Minera Alumbreira

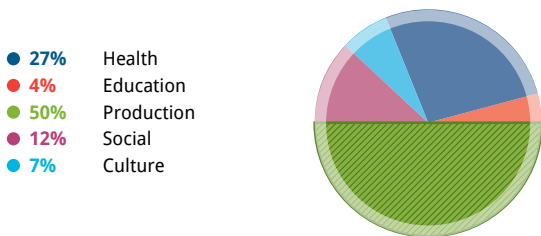


► SANTA MARÍA

OUR CUMULATIVE SD EXPENDITURE IN SANTA MARÍA SINCE 2010 TO THIS DATE TOTALS **\$\$\$5,532,196.**

In 2016, Alumbreira spent \$37,990 in Santa María.

Sustainable development expenditure in Santa María by area in 2016



Total: **\$37,990**

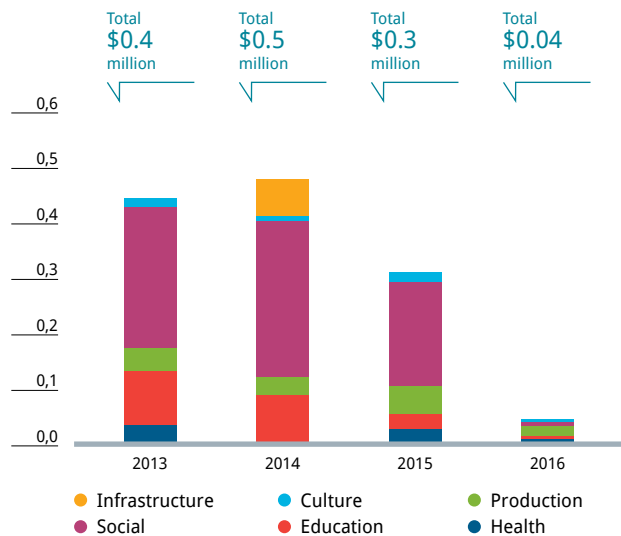
Source: Minera Alumbreira

Half of the funds were used on farming and livestock raising projects, including farming, cattle raising, forage and walnut growing.


Sport gear was also contributed to this district to supplement the infrastructure work completed last year, the Santa María sports centre.



Minera Alumbreira's SD expenditure in Santa María by area in million dollars (2013-2016)



Source: Minera Alumbreira



Provision of bee breeding chambers and 30 queen bees for the Beekeeping Project in order to increase honey-making production in Belén, Catamarca.

Community project selection and assessment criteria

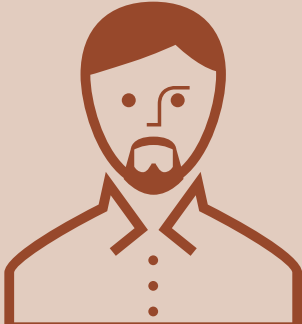
Projects developed under the SD Programme are the result of a process where local problems and relevant priorities are identified, suitable and relevant proposals are selected, eligibility guidelines are followed, and project feasibility is assessed.

As a general rule, this process is essentially managed from the beneficiaries' point of view, meaning that problems are identified, prioritised and assessed based on the opinion of local people from the town where actions will be taken.

In order to know the opinion of beneficiaries, Minera Alumbreira conducts a few communication and feedback activities with the communities, including annual roundtable meetings, with the participation of stakeholder representatives and Alumbreira members who discuss this sustainability report, and face-to-face discussions between local people and Alumbreira representatives who have offices in each host town. In previous years, an annual opinion survey was conducted by the National University of Catamarca.

In addition to this general criterion, there are project eligibility guidelines that set objective conditions to select proposals.

- We support projects carried out by local groups or institutions. Projects are required to bring collective benefits that must be fairly distributed among the local people.
- Projects must be aimed at improving the standard of living and continue creating benefits beyond mine closure.
- Projects must be formally designed and developed so that their feasibility can be assessed and they can be followed up. To this end, relevant training was provided and skills have been developed locally.



Challenge

Provide the means necessary for a responsible, comprehensive mine closure, in line with our sustainable development management efforts.



Approach

Create a positive experience for our stakeholders, which can be conveyed as a learning model to other mining companies, both domestically and internationally.



Environmental aspect

The three facilities with the greatest impact upon mine closure are the tailings dam, the waste dumps and the open pit¹. Since the onset of our operations, we have implemented programmes that seek to mitigate any potential adverse impacts caused by mining activities.



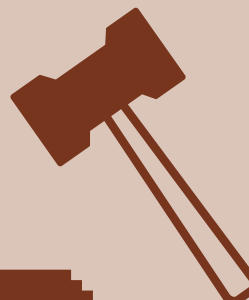
Background

We have 20 years of experience, technical studies and field tests that will help ensure a successful closure.



Social aspect

We will continue offering new development opportunities upon the end of our operations through training and sustainable activities for our employees, communities and value chain. We have a social baseline which lets us know in detail the evolution of the nearby communities.



Legislation

Environmental Protection Law 24,585 for mining operations broadly addresses the different stages involved in the closure of mining operations. Catamarca Mining Department Resolution No. 396/16 regulates in detail the closure of mining works and facilities, setting a precedent in Argentina.



¹ It refers to the open pit.

Mine closure social and environmental management

The Bajo de la Alumbraera deposit is operated 24/7 using 3 loading shovels and 53 large trucks.

Approach

Mine closure planning is a complex comprehensive process. The extent of planning is measured in decades, and a plan is developed considering social, economic and environmental parameters that are modified over the course of mining operations, while its effects go beyond a generation.



We have research studies directly related to mine closure and systematic monitoring activities, which are audited by the Catamarca Mining Department.

IN THIS PROCESS, WE SEEK AN OPEN AND HONEST COMMUNICATION AS MANAGEMENT EFFORTS ADVANCE, THROUGH A DIALOGUE THAT ALLOWS US TO JOIN EFFORTS TO FACE THE CHALLENGE TOGETHER.

Life cycle

The depletion of resources at the Bajo de la Alumbrera deposit leads us to the final stage of its life cycle, with its closure being planned for 2018, in accordance with the 2016 mine plan. In order to obtain successful results, the work needs proper planning. At Minera Alumbrera, we started developing a comprehensive Mine Closure plan since the project started, as the end of resource mining is associated to the natural process of any mining production activity.

Our planning integrates and is in line with social, environmental and safety variables to ensure a responsible mine closure, under a sustainable development-based management approach.

Closure at this scale is unprecedented in Argentina, and very few projects from around the world have dealt with social mine closure.

In addition to an external group of professional leaders who have supported us along the process, we listened to stakeholders' expectations through the Sustainability Report Roundtable meetings, and the interpersonal relationships built by the Minera Alumbrera representatives in each town where we operate.

The Mine Closure Plan includes a series of general and specific goals to be achieved. In addition, planned activities with allocated funds have been included. The information gathered is top quality and extensive. We also have an analysis of the risks to be faced, leading to a responsible Plan execution.

THE GENERAL GOALS INCLUDE:

MITIGATING IMPACTS CAUSED BY MINING OPERATIONS



CLEANING UP INDUSTRIAL FACILITIES AND REHABILITATING THE REMAINING ONES



ENSURING A SAFE SITE CONDITION THAT POSES NO RISK TO HUMAN HEALTH OR THE ENVIRONMENT DURING CLOSURE AND POST-CLOSURE



Panoramic view of the Minera Alumbrera facilities in Catamarca.



Accountability

Mine closure responsibility lies with the project operator, i.e. Minera Alumbrera.

The government, through the Catamarca Mining Department, will be in charge of examining and overseeing the Mine Closure Plan, and conducting monitoring activities during and after mine closure. There are 12 specific mine closure monitoring programmes monitored by the relevant regulator.

