

# SUSTAINABILITY REPORT 2015



WE MINE FOR  
PROGRESS



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A local business owner operating a successful hydroponic farm, through support initially provided by LXML Sepon, supplies lettuce to the Sepon mine.

# ABOUT THIS REPORT



At MMG we mine for progress. Our vision is to build the world's most respected diversified base metals company. A long-term outlook, our pride in mining, our commitment to international standards and our respect for people, land and culture underpin our success.

We are committed to working together with our communities.

## REPORT BOUNDARY AND SCOPE

In this report, unless described otherwise, 'MMG' refers to MMG Limited and its subsidiaries. MMG Limited is individually referred to as the 'Company'.

Our report covers the activities of MMG's Group office, headquartered in Melbourne, and all of MMG's mining and associated activities. Our Hong Kong office and the Avebury mine (Tasmania) are not included in this report due to immaterial impacts.

Data is reported for the period 1 January to 31 December 2015. We have included information relating to the previous reporting period where data is comparable and adds useful context to the discussion. Data for the previous reporting period includes Las Bambas where comparable data could be sourced. Where appropriate, discussion may also reference activity post 31 December 2015.

We report all sustainability metrics for Las Bambas which covers the activities that support operational readiness and production. We only report safety statistics for 'Las Bambas Construction Project' which refer to the construction workforce.

All data is reported on a 100% equity basis.

## REPORTING APPROACH

Our report is prepared in accordance with the Global Reporting Initiative's (GRI) 2013 'Core' Sustainability Reporting Guidelines (G4) and with GRI's Mining and Metals Sector Disclosure Guidelines. It includes the G4 indicators selected for each of our material issues and a GRI Index can be located within the Appendix on [www.mmg.com](http://www.mmg.com).

We align our water reporting with the Minerals Council of Australia Water Accounting Framework.

Currency is reported in US dollars, unless otherwise stated.

This report is reviewed and approved by our Disclosure Committee.

## MATERIALITY ASSESSMENT PROCESS

We conduct a GRI-aligned materiality assessment to ensure that we report on issues which matter most to our stakeholders.

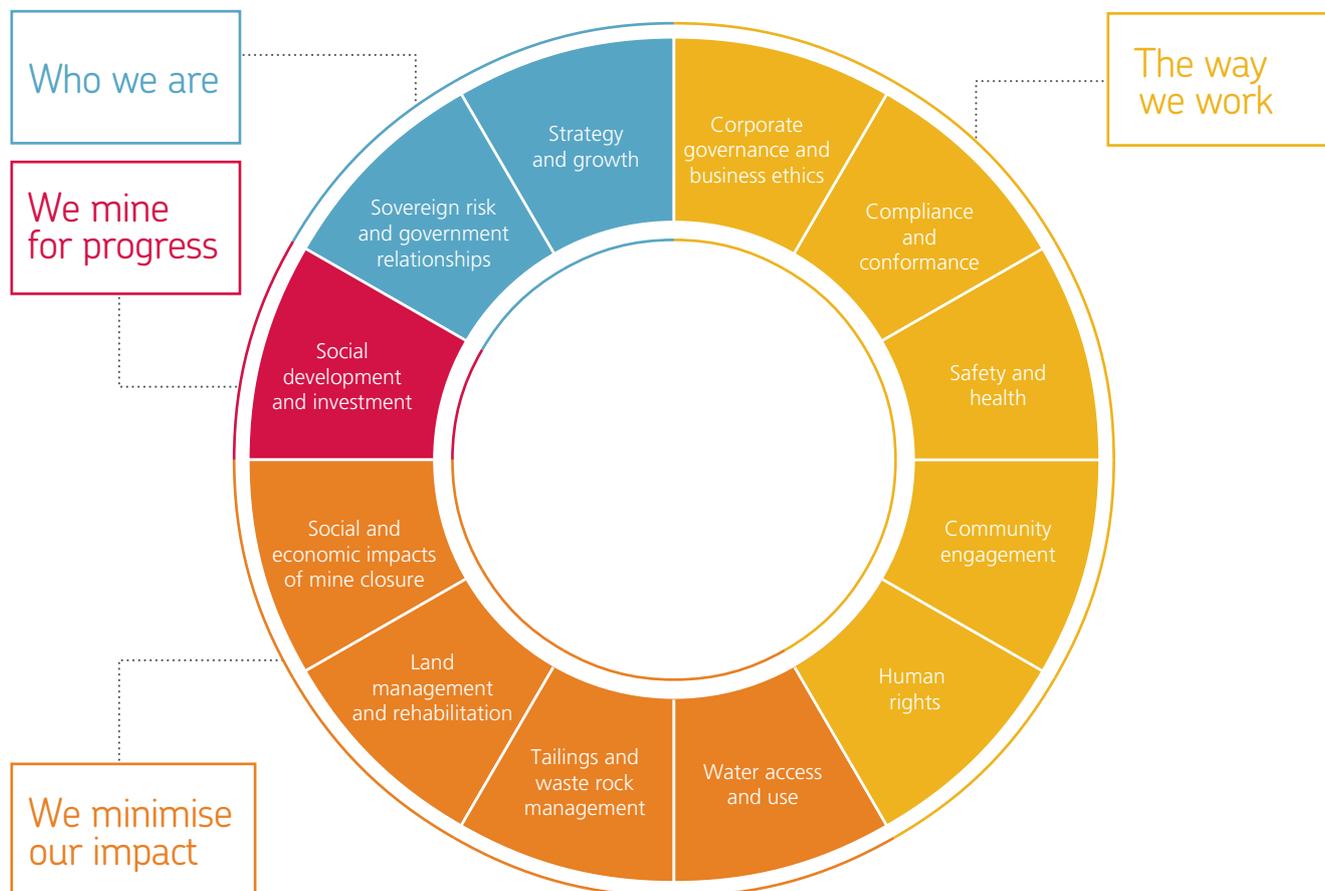
In 2015 our materiality assessment involved a desktop review and a series of in-depth interviews with internal and external stakeholders which were conducted by an external party. Issues were then weighted by importance from an internal and external perspective. An internal validation process then confirmed the scope and boundary of the top 12 issues on which the 2015 Sustainability Report is based (refer to Figure 1).

## EXTERNAL ASSURANCE

Ernst & Young (EY) conducted independent limited assurance over elements of this report, guided by the International Council on Mining and Metals (ICMM) Assurance Procedure (refer to **Assurance terms and statement** on page 34). This included assurance of our alignment with the requirements of GRI G4 'Core' level reporting. Selected through a random and double-blind process, the limited assurance process focused on three of the 12 material sustainability issues identified through our materiality assessment process:

- > tailings and waste rock management;
- > water access and use; and
- > human rights.

**Our material issues grouped under each of our four reporting themes** (Figure 1)



MATERIAL ISSUE	SCOPE	PAGE REFERENCE
● Community engagement	Community engagement and participation in decision making across the life of asset.	10, 16–19, 30
● Compliance and conformance	Regulatory compliance and acting responsibly across our operations.	8
● Corporate governance and business ethics	Maintaining strong corporate governance and business ethics in the context of expanding operations.	10
● Human rights	Managing the impacts of our operations on human rights. Includes coverage of Indigenous rights, the use of security forces, grievances and our supply chain.	14–15
● Land management and rehabilitation	Managing land holdings including their progressive rehabilitation and relinquishment, and provisioning for closure.	26, 28–29
● Safety and health	Maintaining workforce safety and health.	11–14
● Social and economic impacts of mine closure	Managing the impacts of mine closure on community employment and economic development.	16–20, 30
● Social development and investment	Working with communities, governments and external parties to measurably support development and economic livelihoods. Includes coverage of workforce localisation and local procurement.	16–20
● Sovereign risk and government relationships	Managing sovereign risk that impacts our business and maintaining positive government relationships.	7
● Strategy and growth	Licence to grow through commissioning Las Bambas, consistent performance and a pipeline of exploration and acquisition opportunities, despite economic conditions.	7
● Tailings and waste rock management	Managing acid mine drainage and tailings infrastructure.	25–26
● Water access and use	Managing water access, freshwater withdrawal, water inventory and discharge quality.	23–24

# CHIEF EXECUTIVE OFFICER'S MESSAGE



I am pleased to present MMG's 2015 Sustainability Report on what has been, in equal parts, an exciting and challenging year for our Company and our industry.

Dear Stakeholder

At MMG, our most important value, and highest operating priority, is safety.

In March 2015 I was saddened to hear of the death of Tshibanda Tshilomba, a contracted security guard at our Kinsevere mine who tragically died as a result of a snake bite. I would like to extend our profound sympathies to his family.

In 2015 our Total Recordable Injury Frequency (TRIF) was 2.1 per million hours worked including Las Bambas. This was an improvement on the TRIF of 2.3 reported for MMG operations (excluding Las Bambas) at the end of 2014. We are embedding a safety-first mindset throughout MMG to ensure that supporting behaviour, culture and processes are in place across every site and in every area of our operations.

In 2015 we achieved a significant milestone at Las Bambas, where we have essentially completed construction, and produced the first copper concentrate in December, as part of commissioning activities. The achievement was set against a backdrop of ongoing market volatility and pressure on the prices of our key commodities. This has led to an even greater focus at MMG on achieving productivity gains and on challenging ourselves to be better, and do better, across our safety, volume and cost metrics.

While gaining efficiencies remains our target in 2016, we are steadfast in our commitment to manage our impacts successfully and to be a valued partner in our communities. Of course, none of this is possible without first ensuring the safety of our people.

Despite the challenges which currently exist in the global economy, mining is a long-term business. This applies to both our belief in the long-term fundamentals of our key commodities, and our belief that we mine for progress.

Throughout 2015 MMG continued to make significant contributions to our local communities and to deliver lasting and sustainable development to the regions in which we operate.

I was pleased to learn that Vilabouly, a neighbouring community to our Sepon mine, was removed from the 'most poor' districts in Lao People's Democratic Republic (Lao PDR) in 2015. This progress is largely attributable to employment opportunities at Sepon and investments in local infrastructure, health, education, and business development programs.

This commitment to contribute to the wealth of our communities and to share our success is reflected in our local capability and workforce training and development programs, and in hiring locally where possible. Today over 95% of our employees at Sepon comprise Lao nationals, of which 19% are women. Over half of the site's senior leadership team is also Lao.

In 2015 we also embarked on a third year of our unique partnership with the United Nations Children's Emergency Fund (UNICEF) and the Lao Ministry of Health as we worked together on the 1000 Day Project. Through this program, MMG continued to support the Lao Government to meet the United Nations' Millenium Development Goals by improving maternal and child nutrition in several Lao PDR provinces, including Savannakhet where the Sepon mine is located.