REGARDING THE DEPOSIT INFRASTRUCTURE, IT WILL BE COMPLETELY CLEANED UP, DEPOWERED AND CLOSED IN THE FUTURE IN ACCORDANCE WITH THE UNINCORPORATED JOINT VENTURE (UTE) AGREEMENT ENTERED INTO BY MINERA ALUMBRERA AND YMAD, THE OWNER OF MINING RIGHTS.

Legislation

Although the different stages involved in the closure of mining operations are broadly addressed by Environmental Protection Law 24,585 for mining operations, Argentina did not have

specific and detailed laws on mine closure. In June 2016, the Catamarca Mining Department issued SEM Resolution No. 396/16, which regulates the closure of mining works and facilities. Thus, the “Guidelines for preparing mine closure plans for the mining industry in Catamarca province” was approved, and all mining concession holders in Catamarca are required to comply with them.

In line with this requirement, Alumbrera submitted its Mine Closure Plan in November 2016. The document submitted to the competent authorities includes studies conducted by Alumbrera since the start of the project to achieve a mine closure that integrates environmental, social, financial and budget aspects.

Provision and financial guarantee

Since the onset of our operations, Alumbrera has an accounting provision to cover any mine closure related expenses.

In line with SEM Resolution 396/16, Minera Alumbrera submitted its financial guarantee proposal, which is now under consideration by the authorities. The purpose of such guarantee is to give the government a security and an assurance that the operator will comply with the mine closure plan in a complete and timely manner.



The goals of the Revegetation Programme, upon mine closure, include land rehabilitation, natural landscape restoration and habitat improvement.

OUR GOAL IS TO ATTAIN THE PHYSICO-CHEMICAL STABILITY OF THE FACILITIES THAT WILL REMAIN AT THE SITE AFTER MINE CLOSURE. IN THEIR INTERACTION WITH ENVIRONMENTAL FACTORS, THEY MUST NOT CAUSE IMPACTS THAT REPRESENT A RISK TO HUMAN HEALTH AND/OR THE ENVIRONMENT.

- Recover the disturbed area’s capacity to sustain wildlife.
- Restore or attain a balance in the hydrographic network, and achieve a landscape compatible with the surrounding area.
- Avoid risks to human health and safety.
- Obtain positive impacts on the regional socio-economic system and minimise negative social impacts resulting from the cease of mining activities.

We are dealing with this mine closure stage with a vast baseline from the studies made and gathered over 19 years of uninterrupted work. The knowledge platform contains hydrology, biology, geology, soil, hydro-geology, climate, social and cultural studies.

From an operational point of view, works under the 44 Environmental Monitoring Programmes (EMP) were continued in 2016. Under the EMPs, environmental-related activities are followed up, regular reports are submitted (quarterly, bi-annually or annually), and environmental factors involved in the mine closure plan are monitored.

In 2015, an audit was conducted by Glencore, where good results were obtained and improvement opportunities in line with Glencore standards were identified.

Factors related to mine closure are:

- Revegetation
- Waste dump and tailings dam capping system functioning monitoring.
- Waste dump rehabilitation monitoring.
- Water quality monitoring at Vis Vis and Campo del Arenal.
- Biodiversity monitoring at the mine site, Campo del Arenal, slurry pipeline and DP2 canal.

Primary goals

- Attain chemical stability by preventing Acid Rock Drainage (ARD).
- Attain physical stability in the waste dumps, tailings dam and open pit.

MAIN COMPONENTS OF THE MINE CLOSURE PLAN



These are the site’s most relevant facilities in terms of size, works required for their rehabilitation, and future interaction with the physical environment.

1 2

WASTE DUMPS AND TAILINGS DAM CLOSURE

Regarding waste dumps, we worked with the Mine Planning area to define the equipment to be used, barren core material haulage circuits and execution timeframes required to implement the moisture retention and release system.

Regarding the tailings dam, a consulting firm with vast experience globally in the mining sector will be in charge of the tailings dam design, construction, operation and closure, and the final development of our closure plan, including surface water management (canals, spillways) and alluvial material capping system implementation in the Vis Vis basin.

Capping system

The phenomenon known as Acid Rock Drainage (ARD) is a natural reaction that occurs in waste dumps and tailings dams when sulphur-bearing materials interact with oxygen and rainwater.

The acid generating capacity of materials can be predicted to plan preventive actions that will be monitored in the future through mine closure and post-closure monitoring activities.

Facing the possibility that minerals contained in the tailings dam and waste dumps can become potential acid generators, a capping system will be used to store and release moisture, thus limiting rainwater percolation into the facilities.

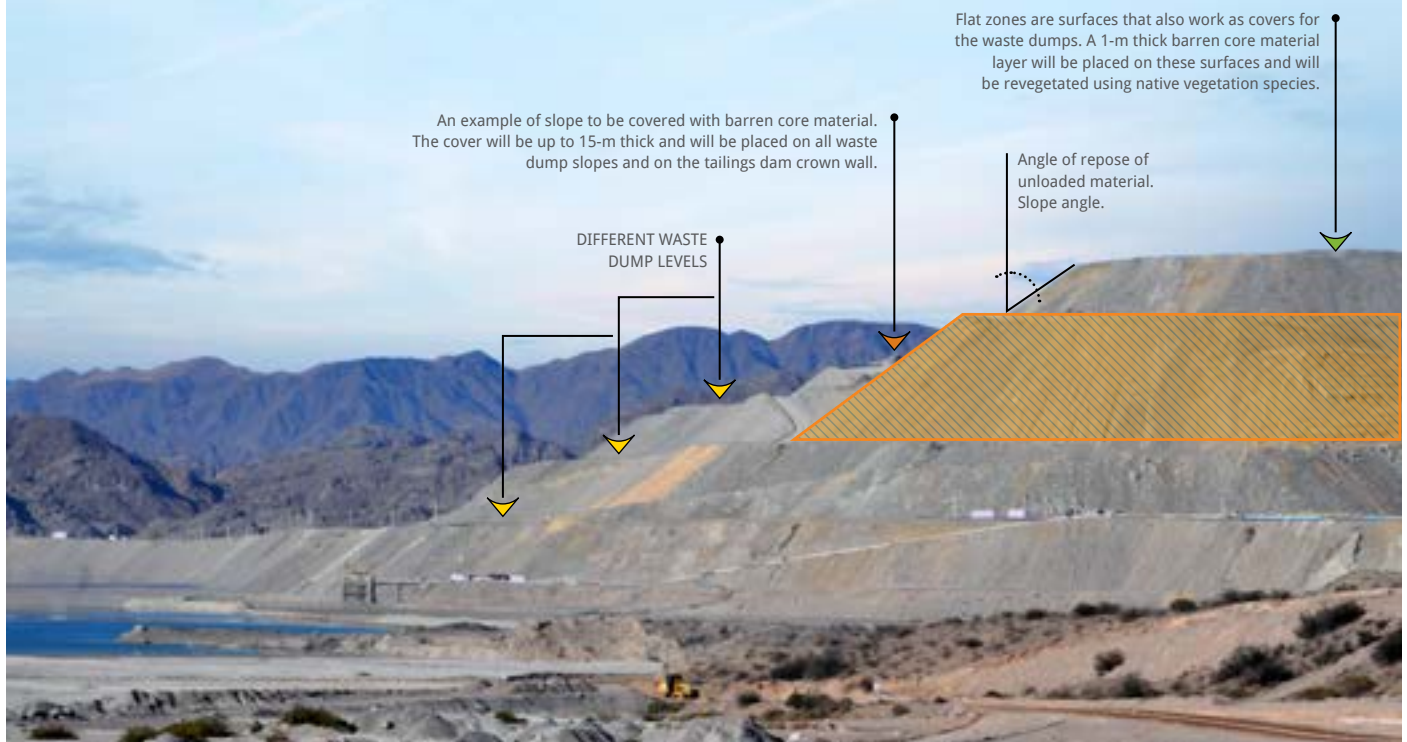
These covers have been tested multiple times in the field with excellent results. Their moisture retention, temperature, suction and quality of infiltrated water were measured to ensure its chemical stability in the long term.