Contributing to our communities and managing our impacts during the production phase of our operations will always remain a priority. However, we must also better understand and manage the unique challenges that arise during closure. In August 2015 we completed mining at Century and the final shipment of Century-produced zinc departed the Port of Karumba in December.

We now turn our focus to the ongoing rehabilitation process and working with the lower gulf communities to prepare the site for future use – minimising impacts and maximising economic, environmental and social benefits.

Our success is very much a team effort from our workforce, communities and partners. Our ability to deliver and sustain this success would not be possible without the support of our Shareholders and particularly our major Shareholder, China Minmetals Corporation.

I thank our host communities and our partners for their ongoing support throughout 2015, and I particularly thank our people for their dedication and their contribution to delivering progress at MMG every day.

A handwritten signature in black ink, appearing to read 'Andrew Michelmore'. The signature is fluid and cursive.

**Andrew Michelmore**  
Chief Executive Officer

# YEAR IN REVIEW

2015 was an exciting and challenging year. The table below summarises some of our key areas of success and challenge.

SUCCESSSES	CHALLENGES
 <p><b>Safety</b></p> <p>Continued implementation of our Creating Safe Work program, development of a comprehensive site-based safety diagnostic tool and implementation of a common procedure to address the risk of a fatality from a lightning event (refer to page 12).</p>	 <p><b>Human rights</b></p> <p>Determining ways to measure the effectiveness of our security management processes to enable continuous improvement (refer to page 15).</p>
 <p><b>Social development</b></p> <p>Acquisition of a large-scale farm as a focal point for sustainable social development in communities near our Kinsevere mine. Alignment of site Community Investment Plans with MMG's Community Development Investment Strategy (refer to pages 18 and 33).</p>	 <p><b>Social and economic impacts of mine closure</b></p> <p>Understanding and managing expectations of stakeholders regarding the closure of Century and the path toward completion of the Gulf Communities Agreement (refer to page 30).</p>
 <p><b>Corporate governance and business ethics</b></p> <p>Global whistleblower hotline implemented (refer to page 10).</p>	 <p><b>Land management and rehabilitation</b></p> <p>Determining the most effective strategy for landform rehabilitation and transition to a 'care for country' model at Century (refer to page 29).</p>
 <p><b>Strategy and growth</b></p> <p>Substantial completion of construction and first production from our Las Bambas mine as part of commissioning activities (refer to page 7).</p>	 <p><b>Community engagement</b></p> <p>Managing small-scale and artisanal mining risks and the impacts of migration of communities closer to our assets.</p>

# WHO WE ARE



Headquartered in Melbourne, Australia, MMG is a mid-tier, global producer of base metals including copper and zinc. MMG is listed on the Hong Kong Stock Exchange (HKEx:1208) and has a secondary listing on the Australian Securities Exchange (ASX:MMG).

Las Bambas achieved a significant milestone in 2015 with the production of first copper concentrate as part of commissioning activities.

Founded in 2009, we mine to build wealth through the development of our people, the investments we make in improving local capability and the value we deliver to our Shareholders. Working in partnership with our major Shareholder, China Minmetals Corporation (CMC), our objective is to become a top mid-tier miner by 2020 and the world's most respected diversified base metals company.

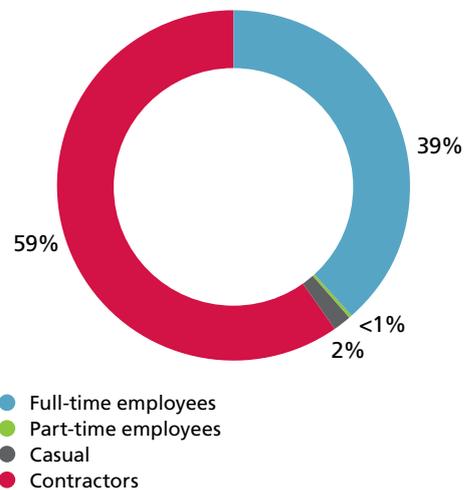
## OUR PEOPLE

At MMG, our aim is to recruit diverse, talented people and to encourage them in their professional and personal development. We seek to establish a partnership with each employee and motivate them to contribute to MMG's vision and to achieve their own professional aspirations.

In 2015 MMG employed 15,364 employees and contractors, a 32% increase on the previous period and predominantly related to the intense construction phase underway last year at Las Bambas. The proportion of full-time employees decreased slightly from 44% in 2014 to 39% in 2015.

Our total employee turnover in 2015, excluding contractors, was 13% comparable to 12% in 2014.

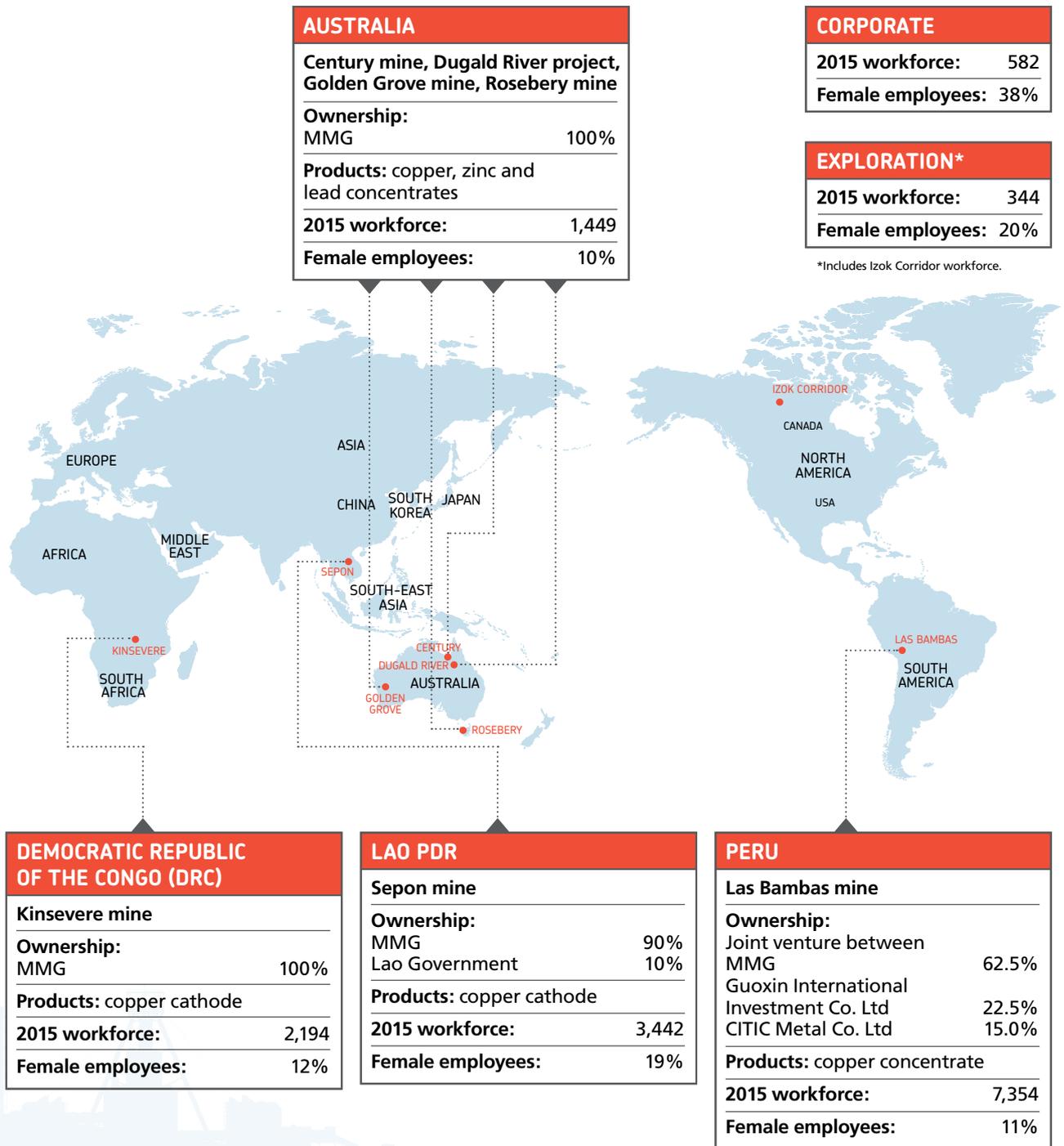
## Total workforce composition in 2015 (in full-time equivalents) (Figure 2)



We aim to create a workplace that fosters diversity and inclusiveness, and supports our people with the systems, skills and behaviours required to live our values.

## MMG WORLDWIDE

We operate and develop copper, zinc and other base metals projects across Australia, the Democratic Republic of the Congo, Lao PDR and Peru. We also have significant exploration projects and partnerships across Australia, Africa and the Americas.



## OUR CUSTOMERS

MMG's products are sold to customers across the world. Major consumers of copper cathode produced at Kinsevere and Sepon are located in the Middle East and South East Asia. Copper, zinc and lead concentrates produced at our Australian operations are exported to customers in China, Japan, Korea and Europe. Zinc and lead concentrates are also sold to smelters in Australia.

## GROWTH STRATEGY

At MMG, we aim to be valued as one of the world's top mid-tier miners by 2020. Our growth strategy aims to create Shareholder wealth by discovering, acquiring, developing and sustainably operating resources projects around the world. To achieve our growth objective we are committed to building a strong foundation without adding greater complexity to our business, demonstrated through our simplified standards and underpinned by our Operating Model.

We are further committed to implementing industry-leading practices in corporate governance, safety, operational excellence and environmental protection.

Fundamental to our success is the support of our major Shareholder, CMC, as well as our commitment to maintaining strong relationships with our local communities, regulators and host nations and to ensuring that local economies and communities receive tangible benefits from our operations.

Our growth strategy includes:

- > identifying opportunities to maximise the potential of our existing assets;
- > pursuing available organic growth opportunities through our project pipeline and exploration strategy; and
- > pursuing external growth including by targeting value-focused acquisitions.

We aim to maintain our growth mandate through the successful commissioning of Las Bambas, delivering the maximum value from our asset and project portfolio while delivering long-term sustainable benefits to our host communities.

Our confidence in the long-term fundamentals of our commodities – copper and zinc – remains intact. We believe that increasing supply-side constraints will converge with ongoing consumption demand. With the strategic insight and financial support of CMC, we are well placed among our competitors to emerge from this period as a globally significant base metals producer.

In 2015 we essentially completed construction and commenced the commissioning phase at Las Bambas. Production of first copper concentrate, as part of commissioning activities, was achieved in December 2015 and the first shipment to customers was made in January 2016. Las Bambas is expected to commence commercial production in the second half of 2016.