In 2016, the thickness of covers for the rehabilitation of waste dumps and tailings dam was defined. This is inert material taken from the open pit –for waste dumps– and from the Tampa Tampa area –for the tailings dam– that will be placed on these two facilities to prevent ARD.

THE CHOSEN CAPPING SYSTEM WORKS LIKE A SPONGE RETAINING MOISTURE DURING THE RAINY SEASONS AND RELEASING IT DURING THE DRY PERIODS.

This prevents water from percolating into this facility, reduces suspended dust and facilitates the formation of substratum suitable for the growth of native vegetation to be planted on the cover.

This is the result of a 17-year process involving lab tests and field tests using different materials and designs in the areas to be rehabilitated.



2 Alluvial material means natural material found on land that is uncompact and has variable grain size.

3 Natural reaction that can occur in waste dumps and tailings dams when sulphur-bearing materials have a long-term interaction with oxygen and rainwater.

Revegetation programme

The waste dump and tailings dam cover will be supplemented with the revegetation programme. Throughout the life of the mine, revegetation studies have been conducted to plant native species on the covers, once they cease to be operational. Their goals are the following:

- Land rehabilitation.
- Natural landscape restoration.
- Soil fixation.
- Erosion prevention.
- Overall habitat improvement.

After surveying, identifying and classifying vegetation populations in the site area, field and lab trials were carried out to develop a Revegetation Plan for disturbed areas. This programme has been implemented since 2005 across different site areas.

Using the results of greenhouse and field-based studies conducted for more than 10 years, the following species with the highest survival and adaptability potential were identified to be used for revegetation of the mine site areas: *Atriplex*, *Senecio Subulatus*, *Senna rigida*, *Cercidium praecox*, *Zuccagnia punctata*, *Larrea divaricata*, *Pappophorum caespitosum*, and *Flourencia*.

In 2016, a direct planting trial was conducted on the waste dump and final design-based tailings dam areas. The aim was to attain a vegetation density equal to the natural one present in nearby sloping areas, which is 1.9 plant/m². The natural composition includes 9,466 bushes/ha, 4,466 grass plants/ha and 5,200 cacti /ha.

Restoration of the natural composition is difficult due to reproduction timelines and growth rates of certain species (such as cacti) and lack of seeds of some bushes. Therefore, works will be carried out using species from the germplasm bank to reproduce a structure of vegetation layers⁴ similar to the natural one.

Pumpback system

The pumpback system, which has wells located downstream the tailings dam, pumps water that runs out of the dam back into the production process to be reutilised, thus reducing freshwater use.

This system will be maintained during closure and post-closure for a period of nearly 8 years until the tailings dam is dewatered. Water recovered from the tailings dewatering activities will be sent to an evaporation pond located on the dam's surface. After a minimum period of 5 years, the tailings dam dewatering will stop and the coverage of the dam's surface will begin.

⁴ Vegetation layers refer to vegetation strata with different physical compositions (height and growth) made up by a lot more species, which facilitates reproduction.



Senecio Subulatus



Senna Rigida



Zuccagnia Punctata



Flourencia



Cercidium Praecox

Open pit closure

The open pit areas where a perimeter berm-enclosure will be placed upon closure of mining operations to ensure the safety of people or animals were defined. The main site entry gate and access ramps will be closed using wire fences with warning signs.

Using a pump system -whose wells are in the open pit- water inside the pit is extracted in order to remove rocks. This water, which naturally has high iron and sulphate levels and neutral pH, is slightly corrosive. Therefore, it is only used to water internal site roads.

In 2017, the groundwater model will be updated and used as a groundwater monitoring tool. The monitoring system provides information on the rock aquifer behaviour, giving an opportunity to predict water behaviour and quality at the end of our operations. When the site is closed down, pumping activities will cease and water level will start rising slowly until a terminal pond is formed.

IN 10 YEARS, IT COULD REACH ITS HIGHEST LEVEL UNTIL IT IS LEVELLED IN APPROXIMATELY 200 YEARS, WITH A WATER QUALITY SIMILAR TO BASELINE LEVEL. THE HYDRO-CHEMICAL MODEL FORECASTS THAT THE POND WATER WILL HAVE A PH LEVEL SLIGHTLY BELOW NEUTRAL (6.5) AND THEREFORE IT WILL NOT BE ACIDIC WATER.

The pond water will never leave the open pit and will act like a groundwater reservoir -with a depth of 160 to 200 m. Therefore, it will not supply water to the regional aquifer. This behaviour results from the high evaporation occurring in the Alumbreira site.

Waste

Industrial waste will be properly sorted and treated as established by the Alumbreira Waste Management procedure. Scrap metal will be temporarily stocked in a yard duly prepared for loading and transportation and will be sent for final disposal outside the site.

Hazardous waste will be temporarily placed in the Compactor Plant sector, following the abovementioned procedure's guidelines, until it is transported and finally disposed of by authorised carriers and operators.





SOCIAL ASPECT



Farmers from the Primary Impact Area have been receiving training on native crops since the onset of the mining project.

THE SOCIAL ASPECT OF MINE CLOSURE INCLUDES A COMPREHENSIVE VIEW OF THE SOCIAL, ECONOMIC AND ENVIRONMENTAL CONDITIONS OF THE LOCAL PEOPLE IN PARTICULAR.

The knowledge obtained from previous surveys on our social and economic impact (social baseline) and their updates, in addition to stakeholder engagement and dialogue, places us in a better position to understand reality and define social goals accordingly.

The communities' social development agenda was modified over time as any society goes through dynamic processes. Therefore, our mine closure social plan has also been outlined and has narrowed its scope as operations advance and stakeholders' needs change.

A successful mine closure will require a responsible and relevant involvement of community members, through their representative institutions and governments.

5 Catamarca province and, particularly, the Primary Impact Area geographically defined by the Andalgalá, Belén and Santa María districts.

The definition of goals to implement, review and adjust the mine closure plan as required, in addition to Alumbreira's commitment and stakeholders' involvement will provide a sustainable exit strategy to pursue results that are beneficial for all parties involved.

Maintaining our engagement with local people and a transparent, honest and timely communication are fundamental tools to achieve common goals.

The process of engagement may not result in full consensus on closure outcomes, but it should be considered successful if it leads to fully informed decisions.

Goals for this stage:

- Listen to and address employee, community and supplier needs and expectations in a gradual and inclusive manner.
- Build mutual understanding.
- Strengthen bonds of trust built in earlier stages.
- Provide truthful and reliable first-hand information as the final plan is developed.
- Know the technical capabilities and skills of employees and help them improve their employability with specific training.
- Support local suppliers in prospective future business options.
- Identify the skills needed in the community to maintain or change development programmes.

Communities

During the life of the mine, at Minera Alumbreira, we engaged with those around us in multiple ways, fostering the sustainable development of neighbouring communities in order to obtain permanent and long-term results with a view to a responsible Mine Closure.









During the entire production stage, relationships with the community were a key pillar for our management efforts, under which a work philosophy based on building strong bonds was implemented.

The legacy of mining operations in our Primary Impact Area

(PIA) is the result of our commitment to improving the standard of living of local communities. It sets the course for what we deem appropriate for sustainable mining, remaining in harmony with the environment and contributing to community development.

In this respect, the Community Programme focused on education, health and production development, together with major infrastructure works (hospitals and schools) completed between 2006 and 2015 for the benefit of local communities left their print with concrete long-standing contributions that will transcend the life of this project.

LARGE INFRASTRUCTURE WORKS COMPLETED BY MINERA ALUMBRERA DURING 2006-2015

	Year	Work	Community	
	2010	School #995	Andalgalá	
	2009	Vis Vis housing works	Andalgalá	
	2011	Laundry shop of the "Cooperativa de Emprendedores del Oeste" cooperative	Andalgalá	
	2011	Irrigation channels in Villa Vil and Amanao.	Andalgalá	
	2015	Andalgalá Hospital	Andalgalá	
	2015	Aconquija Hospital	Aconquija	
	2008	Belén Secondary School	Belén	
	2008	Equipment for Hualfín	Belén	
	2011	Hualfín Sports Centre	Belén	
	2008	Hydraulic crane truck for Hualfín	Belén	
	2008	Trailer for Hualfín	Belén	
	2008	Refurbishment of Ciénaga Redonda School	Belén	
	2008	Intensive care unit in Belén	Belén	
	2011	Hualfín sports centre	Belén	
	2010	Belén sports centre	Belén	
	2010	Londres bypass road	Belén	
	2011	Watering truck for Belén	Belén	
	2011	Medium voltage powerline for Hualfín	Belén	
	2011	Swimming pool in the Belén sports facility	Belén	
	2010	Equipment for the Hualfín winery	Belén	
	2015	Remodelling of the Belén Hospital maternity ward	Belén	
	2008	Water laboratory	Catamarca capital city	
	2008	National University of Catamarca auditorium	Catamarca capital city	
	2007	Health centre	Catamarca capital city	
	2008	Intensive care units	Catamarca capital city	
	2008	Medical equipment for intensive care units	Catamarca capital city	
	2010	Equipment for Catamarca Maternity Hospital	Catamarca capital city	
	2008	San Juan Bautista Hospital, 1st and 2nd stages	Catamarca capital city	
	2015	Santa María sports centre	Santa María	
	2008	Centro de Salud Hospital, 1st stage	Tucumán	
	2008	Perimeter fencing around Obarrio Hospital	Tucumán	
	2008	Remodelling of Obarrio Hospital	Tucumán	
	2008	Padilla Hospital	Tucumán	
	2008	Niño Jesús Hospital	Tucumán	
	2015	Instituciones Sanitarias Sur healthcare centre	Tucumán	
	2008	El Carmen Shelter	Tucumán	
	2008	Avellaneda Hospital	Tucumán	
	2008	Centro de Salud Hospital, 2nd stage	Tucumán	
	2009	Tucumán Maternity Hospital	Tucumán	
	2011	Concepción Maternity Hospital	Tucumán	
	2014	Regional Hospital "Dr. Miguel Belascuain" maternity ward	Tucumán	
				
				
				



Minera Alumbraera spends on the training and education of its employees. 2,071 courses, which totalled 76,255 hours of training, were delivered in 2016.

In 2016, we continued engaging with local communities, supporting local farmers on their different farming and livestock raising projects to strengthen their skills seeking to make them self-sufficient by the time mining operations are no longer present in the area.

Just like we did throughout the life of the project, Alumbraera has supported production projects involving local products with growth potential, such as grapevines, walnuts, aromatic seeds and forage⁶.

During this stage, we will continue supporting local communities with these production projects so that they can self-manage their work, tools and knowledge in a sustainable manner.

⁶ For more information, see the "Commitment to the Community" chapter.

Our people

Our employees are a top priority during this closure process. Regarding human resources management, our staff will remain stable until the end of the life of the project.

The training of our employees is contemplated by the strategic development goals, and this helps us maintain our focus on achieving long-term goals.

► 1,154

direct employees are preparing to face their employment future with Alumbraera's support.

Six years ago, we started working on a long-term career plan to provide concrete educational tools to improve the employability of our employees.

IN 2009, WE LAUNCHED THE "HIGH-SCHOOL COMPLETION PROGRAMME," WHERE 108 PERMANENT EMPLOYEES AND CONTRACTORS OBTAINED THEIR HIGH-SCHOOL DIPLOMAS AFTER ATTENDING TWO-YEAR COURSES. THIS LEARNING LEFT A MARK ON EMPLOYEES SINCE NOT ONLY DID IT INCREASE THEIR SKILLS, BUT ALSO ENCOURAGED THEM TO SEEK GROWTH AND SELF-IMPROVEMENT.

Then two site-based higher education courses were launched: "Technical Degree in Gastronomy" and "Technical Degree in Mining". Both courses of study were chosen by employees, focused on expanding their knowledge for future jobs..

► 102

employees graduated in 2016, year when the teaching of both courses of study ended.

TRAINING GOALS ACHIEVED

HIGH-SCHOOL COMPLETION PROGRAMME

2009-2010
108 employees obtained their high-school degree.

TECHNICAL DEGREE IN MINING UNDER AN AGREEMENT WITH THE NATIONAL UNIVERSITY OF CATAMARCA

2012-2015
48 employees who graduated high school completed a higher education course of study.
Class location: Site-based education facilities.

TECHNICAL DEGREE IN GASTRONOMY UNDER AN AGREEMENT WITH THE MINISTRY OF EDUCATION OF TUCUMÁN

2013-2016
54 employees who graduated high school completed a higher education course of study.
Class location: Site-based education facilities.

CLASS LOCATION: SITE-BASED EDUCATION FACILITIES



DARÍO ALEJANDRO PÁEZ,
San Fernando del Valle de Catamarca

● MINE TOPOGRAPHER
OBTAINED HIS "TECHNICAL DEGREE IN MINING"

“The higher education experience was wonderful. We started the first year with doubts of whether to take the course or not because studying required a major effort after having worked a 12-hour shift. What motivated me was the first mid-term exam (on Maths) which I passed. From that moment on, I never stopped. It was a lot of effort, specially during the first year and part of the second year. The things that we saw at work were later learnt in class and what we learnt in class was later applied at work. It was a very different and good experience. We are pleased and proud of it. I was thinking of my future and this was very positive. Alumbreira gave us an opportunity and opened doors for us to other places. This a personal achievement. It is a joy for my spirit to be able to have a university degree. I feel proud of what Alumbreira gave us and what we were able to achieve. I would like to dedicate this degree to my dad who is watching me from Heaven. He would surely be very proud of the degree that I obtained.”



CECILIA CATA,
Amaicha del Valle, Tucumán

● CONCENTRATOR OPERATOR
OBTAINED HER "TECHNICAL DEGREE IN MINING"

“This was a goal that I could achieve. A dream come true. I am very happy. I am very grateful for all the opportunities provided by Alumbreira. I have been working in this mining project for 20 years. At the time, they gave me the opportunity to complete my high-school education at the site, and after that I started the higher education course. Today, I hold a Technical University Degree in Mining.”

Therefore, we achieved our goals by facilitating better training for local people seeking to improve their income and to have an impact on their socio-cultural level, in addition to have them apply the lessons learnt in the place where they live.

The results of this human capital development effort are shown by the professional qualification and technical training received from Alumbreira

on state-of-the-art technologies and the high standards required by global-scale projects.

Employees also developed useful and valuable skills to work in efficient organisations, learning to follow health and safety rules and good work practices and about the importance of interpersonal relationships. In addition, the work experience gained at Alumbreira is positively valued in the employment market.

At the group level, an organisation based on shared values was developed, and based on that experience, the lessons and principles learnt from the organisation can be conveyed to the rest of society. Thus, the human capital accumulated individually, and the social capital developed as a group, could be put into practice and reproduced in new environments in different economic or social activities.