## SOVEREIGN RISK AND GOVERNMENT RELATIONSHIPS

Effective management of sovereign risk is increasingly important for successful resource companies. Failure to identify and manage the risks and opportunities arising from the many non-technical, country-specific factors found in any operating jurisdiction can impact operational, growth and corporate strategies.

To address these exposures, MMG uses a 'country planning' approach. This seeks to raise the profile of country issues within our broader risk management system: firstly, by increasing awareness and understanding of risks arising from country factors – the political, social, economic, governance, and other non-technical landscapes where we operate; and secondly, by collaboratively shaping and monitoring more focused and accountable responses at both operating and corporate levels.

Country planning enables us to prioritise actions and behaviours, consistent with our Code of Conduct and standards, that are valued by the communities, regions and nations in which we operate. Based on these tangible outcomes, we are able to build informed, trust-based relationships with governments and other key stakeholders and engage with them to ensure that the value created by mining delivers sustainable benefits.

The country planning process occurs on an annual basis and is reviewed more frequently if required. This ensures that MMG's country risk roadmap adjusts and improves as risks and opportunities evolve, in turn supporting continuous long-term benefit to our host countries and value to our corporate stakeholders.

## SUPPLY CHAIN

Due to the nature of our business, MMG has a complex global supply chain. In 2015 approximately 95% of the 3,768 suppliers from which our operations (not including Las Bambas) sourced their goods and services were located in Australia, Canada, the DRC, China, Lao PDR, Singapore, South Africa, Thailand, United States of America (USA) and Zambia. Approximately 80% of our expenditure with these suppliers was related to site and mining services, energy, logistics, fixed and mobile assets, and engineering services.

MMG's procurement teams take an active role in managing the supplier assessment process to ensure their alignment to the MMG Code of Conduct (refer to **Supply chain management** on page 15).

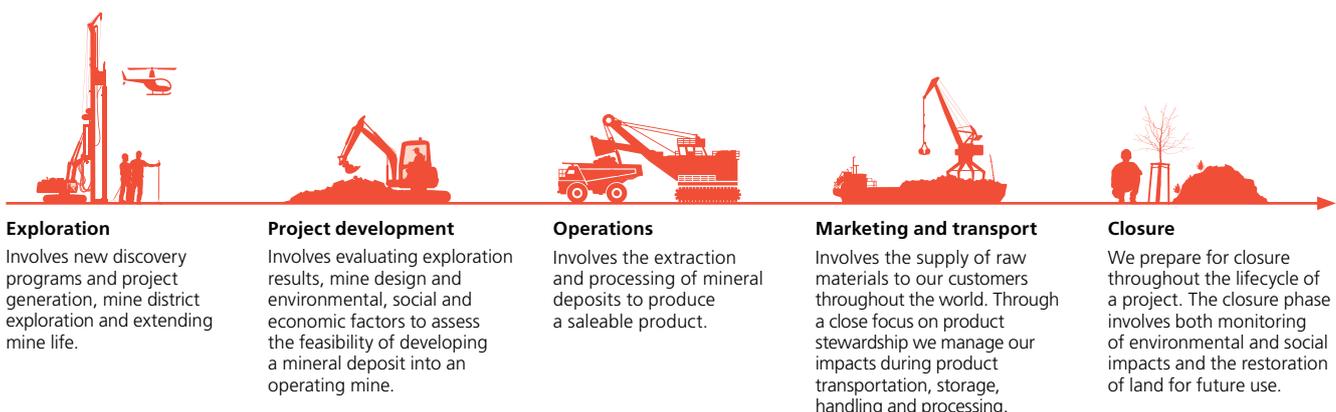
## PRODUCT STEWARDSHIP

MMG aims to supply products that consistently meet customer quality expectations and that are safe for people and the environment. Our Product Stewardship Standard guides our activities to understand the characteristics of our products and manage their potential impacts on human health and the environment during transportation, storage, handling and processing.

MMG is a member of the International Zinc Association and a regional member of the International Copper Association (ICA). Through these associations we contribute to the development of new applications for the metals we produce that are safe, efficient and beneficial to society.

## VALUE CHAIN

Our value chain extends from initial work to identify prospective deposits through to managing the responsible closure of operations.





# THE WAY WE WORK

MMG's mission is to create wealth for our people, host communities and Shareholders. Embedded in everything we do is our commitment to sustainability, which is underpinned by our policies, governance structure, values, standards and our Operating Model.

We work together is one of our values.

## OUR COMMITMENT TO SUSTAINABLE DEVELOPMENT

MMG maintains policies to meet both Board and external obligations.

Our Sustainability Policy aligns with the International Council on Mining and Metals' 10 sustainable development principles, (please refer to the Appendix on [www.mmg.com](http://www.mmg.com)). Our approach is also guided by our Corporate Governance Policy, People Policy, Shareholder Communication Policy, Safety, Health, Environment and Community (SHEC) Policy, and Quality and Materials Stewardship Policy.

We are an active member of leading industry organisations including:

- > International Council on Mining and Metals' (ICMM);
- > Minerals Council of Australia (MCA);
- > International Zinc Association (IZA);
- > Society of Mineral and Energy Producers of Peru; and
- > Chamber of Mines of the DRC.

Our CEO, Andrew Michelmore, is currently Chair of the ICMM, MCA and IZA.

We support the Extractive Industries Transparency Initiative (EITI) and engage in all of our global jurisdictions either as a reporting entity or as participant in advocacy and pilot implementation to encourage government support and adoption.

Our 2015–18 Sustainability Commitments articulate our priority to embed the principles of sustainable development in our business. We measure our performance in these areas by monitoring progress against our 2015–18 targets and annual milestones (refer to **Targets** on pages 31–33).

## OUR STANDARDS

The activities of MMG, as a mining organisation, are subject to a range of local laws and regulations. Our expectation is that all operations will, at a minimum, meet all regulatory requirements and where possible, exceed these requirements by adopting leading practice standards for our industry.

We utilise business-wide standards to define the minimum requirements to manage material risks, meet legal requirements and external obligations, and to create and preserve competitive advantage and organisational effectiveness. These standards provide the basis for sustainable operations through their deployment at sites and are aligned to the ICMM's 10 principles of sustainable development.

We also have an integrated audit program that includes focus on conformance with our SHEC standards.

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Our risk management process is based on the international standard of risk management, ISO 31000:2009. The process consists of steps that, when implemented sequentially, effectively identify and manage material risks and enable continuous improvement in both decision making and performance. We continue to progressively implement critical control execution and verification actions for material risks across our business.

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## Our 2015–18 Sustainability Commitments



## OUR OPERATING MODEL

In 2013 we developed and introduced our Operating Model, which establishes a common organisational structure at all operations and promotes the development and implementation of common procedures at all operations.

Designed to define the work that is essential to sites and to centralise the work which can be completed in regional ‘hubs’ or the corporate office, the Operating Model enables our operations to focus on achieving their targets across safety, volume and cost.

Administrative tasks and functional support expertise that do not need to be completed at, or permanently based in our operations, are provided by service and support hubs. Here, functional

expertise in business support areas such as finance or human resources delivers the tasks as a service to the operations. This enables greater efficiencies and strengthened governance and transparency as all hubs work to a common framework.

During 2015 the Australian operations were combined under the control of a single integrated management team. Previously Century, Rosebery, Golden Grove and Dugald River had been managed as separate operations. This improvement shows the benefits that can be achieved through aggregation of operations within a defined region into a single operation. Our Australian operations are now supported by a centralised Operations Support Hub, providing consistent and high-level support across SHEC, Human Resources, Commercial, Technical Services and Maintenance and Engineering.

## BUSINESS ETHICS

Our commitment to establishing and maintaining long-term and meaningful relationships with our stakeholders is underpinned by our values and the MMG Code of Conduct.

With the aim of operating with integrity in all situations, the Code of Conduct sets out the standards of behaviour expected from all MMG employees and covers areas such as conflict of interest, anti-corruption and legal compliance.

Our Code of Conduct Committee, chaired by the Chief Operating Officer, oversees matters related to the Code of Conduct. MMG also engages an independent confidential whistleblower service which is available to all employees globally in their local language.

We hold all employees accountable for living our values and expect them to reflect on how their decisions align with our Code of Conduct and values.

## OUR VALUES



### We think safety first

We stop and think, then act to prevent injury.



### We respect each other

We are honest, considerate and act with integrity.



### We work together

We engage diverse views to achieve better outcomes.



### We do what we say

We take responsibility and follow through on our commitments.



### We want to be better

We always look for opportunities to improve.

## CORPORATE GOVERNANCE

We are committed to maintaining the highest standards in corporate governance to ensure that the interests of our stakeholders are protected. The Company has applied the principles of good corporate governance as set out in the Corporate Governance Code and Corporate Governance Report (CG Code) of the Hong Kong Listing Rules.

MMG's Board has established Audit, Remuneration, Governance and Nomination, and Risk Board Committees. We also have the following Executive management committees: SHEC, Disclosure, Investment Review, Mineral Resources and Ore Reserves, and Code of Conduct.

Transactions between MMG and CMC's subsidiaries are conducted in compliance with the Hong Kong Listing Rules and Connected Transactions Rules.

Please visit [www.mmg.com](http://www.mmg.com) for more information on our Board and Executive level committees and Corporate Governance Statement.

## STAKEHOLDER ENGAGEMENT

We recognise that our success depends on the direct relationships and the partnership we have with our communities, our people, investors and governments. We are committed to progress as we strive to create a positive and lasting contribution to personal, community and national development.

We work in complex jurisdictions and across numerous cultures and geographies, often in communities with either recent or previously negative experiences with resource development. Given the social, environmental and economic impacts of our operations, communities expect to participate in decision making and to share in the benefits of mining. We recognise that strong stakeholder engagement from exploration through to closure is critical in making business decisions which are responsive to the needs and expectations of our host communities and their governments.

We aim to partner with our communities and to build meaningful connections with our stakeholders early in the development lifecycle. We strive to maintain socially and culturally inclusive and proactive communication with stakeholders and to engage them regarding future plans and performance. MMG's commitment to the ICMM Sustainable Development Principles, including the commitment to community dialogue and position on Free, Prior and Informed Consent regarding Indigenous people, guides our approach to stakeholder engagement. We undertake community perception surveys every three years, at a minimum, to obtain a valued external perspective on the key measures of engagement and communication, such as whether our stakeholders consider we are addressing their key concerns.

We are progressively developing annual Host Community Stakeholder Engagement Plans and Social Impact Management Plans for all operations. These are informed by social baseline studies and social impact and opportunity assessments which are conducted prior to project development and updated every five years.