Next steps

At this stage, our focus is to strengthen the capabilities of each employee to look for other prospective employment opportunities, where each employee can become a self-employed worker or maximise their skills.

In 2016, we conducted a voluntary and anonymous survey on training preferences in order to identify general needs and specific demands..

► **98%**

agreed with the proposal to teach general and specific training courses.

Together with a consulting firm from Andalgala, specialised in entrepreneurship and association initiatives, we developed a training programme that provides our employees with suitable skills to facilitate their re-employment or development of other kinds of projects with better preparation.

The courses for our permanent employees and contractors will start on the first quarter of 2017, will last 4 months and will be taught after work hours. During this first stage, general training will be provided on resource administration, finance planning and project development, followed by more specific courses that were voted by the majority.

Suppliers

The decline in our procurement requirements since Alumbraera has different needs now, together with some regular large works that are now less frequent due to the lower availability of milled ore (particularly works performed at the tailings dam and earth movement works) has reinforced discussions with suppliers to make them aware of this situation.

REGARDING THE VALUE CHAIN, ALUMBRERA WILL EXAMINE NEW HIRING OPPORTUNITIES THAT SOME CONTRACTORS OR SUPPLIERS HAVE IN THE REGION, BASED ON THE RESULTS OBTAINED FROM THE LOCAL SUPPLIER DEVELOPMENT PROGRAMME WHICH HAS FOSTERED THE GROWTH OF BUSINESSES AND THE NUMBER OF INDIRECT JOBS IN THE PIA FOR NEARLY TWO DECADES.

The specific mine closure-oriented work goals will be defined based on the potential and skills acquired which may be of interest to other mining companies in the country or to serve industries that apply the same high standards. We will seek to bring together, as far as possible, the interests of the parties, based on the economic activities prioritised in the provinces and region.



In November 2016, Catamarca authorities presented to stakeholders the conceptual framework of the Alumbraera Environmental Mine Closure Plan.



Minera Alumbra employees and contractors have been informed on the Mine Closure Plan during the different process stages.

Communication of mine closure plan

From a communicational point of view, our stakeholders have been informed regularly as the Mine Closure Plan advanced. The plan was presented to the relevant authorities in November 2016.

We made the most of interpersonal meetings between local people and our community-based representatives, who live in their same towns. Another communication channel was roundtable meetings, after the release of our annual sustainability report⁷, where this matter has been discussed for the last few years.

In turn, the Catamarca Mining Department called for informative meetings on the progress of mine closure activities at Bajo de la Alumbra during 2016. Minera Alumbra participated in the presentation of Closure basic guidelines, where the different stages of the process were explained, while the opinion of local people was listened to in the face of this new challenge.

The first open call was in June in Catamarca city capital. Then, there was one in July in Belén town and one in October in San José town (Santa María district).

The meetings were attended by many people, including the provincial government authorities, members of the judiciary branch, lawmakers, mayors and councillors from the main

mining districts related to our project, mining professionals and workers, teachers and students.

Alumbra's presentation was reproduced for the relevant regulators from Tucumán, including the Environmental Department, Environmental Office, Mining Department, and groups of neighbours from Concepción town⁸.

The engagement process with neighbours and environmentalists from Concepción town, Tucumán, started in 2012 is part of the Community Transparency System agreement signed by both parties and moderated by Fundación Ecociencia. Since 2016, quarterly engagement meetings have been held, mainly focused on mine closure.

Regarding internal communication, our focus is to address the Mine Closure Plan in an expeditious manner for our people. The first step was a presentation made by the General Manager to all work groups, where safety, environment, operational aspects, and mine closure plan guidelines were addressed. We continued communicating the challenges to be faced in the next few years in this manner and information was updated accordingly.

In addition, given the importance of the environmental aspect in this Plan, specific presentations were arranged for operating areas in all work shifts by the Sustainable Development management area.

⁷ Ver más información sobre la mesa de diálogo en el capítulo "Sobre este informe".

⁸ Para más información sobre el diálogo con vecinos ambientalistas de Tucumán ver capítulo Compromiso con el desarrollo sostenible.



2016 targets achieved and 2017 objectives



ENVIRONMENT

OBJECTIVES	2016 TARGET	PERFORMANCE	2017 OBJECTIVE
Fines or penalties	0	⬆️ No fines.	0
Category ≥ 2 incidents	0	⬆️ No ≥ category 2 incidents were reported.	0
Waste	Manage all waste generated at the mine site.	⬆️ 1,884 tonnes of hazardous waste were sent for final disposal to authorised local and domestic businesses. All waste was sent to treatment.	Manage all waste generated at the mine site.
Management System	Maintain ISO 9001 and 14001 certifications.	⬆️ No deviations were reported during external audits.	Maintain ISO 9001 and 14001 certifications.
CLIMATE CHANGE			
Energy efficiency	Maintain consumption in line with KPI (2.78 t CO ₂ eq/Kt moved).	⬆️ 2.30 t CO ₂ eq/Kt moved.	Meet energy consumption KPI equal to 2016 level.
BIODIVERSITY CONSERVATION			
Native species	Monitor biodiversity at the mine site, slurry pipeline and Campo del Arenal areas.	⬆️ Diversity of species was maintained within the Alumbarrera mining concession area.	Conduct annual biodiversity monitoring activities to monitor native species.
WATER MANAGEMENT			
Vis Vis monitoring	4 quarterly monitoring activities.	⬆️ 4 quarterly monitoring activities were completed and no observations were made.	4 quarterly monitoring activities.
Water conservation in dry areas	Our freshwater use KPI was met at 750 l/tonne milled.	⬆️ 616 l/tonne milled.	Meet freshwater use KPI equal to 2016 level.
MINE CLOSURE			
Environmental aspect	- Collect native species seeds. - Submit the Mine Closure Plan to relevant authority.	⬆️ - 110.5 kg of native species seeds were collected. - Mine Closure Plan was submitted to Mining Department.	Comply with scheduled Mine Closure Plan activities.
Social aspect		⬇️ A voluntary survey was conducted among employees to learn about their training requirements.	Start training activities proposed to employees and contractors.



SAFETY

OBJECTIVES	2016 TARGET	PERFORMANCE	2017 OBJECTIVE
INCIDENT MANAGEMENT	Zero fatalities.	🟢 No fatalities.	Zero fatalities.
	LTIFR ¹ = 0	🔴 LTIFR was 0.22. 1 Disabling Injury incident was reported.	LTIFR = 0
	TRIFR ² = 0,7	🔴 TRIFR was 0.88. 4 Recordable Injury incidents were reported (including the only disabling injury incident).	TRIFR = 0,7
INCIDENT PREVENTION	Potentially Hazardous Activities (PHA) Management.	🟢 Intranet-based trainings on the site's 10 most relevant PHA have already been completed.	Continue training process until all 14-modules are covered.
		🟢 Our most significant risks were annually reviewed.	Review effectiveness of the most critical risk controls.
		🟢 Our most significant risk records were migrated to the Glencore Corporate System for Risk Management.	Centralise all Risk Management actions in the Glencore Corporate System.
		🟢 New audit formats were implemented in line with Glencore's Life Saving Protocol requirements.	Consolidate the continuity of the control effectiveness review with the participation of the Health, Safety, and Risk Management Committee.
	Contractor company management.	🟢 The Annual Contractor Auditing Programme was implemented.	Continue with auditing programme.

² Lost Time Injury Frequency Rate

³ Total Recordable Injury Frequency Rate



HEALTH

OBJECTIVES	2016 TARGET	PERFORMANCE	2017 OBJECTIVE
HEALTH AND SAFETY	Improve the standard of living of employees and maintain health at the workplace.	🟢 0 occupational illnesses.	Continue the annual risk agent monitoring and control programme.
	Carry out an anti-flu campaign.	🟢 Flu vaccination campaign for interested employees.	Maintain vaccination campaign.