A matrix of our broad stakeholder groups, their areas of interest and our engagement process is provided online. Please refer to the Appendix on [www.mmg.com](http://www.mmg.com).

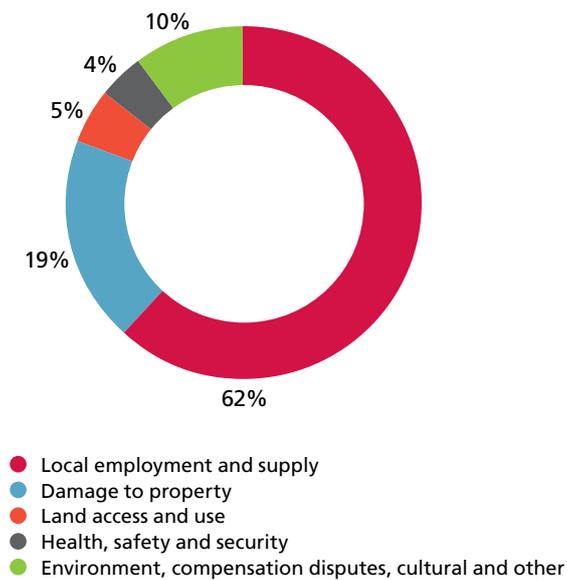
## Grievance management

Each MMG operation has a grievance management mechanism to facilitate timely, culturally appropriate investigation and response to grievances from community members. This process is non-judicial, complements existing legislative remedies, and reflects our commitment to the UN Guiding Principles on Business and Human Rights.

In 2015 we received 341 complaints across MMG's operations. Over half (197) of these complaints were related to local employment and procurement matters at Las Bambas.

Progress has been made to resolve 172 of the complaints through our investigation and mediation processes. We continue to work with individuals involved in the outstanding complaints to resolve their concerns.

### Complaints received in 2015 – by topic (Figure 3)



At MMG safety is our most important value.

## SAFETY

Safety is our most important value at MMG and is expressed as 'we think safety first'. Our objective is to have an injury-free workplace for all employees and contractors.

We recognise that managing safety requires a focus on both eliminating the hazards which can cause injuries, and managing critical controls to events that can cause fatalities. We consider these to be separate yet complementary processes.

We continue to focus on establishing critical controls to prevent potential material events such as failures of tailings storage facilities. Our objective is to embed the critical controls and control verification into our operating systems.

### Safety performance

Tragically, in 2015, a fatality occurred at Kinsevere where a security guard suffered a snake bite and died as a result of medical complications while receiving treatment at a local hospital. This fatality reinforced the importance of undertaking a detailed and informed risk analysis and specifically, maintaining a strict treatment regime on snake bites through to complete recovery.

Following this incident, the MMG People and Asset Protection Standard was updated to require independent medical oversight of the treatment provided for potentially life-threatening injuries or illnesses treated at third-party medical facilities.

Across MMG, and including our Las Bambas Construction Project, 116 people experienced injuries which required medical treatment, time away from work, or resulted in the person being unable to perform their normal duties.

At the end of 2015 our Total Recordable Injury Frequency (TRIF) was 2.1 per million hours worked, including Las Bambas. This was an improvement on the TRIF of 2.3 reported for MMG excluding Las Bambas at the end of 2014.

While across MMG we saw a reduction in injury rates in 2015 we did not meet our 2015 safety target to reduce injury rates across all operations (refer to Table 1).

### Safety statistics by site in 2015 and trend from 2014

(Table 1)

LOCATION	TRIF		LTIF	
Sepon	0.87	↑	0.43	↑
Kinsevere	0.79	↓	0.32	↓
Century	3.13	↑	0.63	↑
Rosebery	13.1	↑	0	↓
Golden Grove	15.0	↑	1.37	↓
Las Bambas	1.01	–	0.59	↑
Dugald River	0	↓	0	–
Exploration	3.65	↑	0.91	↓
Group Office	0.77	↑	0	–
<b>MMG</b>	<b>2.12</b>	<b>↓</b>	<b>0.49</b>	<b>↓</b>
Las Bambas Construction Project	1.62	↓	0.29	↑

TRIF = total recordable injury frequency per million hours worked (fatalities, lost-time injuries, restricted work injuries and medical treatment injuries), LTIF = lost time injury frequency per million hours worked. ↑ depicts an increase relative to 2014, ↓ represents a decrease and – indicates no change relative to 2014.

## Safety programs

To achieve a workplace of zero injuries, which we believe is possible, safety management must be a process of continuous improvement. In 2015 we built on existing systems and standards with a number of key highlights.

### Safety diagnostic tool

In 2015, MMG developed a comprehensive safety diagnostic tool based on the Integral Model\* (Ken Wilbur, 2000), which looks at safety from four perspectives – mindsets, behaviours, culture and systems. The objective is to assess each operating site on three key positive attributes across each of the four perspectives. The position of an operation against the positive safety attributes described in the safety diagnostic model is expected to be a useful safety lead indicator.

A pilot of the safety diagnostic tool was undertaken at Rosebery in December 2015. It involved confirmation of the positive safety attributes by a site-based focus group which included members of the leadership team; interviews with 38 members of the workforce; 213 completed surveys and field observations spanning four days and all areas of the operation. The results of the diagnostic will be shared with the Rosebery leadership team and workforce in early 2016.

### Creating safe work

Our approach to creating safe work is premised on improving the planning and execution of work by supervisors and frontline employees. Critical to this is dedicated leadership time to support our people to work safely – we aim to have our line managers, superintendents and supervisors in the field for a minimum of two, four and six hours a day respectively.

We believe that further reductions in injuries will be achieved through additional support to our supervisors and frontline employees in their roles as they strive to achieve a safer workplace. We plan to provide supervisors with coaching and training. We plan to train and coach our frontline employees in their role in identifying hazards and working to agreed plans and procedures.

Presentations on our approach to creating safe work were held at all Australian operations in 2015 and included a management commitment to simplifying safety processes. A management-level workshop was also held at Las Bambas to introduce the concepts to the leadership team.

Training was developed and piloted in 2015 and comprises two modules: safety mindsets and attitudes; and safety leadership and skills. We will implement the training program progressively across MMG in coming years.

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“Understanding and influencing each individual’s sense of control of the outcome of their work, their ability to channel stress and their mindful response to stop and think is an essential element in creating safe work.”

Luke Messer, Group Manager Organisational Development

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\* Wilbur, Ken (2000). *Integral psychology: Consciousness, spirit, psychology, therapy*. Boston: Shambhala.

## Fatal Risk Standard

Safety is not just about improving injury rates but also about managing material risk events.

At Las Bambas in 2014, a lightning strike seriously injured a contractor in the construction workforce. This incident highlighted the importance of critical controls for lightning and prompted a review of the MMG Fatal Risk Standard and existing controls across all MMG sites. This review included benchmarking against the approach taken by other ICMM members. Each MMG site is now working on implementing an action plan to move toward conformance with the updated Fatal Risk Standard and new Common Lightning Alert and Response Procedure. MMG will continue to focus on deploying common procedures to support compliance with critical controls required by the MMG Fatal Risk Standard. Common procedures for work at heights and safeguarding are priority areas for early 2016.

We also updated our Fatal Risk Standard in 2015 to include requirements for the design, construction, operation and closure of Tailings Storage Facilities, (refer to **Tailings and waste rock management** on page 25).

## HEALTH

Protecting and promoting the health of our people is as vital as protecting their safety. We aim to minimise occupational exposures and to support the wellbeing of our people (refer to the **Mental Health Framework case study** on page 14).

### Workplace exposures and endemic diseases

The health risks at our workplaces include occupational exposure to altitude, noise, lead, vibration and carcinogenic substances, such as respirable crystalline silica, diesel particulate matter (DPM) and sulphuric acid mist. MMG operates in countries where the prevalence of HIV/AIDS, tuberculosis, malaria, typhoid, dengue fever and other tropical diseases is high and there is a risk of outbreaks of other serious illness such as Ebola and cholera.

All MMG workplaces are required to develop and implement risk-based Exposure Management Plans. Mitigating worker exposure takes informed selection, implementation and verification of controls, operator discipline in the control implementation and the correct use of personal protective equipment, consistent and caring supervision, and sound maintenance programs. We have identified areas for improvement and initiatives are ongoing.

Our medical surveillance programs help us identify health effects at an early stage and allow us to confirm whether the exposure controls we have implemented are functioning as designed. In 2015 we commenced a review of our audiometric surveillance programs against best practice.



## MOU-TUEN-MOU SAFETY PROGRAM

A locally developed safety program was developed and launched at Sepon. Mou-Tuen-Mou (Friends Alert Friends) program aims to bring the strong Lao family-focused culture into the workplace, encouraging employees to support their colleagues. The program challenges Sepon employees to treat every person on site as if they were part of their family. The program aims to personalise safety at all levels and to encourage everyone to look after each other.

“This is a culture change for MMG. We need to build awareness and desire for change. Sepon’s Mou-Tuen-Mou workgroup is focused across the business to embed a workplace culture in which safety is valued at a deep and personal level, where our people actively communicate with one another, take responsibility for the safety of themselves and others, and speak up when they see a colleague or supervisor behaving unsafely.”

*Viboon Sithimolada, SHEC Manager – Sepon*



Community Relations employees participating in the Mou-Tuen-Mou roadshow.



## ACID MIST CONTROL IN COPPER TANKHOUSE AT SEPON

The electrowinning process at Sepon extracts copper from a copper solution containing sulphuric acid. As copper is deposited on the cell cathode, oxygen bubbles form on the anode. When the bubbles rise to the surface and burst, airborne acid droplets (acid mist) are released into the workplace atmosphere. In 2015 we undertook a project to better understand the process and environmental parameters which influence acid mist generation to:

- › evaluate the impact of operational practices on acid mist exposure;
- › investigate the effectiveness of control techniques, including the use of hooding and associated extraction and scrubber systems, chemical reagents and mechanical methods (floating balls);
- › benchmark operating practices that control acid mist exposure against industry peers;
- › standardise monitoring methodologies;
- › evaluate real-time acid mist monitoring options; and
- › confirm compliance with respiratory protection procedures.

The findings from this project are now being used to refine an Exposure Management Plan for Sepon, which includes acid mist control at source, personal protection (respirator use) and verification of controls.



Sepon copper tankhouse.

## Occupational illness rates

In 2015 the rate of new cases of work-related occupational illnesses at MMG operations was 2.2 per 1,000,000 hours worked.\* Occupational illnesses recorded in 2015 were predominantly malaria at Kinsevere, with a total of 41 cases, and altitude sickness at Las Bambas with 34 cases. The reported malaria cases at Kinsevere do not include cases for local employees who live in areas where malaria is endemic.