SOCIAL

OBJECTIVES	2016 TARGET	PERFORMANCE	2017 OBJECTIVE
EXPENDITURE IN COMMUNITY DEVELOPMENT PROGRAMMES	Continue with the community development programmes implemented and move forward with others in accordance with the needs identified in the communities.	🟢 Expenditure in Community Development Programmes: \$4,821,420. Expenditure in CSI infrastructure works: \$386,291.	Continue with production programmes that benefit small-scale entrepreneurs and cooperative initiatives, developing growth opportunities and self-sufficiency over time.
ENGAGEMENT	Maintain open and transparent discussions with our neighbouring communities and stakeholders.	🟢 We received 284 visitors in 22 groups at the operational site as part of our open-door and stakeholder engagement policy.	Maintain ongoing discussions with local communities and their representatives.
	Become aware of community concerns and address them.	🟢 No formal complaints were reported. There were 125 requests for donations which were addressed by Alumbreira.	
	Pursue instances of direct dialogue with our stakeholder, encouraging dynamic communication spaces.	🟢 Our stakeholder representatives were invited to participate in a roundtable discussion held in Catamarca, under the AA1000SES standard. Participants reflected on the relevance, materiality and completeness of the sustainability report to help us improve our performance in future editions.	
	Prioritise interpersonal communication between Alumbreira representatives and neighbouring communities and other stakeholders.	🟢 531 meetings were held by community-based representatives with 1,367 local people, including municipal authorities, neighbours' boards, school representatives, hospital directors, irrigation boards, teachers and local people in general.	
COMMITMENTS	Foster farming and livestock raising programmes in the area of influence and crop varietal improvement initiatives, and provide training to farmers.	🟢 Support was given through training and supplies provided to local farmers and follow-up of farming activities by agricultural engineers.	Continue with farming production programmes (walnuts, aromatic seeds, forage and fruits), providing supplies and training to farmers.
	Build, give advice and provide materials and manpower to farmers to ensure irrigation water supply.	🟢 Materials were provided to build irrigation systems in Belén district.	Support the execution of works to improve water use.

🟢 Objetivo alcanzado

🟡 Objetivo alcanzado parcialmente

🔴 Objetivo no alcanzado

GRI G4 Table and United Nations Global Compact

This 2016 Sustainability Report was prepared in accordance with the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines principles and indicators and the Mining and Metal Sector Supplement.

The table below shows all contents and indicators that meet the “core” «in accordance» criteria stated in the guidelines,

and additionally some contents of the “comprehensive” «in accordance» option were included as part of our commitment to reporting in a complete and transparent manner.

In addition, those indicators that meet the 21 criteria of our Advanced Communication on Progress (COP) of the United Nations Global Compact were marked in another colour.

GENERAL STANDARD DISCLOSURES

GENERAL STANDARD DISCLOSURES

ESTRATEGIA Y ANÁLISIS

G4-1: Statement from the most senior decision maker in the organisation about the relevance of sustainability to the organisation and its strategy.

2-3

G4-2: Description of key impacts, risks and opportunities.

2-3, 16-21, 24-31, 118-119

ORGANISATIONAL PROFILE

G4-3: Name of the organisation.

8

G4-4: Primary brands, products, and services.

6, 8-10

G4-5: Location of the organisation's headquarters.

10

G4-6: Number of countries where the organisation operates.

8

G4-7: Nature of ownership and legal form.

6, 36

G4-8: Markets served.

6, 8, 10

G4-9: Scale of the reporting organisation.

5-10, 76-89

G4-10: Number of employees.

5, 48-54, Note 1

G4-11: Percentage of employees covered by collective bargaining agreements.

5, 50

G4-12: Description of the organisation's supply chain.

9, 76-87

G4-13: Significant changes during the reporting period regarding size, structure, or ownership, including supply chain.

Note 2

G4-14: Explanation of whether and how the precautionary principle is addressed by the organisation.

24, 27, 31, 44, 62, 106-111

G4-15: Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organisation subscribes or which it endorses.

14, 26-27, 34, 37,40

G4-16: Memberships in associations and national/ international advocacy organisations in which the organisation participates.

14, 37

IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES

G4-17: List of all entities included in the organisation's consolidated financial statements or equivalent documents.

6, 12

G4-18: Process for defining report content and aspect boundary.

15-17

G4-19: List of material aspects.

16-17

G4-20: Boundary of each material aspect within the organisation.

Note 3

G4-21: Boundary of each material aspect outside the organisation.

Note 3

G4-22: Explanation of the effect of any restatements of information provided in previous reports, and the reasons for such restatements.

Note 4

G4-23: Significant changes from previous reporting periods in the Scope and Aspect Boundaries.

Note 5



Indicators in line with the
UN Global Compact Principles

GENERAL STANDARD DISCLOSURES

PAGE AND/OR RESPONSE

STAKEHOLDER ENGAGEMENT

G4-24: List of stakeholder groups engaged by the organisation.	28
G4-25: Basis for selection of stakeholders with whom to engage.	28
G4-26: Organisation's approach to stakeholder engagement.	16, 18-21, 28-29, 30-31, 37, 44, 59, 100 -103, 106-107
G4-27: Key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns, including through its reporting.	16, 18-21, 28-29, 30-31, 100 -103, 106-107

REPORT PROFILE

G4-28: Reporting period.	12
G4-29: Date of the most recent previous report.	12
G4-30: Reporting cycle.	12
G4-31: Contact point for questions regarding the report or its contents.	Back of cover
G4-32: "In accordance" option the organisation has chosen, GRI Content index for the chosen option and reference to the External Assurance Report.	14
G4-33: Organisation's policy and current practice with regard to seeking external assurance for the report.	15

GOVERNANCE

G4-34: Governance structure of the organisation, including committees.	35-36
G4-35: Process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees.	27, 35
G4-36: Executive-level positions with responsibility for economic, environmental and social topics.	27, 35-36
G4-37: Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics.	25, 35-36
G4-39: Report whether the Chair of the highest governance body is also an executive officer.	35-36
G4-40: Nomination and selection processes for the highest governance body and its committees.	36
G4-41: Report processes for the highest governance body to ensure conflicts of interest are avoided and managed.	25, 36
G4-45: The highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities.	27, 35
G4-47: Frequency of the highest governance body's review on economic, environmental and social impacts, risks and opportunities.	27, 36
G4-48: Highest committee or position that reviews and approves the sustainability report.	Note 6
G4-51: Remuneration policies for the highest governance body and senior executives.	36

ETHICS AND INTEGRITY

G4-56: Describe the organisation's values, principles, standards and norms	24-25, 34, 40
G4-57: Internal and external mechanisms for seeking advice on ethical and lawful behaviour, and matters related to organisational integrity, such as help lines.	25, 27, 29, 37
G4-58: Internal and external mechanisms for reporting concerns about unethical or unlawful behaviour, and matters related to organisational integrity, such as whistle blowing mechanisms or hotlines.	25, 27, 29, 37