Challenges in malaria management at Kinsevere include personal discipline in the use of personal protection and variable use of prophylactics. There is also a need for a broader 'community' approach in the management of mosquito populations to reduce transmission of the disease from workers infected within their domestic environment. To this end, Kinsevere distributed 3,000 mosquito nets to employee households during 2015.

All employees deployed to Las Bambas undergo a rigorous medical evaluation process to determine their fitness for travel to altitude. However, the risk of altitude sickness is not always medically indicated and therefore this process can only be partially successful in identifying those most at risk. At both Cusco, a city which acts as an altitude adjustment stopover to Las Bambas, and at the mine site, employees are regularly monitored to ensure that symptoms of altitude sickness are promptly identified and treated.

\* Comparative figures are not available for 2014. The robustness of our systems for reporting occupational illnesses continues to improve.

## HUMAN RIGHTS

Our activities, and those of our service providers, have the potential to impact human rights. To this end, we are committed to operating in a manner that is consistent with the UN Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights, and the UN Global Compact principles.

We recognise that the concept of human rights covers a broad range of interrelated issues requiring an integrated approach across numerous business functions. At MMG our Human Resources, Supply, Community Relations, Stakeholder Relations, Security, Exploration and Project Development functions have specific responsibilities for upholding our commitment to human rights.

We integrate human rights considerations into our Code of Conduct, employment processes, risk-analysis activities and our formal grievance processes. Our aim is for our people to be able to report instances of unacceptable conduct in the workplace without fear of intimidation or reprisal. They can raise concerns internally or through our independent, confidential whistleblower hotline service.

To establish a workplace which respects diversity, where equitable treatment is expected and where our people are free from discrimination and harassment we embed the principles of human rights in our policies and standards.

MMG respects the right to freedom of association of all employees and approximately 16% of our workforce participates in collective bargaining agreements.



### Case study

## MENTAL HEALTH FRAMEWORK

MMG CEO, Andrew Michelmore, launched MMG's Mental Health Framework on World Suicide Prevention Day in September 2015. The framework describes the broad actions that MMG will take to promote good mental health practices in the workplace and to support employees experiencing mental illness, such as depression and anxiety. This approach is grounded in our values and focuses on three key areas.

The mechanisms for delivery against the framework will be developed over the next several years and will take into account the cultural context of each operation and the breadth and availability of support services.

Employees and contractors at Golden Grove are participating in a research project on mental health and mining funded by the Minerals Council of Australia. Key learnings from Golden Grove's experience will be considered for wider application across MMG.

To provide training in early symptom identification, caring intervention and crisis management.

To enhance our understanding of mental health, reduce stigma around mental illness and build resilience in our workforce.

Capacity Building

Awareness and Prevention

MMG's Mental Health Framework

Support and Recovery

To provide access to appropriate support and appropriate return-to-work strategies.

## Aligning security management with human rights principles

We are committed to managing security in a manner which respects human rights. Our material human rights risks include those related to the engagement of private security contractors and the use of public security forces at Sepon, Kinsevere and Las Bambas. At Kinsevere, we continue to face challenges due to socio-economic influences and weak rule of law.

In 2015 we engaged a permanent security specialist to provide expert technical oversight to MMG's security management activities. Security Management Plans at Kinsevere and Las Bambas were revised to reflect a standardised approach. The plans include relevant elements of the Voluntary Principles on Security and Human Rights (VPSHR) on risk assessment and public and private security, and enable us to better measure the effectiveness of our security delivery.

Our People and Asset Protection Standard requires private security companies to be a signatory to, or commit in writing to comply with the International Code of Conduct for Private Security Providers (ICoC).

Our training programs continually focus on improving the skills and competence of employees and contract security personnel. In 2015, 57% of our employee and contract security personnel were trained in our security management approach and in relevant aspects of the VPSHR. This percentage reflects differences in training frequency at our operations and we recognise the need to standardise our training programs in the future. MMG is working toward becoming an accepted participant in the VPSHR by the end of 2018.

## Supply chain management

Our supplier engagement and contract award process includes a comprehensive assessment across a range of criteria including commercial, social, safety, environment, quality and technical capabilities and performance. This process also encompasses a range of non-financial criteria such as social initiatives, including local community support, social contributions and commitment to local employment.

In 2015 MMG entered into a total of 550 in-bound supply contracts with a combined value of US\$561 million.

As part of our supplier engagement process we seek formal agreement from suppliers requiring compliance with our Code of Conduct and Anti-Corruption Framework as well as other relevant MMG standards, policies and procedures, including those related to human rights.

We strengthened our contract management process in 2015 to include measures of contract performance. These measures include demonstrated adherence to, and improvements in, conformance with our MMG Supply Standard. We seek to work in partnership with our suppliers to improve their capacity and performance. Our contracts provide for the ability to formally audit suppliers should material concerns exist regarding their performance.



### Case study

## SOCIAL PROTEST AND OUR COMMITMENT TO DIALOGUE AT LAS BAMBAS

In 2011 the Las Bambas Environmental Impact Study (EIS) was approved by the Government of Peru. The approval followed an extensive Citizen Participation Process which included participatory monitoring activities, public consultation and a public hearing which attracted more than 5,000 participants.

Following EIS approval additional opportunities were identified which would allow Las Bambas to reduce its footprint and optimise the development of the mine. These included the relocation of the molybdenum and filter plants and the replacement of the slurry pipeline with a bimodal ore transport system (road and railway). These changes were completed in line with regulatory requirements and were approved by Peru's Ministry of Energy and Mines.

While MMG satisfied the requirements in the amendments, in September 2015, a protest took place in the vicinity of the Las Bambas Project. The protests were organised by activists from outlying communities and based on issues concerning the approval of the EIS as well as a number of other social and political factors.

Throughout the protest MMG aimed to establish meaningful dialogue to better understand protestor concerns with the aim of reaching a sustainable solution. Unfortunately,

over several days protest activity escalated and police involvement increased.

On 28 September 2015, the protest escalated into a conflict situation resulting in a number of protestors and police officers suffering serious injuries and tragically included the death of three protestors. With the support of the Government of Peru and local authorities, peace was returned to the region in the days following.

On 1 October, police in transit from Cusco to Las Bambas were involved in a light vehicle accident which resulted in the death of two police officers.

Following the incident, Las Bambas worked with the Government of Peru and the local community to establish a Cotabambas Dialogue Table to develop a series of agreements with the goal of maintaining social peace and providing additional security. This process has enabled the site to strengthen its relationships with local stakeholders and to establish ongoing dialogue.

MMG is committed to working with stakeholders to deliver progress in social development and sustainability.

(See above for information on MMG's alignment of security management with human rights principles.)

# WE MINE FOR PROGRESS



At MMG we mine for progress. For us, this means contributing to progress in human development, which is best achieved through an investment in building community capacity to engage in economic opportunities. These opportunities arise both directly through our operations and supply chains, and indirectly through our role as an economic catalyst in partnership with communities, regions and nations.

A mother feeds her child 'Superkid' micronutrients distributed as part of the MMG-UNICEF 1000 Day Project for child nutrition.

## SOCIAL DEVELOPMENT AND INVESTMENT

Consistent with the UN global development agenda, demonstrated through the UN Sustainable Development Goals, MMG is working to define how our social development activities contribute to achieving global goals on important issues such as poverty alleviation, food security, health, education and the wellbeing of women and girls.

In 2015 we invested US\$63.5 million in social development programs, a slight decrease on the US\$66.3 million contributed in 2014. This reduction reflected the conclusion of a number of programs across our sites and particularly a decrease in social development programs around our Century mine (refer to **Table 2**). Our objective is to deliver maximum value to Shareholders, host communities, regions and nations through effective use of existing business decisions, partnerships with others and strategic investment by our sites.

### Investment in social development programs in 2014 and 2015 (US\$ '000) (Table 2)

	2014	2015
Las Bambas	53,617	53,575 (84%)*
Century	4,607	3,458 (5%)
Kinsevere	3,519	2,648 (4%)
Sepon	2,767	2,308 (4%)
Group Office	594	614
Rosebery	757	545
Golden Grove	375	335
Dugald River	65	30
Izok Corridor	28	10
Exploration	No data	20
<b>MMG</b>	<b>66,329</b>	<b>63,544**</b>

Note: \*Percentage of MMG total investment in 2015. \*\*The 4% decrease in investment from US\$66.3 million in 2014 is predominantly related to the completion of agreed microfinance payments at Sepon in 2014, reduced infrastructure projects at Kinsevere in 2015 in line with Community Investment Plan, completion of traineeship and apprenticeship work programs at Century and a number of one-off health and wellbeing projects at Rosebery in 2014.

In 2015 we reviewed our Community Investment Plans to further align to each operation's Life-of-asset Plan. We categorise our community investment into four pillars: education, essentials for life, health and wellbeing, and securing incomes. As a number of our operations mature, we are transitioning our approach from support for the provision of essentials for life such as food, water and sanitation, to a focus on long-term economic development, not solely reliant on MMG or mining.

To support this strategy, we have created a dedicated Social Development and Public Policy group, which will primarily focus on:

- > social development project design and delivery: to maximise the value of MMG's role to stakeholders as a socio-economic catalyst to support resilient post-mining communities; and
- > positioning MMG's work on social development within regional, national and international planning and development contexts to leverage opportunities for strategic partnerships and to support the sustainability of programs.

Our Kinsevere operation has begun to refocus its efforts on economic development by supporting projects which aim to secure incomes in the local community. Economic development projects comprised 63% of its total contribution in 2015 (refer to **Table 3**). These projects include community-based operation and management of a large-scale farm purchased by MMG in late 2015, which will become a focal point for future social development activity (refer to the **Kinsevere case study** on page 18).

At Las Bambas, the majority (77%) of community investment in 2015 related to essentials for life, as part of the ongoing work with resettled communities at Nueva Fuerabamba (refer to **Land access** on page 22). Social investment activities at Las Bambas were largely determined by related communities and government and articulated in a set of agreements that Las Bambas is implementing. Work is underway to assess the full range of discrete commitments and build these into sustainable social development programs covering issues which include: education, health, enterprise development and agricultural assistance (refer to the **Las Bambas case study** on page 18).

In 2015 Vilabouly, a community situated near our Sepon mine, was removed from the list of 'most poor' districts in Lao PDR, an achievement which can be attributed to Sepon's direct investments in local infrastructure, health, education and business development since the mine commenced operations in 2002.

At Sepon, substantial work has been completed to support non-mining industry growth, including rice and citrus production and traditional cultural micro-enterprises. This work has also helped to inform closure planning discussions on post-mining land use. Our focus is now on ensuring that the right combination and scale of economic activities are embedded in the local communities. Additional studies are underway into the local household incomes with the aim of developing strategies to ensure that the Province maintains, and potentially improves, its socio-economic status.

### Spend by community investment pillar – 2014 vs 2015 (Table 3)

	EDUCATION		ESSENTIALS FOR LIFE		HEALTH AND WELLBEING		SECURING INCOMES	
	2014	2015	2014	2015	2014	2015	2014	2015
Las Bambas	*	2%	*	77%	*	3%	*	18%
Century	–	<1%	–	–	9%	14%	91%	86%
Kinsevere	12%	14%	75%	23%	<1%	<1%	12%	63%
Sepon	<1%	5%	59%	55%	9%	17%	31%	24%
Rosebery	8%	9%	–	–	59%	49%	33%	42%
Golden Grove	12%	10%	–	–	40%	28%	48%	62%
Dugald River	–	–	–	–	100%	100%	–	–
Izok Corridor	32%	–	–	–	68%	100%	–	–
<b>MMG</b>	<b>*</b>	<b>3%</b>	<b>*</b>	<b>68%</b>	<b>*</b>	<b>6%</b>	<b>*</b>	<b>24%</b>

\*Data is not available for Las Bambas for 2014 – therefore comparable data for MMG for 2014 cannot be determined.



## KINSEVERE – FOOD FOR LIFE TO FOOD FOR LIVELIHOODS

Kinsevere’s Farmers Assistance Program (FAP) is a long-term initiative which aims to help local farmers transition from subsistence farming to more sustainable livelihoods through commercial cropping. It is a modified microfinance program, which also aims to transfer technical knowledge. Agronomists engaged by MMG over the past eight years have worked directly with over 1,460 farmers collectively growing 780 hectares of maize, bean and groundnut to increase yields and diversify crops. Over this period, crop yields have increased from 0.90 to 1.53 tonnes per hectare. Our ongoing support includes projects such as construction of storage facilities, formation of community cooperatives and market development.

In December 2015 Kinsevere acquired a large-scale farm covering approximately 1,690 hectares. This provides an opportunity to improve community income security and transition towards a more independent, sustainable business enterprise for the region. The farm will focus on the production of staple food crops such as maize, wheat and soya beans, a strategy which also satisfies the government’s decree for mining companies to contribute to food security for the region and to reduce the level of dependence on importing staple foods.

The Ubuntu farm provides an opportunity to leverage, enhance and support the sustainability of existing Kinsevere social investment, particularly the work on agriculture, market development and associated logistics.

The Environment and Social Impact Assessment for the Ubuntu farm was approved in September 2015 and an initial maize crop has been planted. Work is now underway to develop governance structures to support the establishment of a community association or foundation, which will ensure that the community is the primary beneficiary of the farm and farming revenue once in commercial operation.

### Social objectives of the Ubuntu farm



## DOING WHAT WE SAY AT LAS BAMBAS

Underpinned by our value ‘We do what we say,’ at MMG we aim to deliver on our commitments. At Las Bambas we have implemented a Social Development Plan which seeks to improve the quality of life for the communities located in our area of influence.

Our contribution not only reaches the 33 communities in Challhuahacho district, but also other communities in Cotabambas province and a number of communities in Grau province. It is also the mechanism by which we deliver against our more than 350 existing social commitments. Over the period 2004–15, Las Bambas has delivered more than US\$250 million in social programs and community infrastructure, including US\$53.6 million in 2015.

Our Social Development Plan is the platform from which we deliver on our existing social commitments. Over the next three to five years our challenge is to strategically focus our community investment to deliver sustainable outcomes and to effectively manage the delivery of our large portfolio of regional development and community investment programs. This process will involve:

- > grouping our current commitments into 16 project streams which are further divided into the four pillars of our MMG Community Investment Strategy;
- > identifying additional project requirements to address gaps between commitments and outcomes from a social baseline or needs analysis;
- > defining delivery mechanisms for each stream’s sustainable projects with appropriate strategies to enhance long-term viability;
- > establishing measurable outcomes for each project aligned with Sustainable Development Goals and quality-of-life indicators and needs identified through social baseline and social risk assessment; and
- > prioritising project delivery to optimise outcomes and manage risk.



Our community investment includes supporting education development in our areas of influence.

## COMMITMENT TO LOCAL EMPLOYMENT

We are committed to sharing our success with our communities through local employment opportunities and by investing in training and education to help local residents transition to careers in mining or related fields.

We recognise that local development programs must be a life-of-asset commitment, particularly in host communities where education and training opportunities are limited. Over time, these programs will reduce the dependency on non-local employees by establishing and developing capability within the local workforce, as well as building broader community socio-economic resilience.

Throughout 2015 we worked to support local employment across our operations. Despite significant organisational change at Century and Golden Grove we reported an increase in the percentage of Indigenous employees of 17 to 31% and 2 to 4% respectively.

### Indigenous Australian employment in 2014 and 2015 (%) (Table 4)

	2014	2015
Century	17	31
Golden Grove	2	4
Rosebery	2	2
Dugald River	3	3
Corporate	0	1
Exploration	0	0

Note: Indigenous percentage is based on self-classification of workers as Aboriginal. Shown as the percentage of employees at each facility.

### Employment of nationals at our non-Australian facilities in 2014 and 2015 (%) (Table 5)

	2014	2015
Sepon	94	95
Kinsevere	94	94
Las Bambas	96	98
Exploration	90	78

Note: Data on percentage of nationals is not available for our non-Australian offices. Reported as the percentage of employees at each facility.

In late 2015 we implemented Local Employment Management Plans at Sepon and Kinsevere to formalise delivery and governance objectives, commitments and accountabilities in a common framework. The scope of these plans includes post-closure considerations. To facilitate regular reporting and continuous improvement of our Local Employment Management Plans, a biannual reporting cycle and a Local Employment Governance Committee has been established.



## Case study

### LOCAL EMPLOYMENT IN LAO PDR

Building local capability and a commitment to hiring from our communities is a strategic focus for Sepon and will remain a priority for the life of the operation.

In 2015 we focused on capability planning and development of the local workforce. At Sepon, the role of expatriate employees is to assist local employees to develop technical skills. Succession planning of Lao employees across the site is aligned with the overall objective of a gradual reduction in the number of expatriate employees.

The operation currently draws 61% of its supervisors from the local communities and continues to prioritise the development of local talent. The success of this strategy is demonstrated by the ongoing promotion of supervisors to superintendent-level roles.



Local employees at our Sepon mine.

## LOCAL SUPPLY

At MMG, we are committed to supporting local suppliers to develop sustainable business models which can thrive beyond direct mine life and activity.

Where possible, our objective is to source products and services from local suppliers where they are able to meet our key selection criteria encompassing safety, environment, quality, technical, social and commercial areas. If gaps are identified, we will assist local suppliers to meet our standards and support them in building commercial capabilities. This process enables them to accommodate future opportunities to grow their businesses and to expand their offering to other customers beyond MMG (refer to the **Las Bambas case study** on page 21).

In 2015 MMG's five operations spent US\$1.14 billion, excluding taxes and royalties, on local procurement. The breakdown of expenditure at each of our operations is provided in **Table 6**.

Expenditure with in-country suppliers was US\$902 million (79% of total spend) in 2015. Of this, US\$569 million was spent with suppliers in the provinces or states where our operations are located and US\$56 million related to goods and services procured from suppliers in the near-mine area or local district.

We spent US\$623 million (86% in country) on goods and services related to Las Bambas construction activities over the final four months of 2015.\*\* During the year we increased annual expenditure related to the direct purchases of goods and services from suppliers in the local region to approximately US\$12 million. This included US\$4.7 million in the last quarter of the year, an increase from the US\$1.2 million spent in the comparable period in 2014.

### 2015 Local procurement spend in host countries (US\$m)\*\*\* (Table 6)

	NEAR-MINE/ DISTRICT LEVEL		PROVINCIAL/ STATE LEVEL		NATIONAL		TOTAL SPEND
	(ZONE 1)		(ZONE 2)		(ZONE 3)		
Century	20.5	(6.3%)	201.1	(62%)	304.0	(94%)	324.6
Golden Grove	28.4	(19%)	92.4	(63%)	146.4	(99%)	147.3
Kinsevere	0	(0%)	156.6	(59%)	171.3	(65%)	264.4
Rosebery	3.5	(2.7%)	44.5	(33%)	132.4	(99%)	133.1
Sepon	3.3	(1.2%)	74.3	(27%)	148.0	(54%)	273.5
<b>MMG operational sites</b>	<b>55.7</b>	<b>(4.9%)</b>	<b>569.0</b>	<b>(50%)</b>	<b>902.1</b>	<b>(79%)</b>	<b>1,143.0</b>
Las Bambas**	0	(0%)	6.7	(1.1%)	535.0	(86%)	623.4
Non-operational sites*							199.9

\* Non-operational sites includes Dugald River, Group Office, Hong Kong and Exploration.

\*\* Las Bambas data includes payments to Bechtel and is from 3 August to 31 December 2015.

\*\*\* Excludes taxes and royalties payments.

## LAND ACCESS

We seek to establish mutually beneficial agreements with land-connected host communities to gain access for the exploration, development and expansion of our mining operations. We also look to identify and work with traditional owners, where appropriate, to ensure sensitive management of cultural heritage as part of our land access and clearance processes.

We understand that the resettlement and economic displacement of people can impact their livelihood and sense of community. Therefore, only where it is unavoidable do we resettle people or displace existing economic activity. In these cases, such as at Las Bambas, we do so under a formal, participatory approach to achieve and ensure the Free, Prior and Informed Consent (FPIC) of affected individuals and communities.

### Agreements with Indigenous communities

MMG has three operations in Australia which are located in, or adjacent to, Indigenous people's territories (Century, Dugald River and Golden Grove). Century and Dugald River have formal agreements with Indigenous communities.

The communities in the area in which Las Bambas is located are not formally recognised by the Peruvian Government as Indigenous. MMG, however, has a series of agreements at the community and provincial level.

There are some communities in the area in which Las Bambas is located that are recognised as Indigenous. This is based on the communities' own definition of Indigenous, and is more expansive than the definitions applied by the Peruvian Government.

The communities in the area in which Kinsevere is located are not recognised as Indigenous and no formal agreement has been implemented. However, MMG has established verbal commitments to many tribal chiefs.

MMG is currently in negotiation with the Nunavut people regarding our Izok Corridor development project in Canada.