SPECIFIC STANDARD DISCLOSURES

MATERIAL ASPECTS	DISCLOSURES ON MANAGEMENT APPROACH AND INDICATORS	PAGE AND/OR RESPONSE	OMISSIONS
ECONOMIC			
Economic Performance	Management Approach.	8-9, 16-17, 76-89	
	G4-EC1: Direct economic value generated and distributed.	5, 81-84, 94-95	
	G4-EC3: Coverage of the organisation's defined benefit plan obligations.	57-59	
	G4-EC4: Financial assistance received from government.	5, Note 7	
Market Presence	Management Approach.	8-9, 16-17, 50-52, 57, 77-78, 81	
	G4-EC5: Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	57	
	G4-EC6: Proportion of senior management hired from the local community at significant locations of operation.	Note 8	
Indirect Economic Impacts	Management Approach.	8-9, 16-17	
	G4-EC7: Development and impact of infrastructure investments and services supported.	92-103	
	G4-EC8: Significant indirect economic impacts, including the extent of impacts.	76-78, 83-89	
Procurement Practices	Management Approach.	16-17, 85-89	
	G4-EC9: Proportion of spending on local suppliers at significant locations of operation.	86-89	
ENVIRONMENTAL			
Materials	Management Approach.	16-17, 62-63, 74-75	
	G4-EN1: Materials by weight or volume.	74	
Energy	Management Approach.	16-17, 62-63, 70-71	
	G4-EN3: Energy consumption within the organisation.	71	
	G4-EN5: Energy intensity.	71	
	G4-EN6: Reduction of energy consumption.	69-71	
Water	Management Approach.	16-17, 62-66, 70	
	G4-EN8: Total water withdrawal by source.	64-66	
	G4-EN9: Water resources significantly affected by withdrawal of water.	64-66	
	G4-EN10: Percentage and total volume of water recycled and reused.	64-66	
Biodiversity	Management Approach.	16-17, 60-63, 67-69	
	G4-EN11: Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	67-69	
	G4-EN12: Description of significant impacts of activities, products and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	67-69, 106-111	
	G4-EN13: Habitats protected or restored.	67-69	
	G4-EN14: Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	67-69	
	MM1: Amount of land (owned or leased and managed for production or extractive use) disturbed or rehabilitated.	5, 67-69	
	MM2: Number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place.	5, 67-69	

MATERIAL ASPECTS	DISCLOSURES ON MANAGEMENT APPROACH AND INDICATORS	PAGE AND/OR RESPONSE	OMISSIONS
ENVIRONMENTAL			
Emissions	Management Approach.	16-17, 60-63, 70-73	
	G4-EN15: Direct greenhouse gas emissions (Scope 1).	5	
Effluents and Waste	Management Approach.	16-17, 60-63, 65, 74	
	G4-EN22: Total water discharge by quality and destination.	65	
	G4-EN23: Total weight of waste by type and disposal method.	74-75	
	G4-EN26: Identity, size, protected status, and biodiversity value of water bodies and related habitats, significantly affected by the organisation's discharges of water and runoff.	64-66	
Compliance	Management Approach.	16-17, 34, 62	
	G4-EN29: Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	62	
Transport	Management Approach.	16-17, 60-63, 74-75	
	G4-EN30: Significant environmental impacts of transporting products and other goods and materials used for the organisation's operations, and transporting members of the workforce.	74-75	
Supplier Environmental Assessment	Management Approach.	16-17, 62-63, 85	
	G4-EN32: Percentage of new suppliers that were screened using environmental criteria.	63	
Environmental Grievance Mechanisms	Management Approach.	16-17, 62-63	
	G4-EN34: Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms.	62-63	
SOCIAL: LABOUR PRACTICES AND DECENT WORK			
Employment	Management Approach.	16-17, 48-57, 59	
	G4-LA2: Benefits provided to full-time that are not provided to temporary or part-time employees by significant locations of operation.	59	
Labour/ Management Relations	Management Approach.	16-17, 44	
	G4-LA4: Minimum notice periods regarding operational changes, including whether these are specified in collective agreements.	44	
	MM4: Number of strikes and lock-outs exceeding one week's duration by country.	44	
Occupational Health and Safety	Management Approach.	16-17, 42-47	
	G4-LA5: Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programmes.	47	
	G4-LA6: Type of injury and rates of injury, occupational diseases, lost days and absenteeism, and total number of work-related fatalities, by region and by gender.	5	
	G4-LA8: Health and safety topics included in formal agreements with trade unions.	47	

SPECIFIC STANDARD DISCLOSURES

MATERIAL ASPECTS	DISCLOSURES ON MANAGEMENT APPROACH AND INDICATORS	PAGE AND/OR RESPONSE	OMISSIONS
SOCIAL: LABOUR PRACTICES AND DECENT WORK			
Training and Education	Management Approach.	16-17, 58	
	G4-LA10: Programmes for skills management and life-long learning that support the continued employability of employees and assist them in managing career endings.	58	
	G4-LA11: Percentage of employees receiving regular performance and career development reviews, by gender and by employee category.	58	
Diversity and Equal Opportunity	Management Approach.	16-17, 35-36, 48-56	
	G4-LA12: Composition of governance bodies and breakdown of employees per employee category according to gender, age, group, minority group membership, and other indicators of diversity.	35-36, 48, 50-54, Note 9	
Supplier Assessment for Labour Practices	Management Approach.	16-17, 40-41, 85	
	G4-LA14: Percentage of new suppliers that were screened using labour practices criteria.	40-41, 85	
SOCIAL: HUMAN RIGHTS			
Non-discrimination	Management Approach.	5, 16-17, 38-41, 85	
	G4-HR3: Total number of incidents of discrimination and corrective actions taken.	5, 38-41	
Freedom of Association and Collective Bargaining	Management Approach.	5, 16-17, 38-41, 59, 85	
	G4-HR4: Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights.	5, 38-41, 59, 85	
Child Labour	Management Approach.	5, 16-17, 38-41, 85	
	G4-HR5: Operations and suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour.	5, 38-41, 85	
Forced or Compulsory Labour	Management Approach.	5, 16-17, 38-41, 85	
	G4-HR6: Operations and suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour.	5, 38-41, 85	
Security Practices	Management Approach.	5, 16-17, 38-41	
	G4-HR7: Percentage of security personnel trained in the organisation's human rights policies or procedures that are relevant to operations.	5, 41	
Assessment	Management Approach.	16-17, 38-41	
	G4-HR9: Total number and percentage of operations that have been subject to human rights reviews or impact assessments.	32-35	
Supplier Human Rights Assessment	Management Approach.	5, 16-17, 38-41, 85	
	G4-HR10: Percentage of new suppliers that were screened using human rights criteria.	38-41	
Human Rights Grievance Mechanisms	Management Approach.	16-17, 25, 38-41	
	G4-HR12: Number of grievances about human rights filed, addressed, and resolved through formal grievance mechanisms.	40	

MATERIAL ASPECTS	DISCLOSURES ON MANAGEMENT APPROACH AND INDICATORS	PAGE AND/OR RESPONSE	OMISSIONS
SOCIAL: SOCIETY			
Local Communities	Management Approach.	16-17, 90-103	
	G4-SO1: Percentage of operations with implemented local community engagement, impact assessments, and development programmes.	90-103	
Anti-corruption	Management Approach.	16-17, 25, 32-37, 85	
	G4-SO3: Total number and percentage of operations assessed for risks related to corruption and the significant risks identified.	32-37	
	G4-SO4: Communication and training on anti-corruption policies and procedures.	25, 34-35	
Public Policy	Management Approach.	16-17, 32-37	
	G4-SO6: Total value of political contributions by country and recipient/beneficiary.	34	
Compliance	Management Approach.	16-17, 34	
	G4-SO8: Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	Note 10	
Grievance Mechanism for Impacts on Society	Management Approach.	16-17, 25, 29-30	
	G4-SO11: Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms.	29-30, Note 11	
Emergency Preparedness	Management Approach.	16-17, 47	
Closure Planning	Management Approach.	16-17, 104-117	
	MM10: Number and percentage of operations with closure plans.	104-109	
SOCIAL: PRODUCT RESPONSIBILITY			
Materials Footprint	Management Approach.	16-17, 74-75	