Across project development and implementation, we apply the principles of FPIC as described by ICMM's 2008 Mining and Indigenous Peoples Position Statement and in International Finance Corporation (IFC) Performance Standard 7. We apply culturally appropriate methodologies and decision-making approaches to our engagement with local community members in negotiating formal land use agreements. We also respect and abide by local legal requirements governing such interactions and agreements.



## LAS BAMBAS LOCAL ENTREPRENEUR DEVELOPMENT PROGRAM

Wildor Berrios Carrasco established an electrical maintenance business with his brother in 2011, after participating in the Local Entrepreneur Development Program (LEDP) at Las Bambas. Over the past four years his business, Procon Electric SAC, has grown nearly tenfold in terms of the number of employees and almost 75 times in terms of operating capital. Just over half of Mr Berrios' turnover in 2015 was derived from business with Las Bambas. MMG has provided ongoing commercial advice which has assisted Mr Berrios in the management and marketing of his business, both within the local region and to potential customers in neighbouring Bolivia. Mr Berrios aspires to achieve ISO 9001 Quality Certification and to become an electrical contractor of choice in Peru and Bolivia.



Electrical maintenance business, Procon Electric, continues to grow and expand.

Alejandro Saldivar Conislla, a previous member of the Association of Potato Growers of Native Qhachunwaquachi Yuricancha in Challhauhaicho, established a potato sales business in early 2014 with his business partner Walter Huillca. Mr Saldivar gained commercial and marketing skills through his participation in the LEDP. Through association with Sodexo Peru SA, a food services and facilities management company which provides contract services to Las Bambas, he improved his knowledge of product quality expectations for the catering market. Armed with this, Mr Saldivar now sells an average of 16,000 kilograms of potatoes to Sodexo and local restaurants. Orders are filled by engaging farming families in the Yuracancha community and other surrounding communities as suppliers. Mr Saldivar would like to diversify his sales to include other fruits and vegetables and to expand his business into the Cusco market.



Mr Saldivar has expanded his potato sales business through the skills he acquired participating in Las Bambas' LEDP program.

After attending a skills development training course (Tikariy Wiñaypaq), provided by Las Bambas in partnership with non-government organisation Centro de servicios para la capacitación laboral y desarrollo (CAPLAB), Justina Vargas Hualpa and seven other female entrepreneurs from the Challhuahuacho community identified an opportunity to use their needlework skills to supply quality industrial clothing and safety apparel to the local mining and contracting industry. They created an entrepreneurial society called Golden Needles Apparel Fuerabambas SCRL. The women soon identified a need to acquire further commercial capabilities in business management, which they gained through participation in the LEDP. Now, Golden Needles has its own workshop and sewing machines and continues to grow through fairs organised by Las Bambas and through business conferences. In 2015 Las Bambas purchased over US\$150,000 in clothing supplies from Golden Needles.



Local supplier, Golden Needles, provides Las Bambas with quality industrial clothing.

## Achieving positive resettlement outcomes at Las Bambas

In late 2014 Las Bambas commenced the physical resettlement of eligible families of the Fuerabamba community to a newly built town. The new settlement, Nueva Fuerabamba, is located between the Chila and Choaquere communities in the Challhuahuacho district of the Cotabambas province. It is situated approximately eight kilometres from Las Bambas and the original settlement. Nueva Fuerabamba was designed collaboratively with community members and has modern facilities and infrastructure, including running potable water, sewage collection and treatment, and medical, educational and recreational facilities.

By the end of 2015, 608 families have been successfully resettled and engagement is ongoing with the remaining 22 families to facilitate final resettlement and address outstanding concerns.

MMG paid US\$25.4 million in 2015 in compensation for land access, with 88% of this associated with resettlement agreements at Las Bambas (refer to Table 7).

### Compensation paid (US \$'000) by MMG operations for land access in 2014 and 2015 (Table 7)

	2014	2015
Exploration		250
Las Bambas	76,300	22,280
Golden Grove	29.6	–
Century	1,899	2,061
Sepon	1,587	786
<b>MMG</b>	<b>79,815</b>	<b>25,377</b>

While the physical relocation is an important first step in the resettlement process, MMG is committed to ensuring that the livelihoods of those who are resettled, and their future generations, are restored and enhanced over the long term.

Through our Livelihood Restoration Program (LRP), we work in partnership with individual households to realise their priorities in five areas: capacity-building, access to a secure income (employment/business development), natural resources, health and education. We worked with individual households in 2014 to help families set a vision and develop their 2020 Family Life Plan and then, in 2015, continued to assist the families to execute their plans.

Las Bambas delivers specific development programs to the Nueva Fuerabamba community across 13 priority areas: health, education, land, cattle breeding, agriculture, employment, economic development, vulnerable group support, natural resources, organisation strengthening, capacity building, educational infrastructure and sanitation. Recent successes include the construction and operation of a dedicated facility for 79 elderly members of the Nueva Fuerabamba community and the implementation of the Nueva Fuerabamba Student Scholarship program.

The facility for elderly residents comprises six bedrooms, kitchen, dining room, entertainment and recreation areas, physical rehabilitation room and warehouse. Workshops are regularly scheduled to assist elderly community members maintain motor function, lead healthy and active lifestyles, achieve balanced nutrition, and prepare and maintain vegetable gardens. Work is ongoing to implement an occupational program for the elderly residents.

The Nueva Fuerabamba Scholarship program provides direct support to young students who are children of Nueva Fuerabamba community members, by providing payment for college tuition. Eighty students are currently receiving the scholarship and 34 have finished their studies and are applying their knowledge in the workplace. The majority of students have studied engineering or economics at prestigious universities in Apurimac, Cusco, Arequipa and Lima. The President of the Peruvian Education Commission recently reinforced the importance of education programs to our host communities: "Education is the only way out of poverty and exclusion; we want our children to be professional and not as we – shepherds, farmers and illiterate".

In addition, Las Bambas implements broader social programs which focus on delivering regional benefits to the Nueva Fuerabamba community and other near-mine communities (refer to **Social development and investment** on page 16).



Children enjoying the new play equipment at Nueva Fuerabamba.

# WE MINIMISE OUR IMPACT



Respect for the environment is a core part of MMG's business strategy and we are committed to minimising our environmental footprint. We maintain a close focus on managing our social impacts and align our social development activities with our Life-of-asset Plans.

Successful land management is an important priority throughout the mining lifecycle.

## WATER ACCESS AND USE

Mining and minerals extraction are water-intensive processes so the efficient performance of our operations relies on our ability to source water of appropriate quality and quantity. At MMG, we recognise the importance of our role as responsible stewards of the water we share with local communities and the environment and we look for opportunities to reduce our impacts on water resources from our sourcing and discharge activities.

Where possible, we seek to improve the efficiency of our water use and maximise water recycling. This reduces the need to source

new water from local catchments and forms an important part of our strategy for managing onsite water inventories.

### Water balance for 2015

We report our water inputs, outputs and diversions in line with the MCA Water Accounting Framework. In 2015 our operations managed a total of 83 gegalitres (GL) of water. Water inputs for dust control, drinking water and processing (40GL) represent approximately half of the total water managed. The remainder is diverted around the operating areas and, where required, treated prior to release (refer to **Table 8**).

### Water balance for 2015 (Table 8)

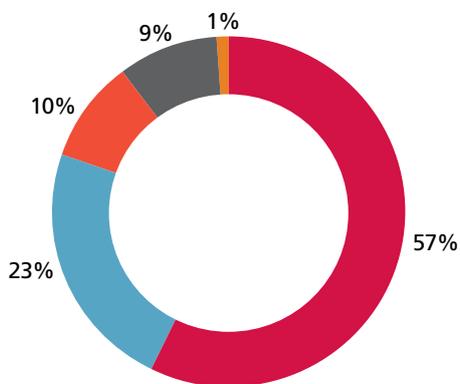
Diverted water	43,188	ML		Diverted water	41,751	ML	
Water inputs	39,570	ML		Water outputs	34,718	ML	
Borefields	10,166	ML	(26%)	Evaporation	17,781	ML	(51%)
Precipitation and run-off	18,836	ML	(48%)	Entrainment	7,812	ML	(23%)
Rivers and creeks	4,025	ML	(10%)	Discharge to surface water	4,917	ML	(14%)
Aquifer interception	3,609	ML	(9%)	Discharge to estuary	1,836	ML	(5%)
External surface water storages	1,651	ML	(4%)	Seepage	1,449	ML	(4%)
Entrained in ore that is processed	965	ML	(2%)	Supply to third party	251	ML	(1%)
Contract/municipal	167	ML	(0.4%)	Other	672	ML	(2%)
Third-party wastewater	150	ML	(0.4%)				

Note: The difference between inputs and outputs is related to change in storage, particularly at Las Bambas where we were building up our water inventory ahead of commencement of operations. The increase in total water managed from 54GL in 2014 to 83GL in 2015 was predominantly related to 10GL water inputs at Las Bambas and an additional 14GL diverted water at Kinsevere in 2015 due to increased mine dewatering.

In 2015 approximately 48% (19GL) of water inputs were supplied by capture of precipitation and run-off. The majority (17GL, 84%) of the remaining water used in our operations was of high-quality, either meeting or close to meeting the drinking water standard (category 1). The water is sourced predominantly from borefields, rivers and creeks (refer to Figures 4a and 4b).

### Freshwater (category 1) inputs by source (ML)

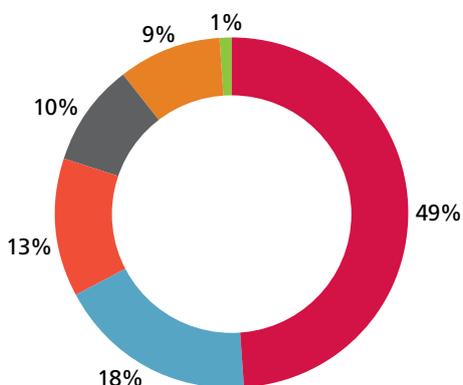
(Figure 4a)



- Borefields
- Rivers and creeks
- External surface water storages
- Aquifer interception
- Contract/municipal

### Freshwater (category 1) inputs by site (ML)

(Figure 4b)



- Century
- Sepon
- Kinsevere
- Las Bambas
- Rosebery
- Dugald River

Note: Excluding water sourced from capture of rainfall/run-off.

### Water security

Our water balance models predict water inputs, use and outputs to inform our management of water-related risks. Increasingly, we integrate our water balance models and our Life-of-asset Plans to make structured investment decisions regarding infrastructure, and to align water supply with processing demands.

One of the challenges in transitioning Las Bambas from the construction to the operational phase is ensuring that water management infrastructure has been completed in time to provide sufficient water to match production schedules (refer to the **Las Bambas water management infrastructure case study** on page 25).