Notes:

- 1 All employees have been hired for an unlimited period of time. The number of part time employees is not significant and they have the same rights as the rest of employees.
- 2 No significant changes occurred during the reporting period.
- 4 No significant restatements of information of previous reports were made.
- 5 No significant changes in the scope and boundaries of material aspects related to previous reports were made.
- 6 Our Sustainability Report is reviewed and approved by Minera Alumbreira's management team.
- 7 Minera Alumbreira does not receive any financial assistance or grant from the national or provincial government.
- 8 The 120 high management employees (senior managers and superintendents) are from different Argentine provinces, mainly from Catamarca and Tucumán, and a few come from Córdoba, La Rioja, Mendoza, Salta, Santa Fé and Jujuy. 3 out of the 4 members of Minera Alumbreira's Board are from Argentina and 1 is from Canada.
- 9 The age of our Directors is 42 to 57. The age of our Managers is 44 to 60.
- 10 At Minera Alumbreira, no material violations of applicable laws or regulations occurred during 2016.
- 11 At Minera Alumbreira, we have various channels for concerns to be raised by communities which are explained throughout this report. In 2016, no social impact complaints were reported through formal grievance mechanisms.

(Note 3) INTERNAL AND EXTERNAL COVERAGE. SIGNIFICANT IMPACT OF MATERIAL ISSUES ON MINERA ALUMBRERA'S STAKEHOLDERS

MATERIAL ISSUE	STAKEHOLDERS
Health and Safety	Employees, trade unions, communities.
Environment	Employees, communities, NGOs and representative organisations.
Communities	Employees, communities, NGOs and representative organisations, universities
Human Rights	Employees, trade unions, communities, NGOs and representative organisations.
Human Resources	Employees, trade unions, government, communities.
Social and Economic	Customers, employees, suppliers, government, communities, associations and chambers.
Transparency and anti-corruption	Investors, suppliers, governments, associations and chambers, media.

Glossary

Reclaimed Water: Water that, upon being used at the plant, is pumped to the tailings dam system and it is reclaimed there to be reutilised in the process.

PHA: Potentially Hazardous Activity.

AA1000 Stakeholder Engagement Standard (AA1000SES): The first worldwide stakeholder engagement standard developed by AccountAbility in order to incorporate engagement processes into our business strategy and practices.

Capping: A layer of barren core material stocked on the surface of waste dumps. It retains rainwater and avoids water seepage into the covered material. It is placed on waste dumps as their final design is completed. Its thickness is 1 metre on horizontal surfaces and 15 metres on slopes.

Tailings: The residue of an industrial process; it is the milled rock left after the mineral has been mined.

DIFR: Disabling Injury Frequency Rate refers to injuries which prevent employees from performing their normal duties in their next work shift.

Acid Rock Drainage (ARD): This phenomenon occurs by the natural oxidation of sulphurous minerals when exposed to air and water simultaneously, which results in acidity, sulphates and metal dissolution. ARD is the result of successive chemical reactions and stages normally resulting from almost neutral to more acidic pH conditions.

Eco-efficiency: It is a management model under which more products are made using less resources and energy (and creating fewer pollutants), thus reducing waste and emissions.

Indirect energy: Energy used by the Minera Alumbreira facilities, but supplied by third parties, often as electricity.

Renewable energies: Energy obtained from renewable and non-exhausting sources, including solar, wind, biomass, tidal, hydroelectric and geothermal energy, as well as alternative energies.

Waste Dump: Stock of waste rock (with no mineral content) resulting from mining that is generally stocked in coarse fragment piles.

Run-off: Rainwater that flows on the land surface.

GRI (Global Reporting Initiative): The Global Reporting Initiative is a network-based organisation that develops and disseminates voluntary sustainability reporting guidelines; there is a specific supplement for the mining and metals industry.

HPR: High potential risk incidents are incidents that could have potentially resulted in a catastrophic (Category 5) or significant (Category 4) outcome under Minera Alumbreira's management framework.

HPRI: High Potential Risk Incidents are incidents that could have potentially resulted in a catastrophic (Category 5) or major (Category 4) outcome in accordance with Glencore Group's consequence assessment matrix.

HSEC: Health, Safety, Environment and Communities.

ICMM: The International Council for Mining and Metals, based in London, is an industry trade body dedicated to establishing and promoting leading sustainability practices.

ISO 9001: A quality management system standard issued by the International Organization for Standardization (ISO). It is a voluntary standard that can be independently audited by certifying bodies.

ISO 14001: A management system standard, similar to ISO 9001, but covering environmental risks and impacts.

IUCN: The International Union for Conservation of Nature is a global environmental professional network comprising more than 1,000 member organisations and 140 countries.

Cut-off grade: It is the lowest ore grade contained in a mineralised body that can be mined obtaining economic value.

Alluvial material: Modern and uncompact material of variable grain size carried by water.

Total Suspended Particulate Matter (TSPM): TSPM consists of very small solid or liquid particles accumulated in ambient atmosphere that result from any anthropogenic (human) or natural activity.

Settleable Particulate Matter (SPM): It is matter of any size captured on a certain surface unit in a given time unit. In general, it consists of solid particles with a size ranging from 10 to 500 micrometres. These are "coarse dust" particles that settle at a significantly fast rate and stay in the atmosphere for a relative short period of time.

Open pit: It is the mineralised area that is exposed when mining operations are conducted on the surface because they are disseminated minerals, unlike underground mining that is conducted underground because they are vein-shaped minerals.

Mine Closure Plan: A formal document detailing an outline of how the operation will be closed, taking into account the options available to deal with prevailing social and environmental issues.

PM: Particulate matter, or dust, usually from industrial sources.

PM10: Breathable particulate matter consists of particles of 10 or less micrometres in size on which the air quality pattern is currently measured in accordance with the US Environmental Protection Agency.

Greenhouse Gas Protocol (GHG): Standards and guidance for corporate accounting and reporting on GHG emissions, which help governments and business leaders to understand, quantify, and manage GHG emissions (e.g. CO₂). The protocol separates GHG emissions into different scopes depending on source.

TRIFR: Total Recordable Injury Frequency Rate is the sum of number of lost time injuries including fatalities, restricted work injuries and medical treatment injuries.

Waste rock: Mineral wastes with no economic value produced during mining. Waste rock is either used for backfilling or stored at the surface.

Sustainability: It refers to the foundations of sustainable development, which integrates three aspects that must be in balance: economic growth, social equity and environmental protection.

Slope: Inclined surface that laterally limits rock stockpiling.

Reader's feedback form

We will appreciate your feedback to streamline our activities.



▶ HOW DID YOU FIND THE REPORT IN GENERAL?

Uninteresting Somewhat interesting Interesting Very interesting

▶ IT REPORTED ON MINERA ALUMBRERA'S CORPORATE SOCIAL INVOLVEMENT INITIATIVES IN ... DETAIL:

No Little Sufficient Great

▶ HOW WOULD YOU RATE THE INFORMATION INCLUDED IN THE FOLLOWING CHAPTERS:

	Insufficient	Sufficient	Superior
● A Word from our General Manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● About this report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Commitment to sustainable development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Governance and compliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Respect for human rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Commitment to health and safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Our work team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Environmental protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Creation of shared value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Commitment to the communities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Social and environmental mine closure management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● 2016 targets achieved and 2017 objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

▶ YOUR COMMENTS AND/OR SUGGESTIONS:

Full name: _____ Address: _____
 Province: _____ Country: _____
 E-mail: _____ Telephone: _____

▶ YOUR RELATIONSHIP WITH MINERA ALUMBRERA:

Customer Shareholder Employee Supplier
 Resident from neighbouring communities Other (specify)

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