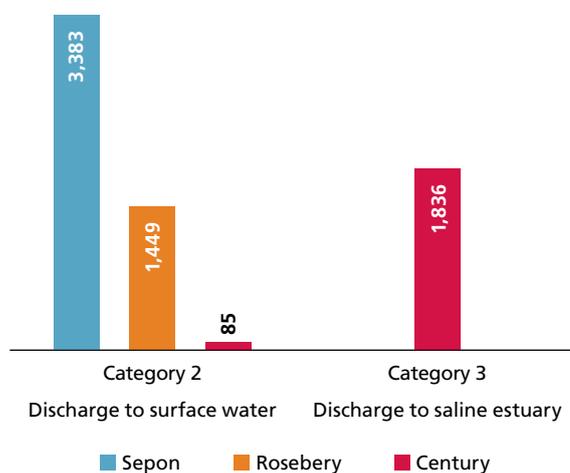
### Water discharge

Our water balance models and management plans aim to minimise the need to treat and discharge water. We do this by diverting excess water and optimising reuse of water.

In 2015 MMG operations discharged 6,753 megalitres of water to surface water environments (refer to Figure 5).

### Discharge to surface water environments by site (ML)

(Figure 5)



Note: Category 2 = medium quality water; Category 3 = poor quality water

Water retention and treatment infrastructure are in place across all MMG operations to successfully manage releases and the quality of the water released in line with local licence conditions. We also monitor receiving water ecosystems for chemical and biological indicators of ecosystem 'health'.

During 2015 Sepon continued to focus on decreasing its water inventory and improving its water treatment infrastructure and processes (refer to our **2014 Sustainability Report**, page 50).

At Century we now face new water management challenges following cessation of active pit dewatering with the end of open-pit mining. In 2016 we will use water from the evaporation dam to commence the process of accumulating water in the pit. This strategy will reduce the risks associated with evaporation dam seepage (refer to our **2014 Sustainability Report**, page 51) and mitigate risks of acid mine drainage for the open-cut pit. Pit lake evolution studies continued in 2015 to determine the size of the water catchment that can be accommodated without creating a risk of overflow and to determine the water diversion requirements. Studies evaluating the pit water quality under a range of scenarios are also progressing, enabling us to thoroughly consider and refine the closure strategies and opportunities.

## TAILINGS AND WASTE ROCK MANAGEMENT

Our mining and processing activities generate mineral waste. In 2015, 29.2 million tonnes of waste rock were generated and 15.4 million tonnes of tailings were placed in tailings storage facilities across MMG operations (refer to **Figures 6a and 6b**).

Some of this mineral waste is chemically reactive, with the potential to form acid and metalliferous drainage (AMD). It can also impact water quality and the success of land rehabilitation if not identified early and managed effectively. Through the implementation of our Mineral Waste Management Plans, we focus on characterising mineral waste and managing its storage to limit environmental impact and minimise operating and closure costs (refer to the **Rosebery tailings storage facility case study** on page 27).

### Waste rock stockpiles and dumps

Our operations place waste rock underground as backfill, into stockpiles where there is potential for future extraction of metal value or into surface waste rock dump landforms. We aim to minimise the amount of waste rock in surface landforms at closure. While some operations will be required to design closure strategies to manage historical legacies associated with waste rock placement, recent waste rock dumps at Rosebery and Las Bambas have been designed for closure from the outset (refer to **Land management and rehabilitation** on page 26).

### Tailings storage

In 2015 we continued to enhance our activities to manage the risk of failure of our tailings storage facilities (TSF). A permanent specialist has been engaged to provide expert technical oversight to all tailings management activities, with one of the first tasks being the review our risk assessment and common critical control structure for TSF management. The outcome of this review formed the basis for an amendment to our Fatal Risk Standard to include updated performance requirements for TSF management. Our critical controls focus on the design, construction and ongoing management of operating and non-operating tailings dams, and are in line with the Australian National Committee on Large Dams (ANCOLD) best practice requirements.

The strengthened control structure was implemented during 2015 and included the systemisation of all control tasks. The revised independent inspection program has been implemented and an assessment of each TSF against the updated performance requirements has been established.

Programs have been established to monitor the completion of the control tasks so as to provide management with assurance that the right actions are occurring over time to keep the risk under control. Further work still needs to be undertaken in relation to flood mapping and emergency management.

MMG is also contributing to the ICMM's global review of TSF standards critical control strategies, governance and emergency preparedness. This program of work commenced in December 2015. Outcomes from this review will be used to continually improve the critical control management plans for our tailings storage facilities.



### Case study

## DESIGNING WATER MANAGEMENT INFRASTRUCTURE AT LAS BAMBAS

At Las Bambas we have designed our water management infrastructure to minimise impacts on the community and the environment. The design was based on an understanding of seasonal water availability obtained through the environmental impact assessment and water licensing processes. It also included consideration of both environmental flows and downstream water requirements. The design targets zero discharge of process water.



Chuspiri dam at Las Bambas.

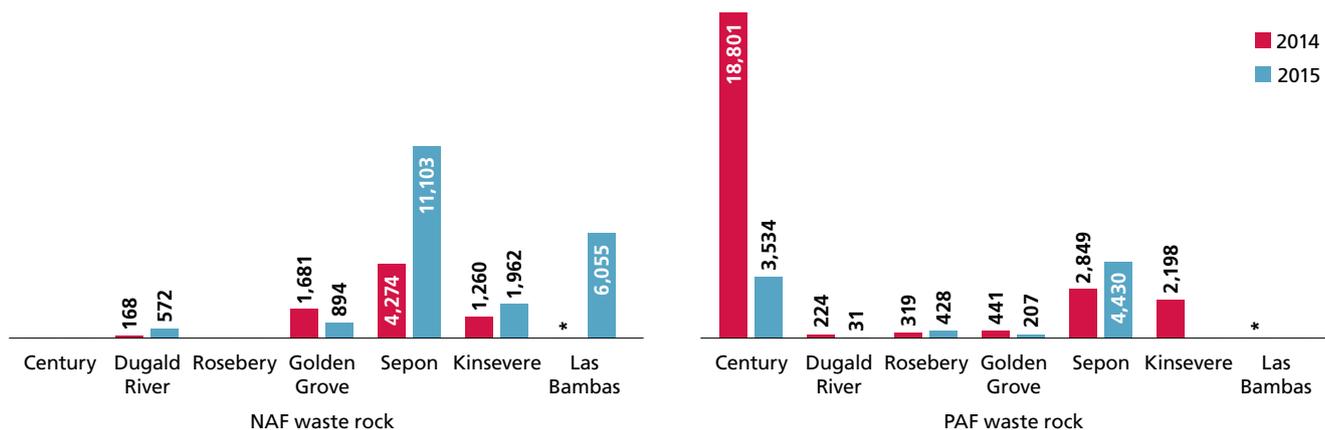
Las Bambas uses a combination of storage facilities to collect rainfall and run-off, and to maximise water reuse and recycling. This reduces discharge of any mine-impacted water to the environment, and minimises the need to extract water from external water sources, such as rivers and springs, to meet processing requirements. Our processing plant has also been designed to optimise water use efficiency.

During the wet season, we prioritise the use of water from the sedimentation dam, which collects run-off from the waste rock dump and other mine areas, to minimise releases to the environment. The sedimentation dam and associated clarification dam retain water to allow sediments to be removed. In addition, diversion channels are utilised at Las Bambas to help separate clean water from mine-contact water and to minimise operational water volumes within the site's tailings storage facility.

Ongoing monitoring is used to refine our water balance and water quality models and to confirm that discharge water quality criteria can be achieved. This monitoring will inform the design of future water management infrastructure as we plan for expansion of the pit and extension of operations to new areas.

Over 2014–15 Las Bambas built its onsite water inventory by capturing and storing rainfall and run-off from mining-affected areas to meet water requirements for the processing plant during the commissioning and early production phases.

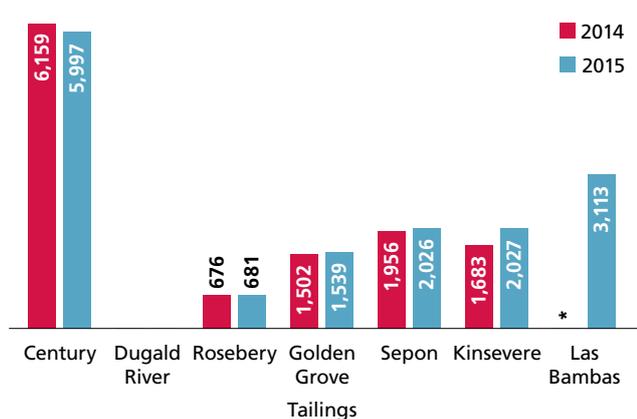
## Waste rock generated in 2014 and 2015 ('000 tonnes) (Figure 6a)



Note: NAF = Non-acid forming waste rock; PAF = potentially acid forming or unsegregated waste rock. NAF waste rock generation has increased over the last 12 months due to new/extended pit development at Sepon and activities at our newest mine, Las Bambas. PAF waste rock generation decreased significantly in 2015 due to completion of mining at Century and processing of all black shale materials mined in 2015 at Kinsevere. These decreases were offset by an increase in PAF waste rock generation at Sepon due to changing pit geology as mining extends deeper into the pits.

\* Data not available for 2014.

## Tailings generated in 2014 and 2015 ('000 tonnes) (Figure 6b)



Note: The total amount of tailings generated by MMG's operations in 2014 was previously reported as 13 million tonnes (2014 MMG Sustainability Report). It has been restated as 12 million tonnes in this report due to an error in the tonnage for Kinsevere.

\* Data not available for 2014.

## LAND MANAGEMENT AND REHABILITATION

Successful land management and site rehabilitation are important priorities throughout the mining lifecycle, from development through to site relinquishment. Public health and safety, post-closure environmental impacts and adverse socio-economic impacts are concerns which need to be addressed collaboratively through the closure planning and execution process. Ideally the closure planning process starts during mine development and is integrated into life-of-asset management.

Our operations implement Land and Biodiversity Management Plans to minimise impact associated with the land disturbances necessary for exploration and mining activities. In managing land disturbance, we consider the balance with other social and ecological needs and seek to preserve biodiversity and ecosystem value.

Our operations undertake relatively minor progressive rehabilitation on an annual basis since disturbance areas are largely limited to operational areas which continue to be used or will be used in the future. While we do not set annual rehabilitation targets, we do build allowances into our closure plans and budgets where there are opportunities to rehabilitate areas that are no longer required for operational purposes.

By implementing their management plans our operations seek to minimise their impact on the environment and the community from open areas of disturbed land. This includes drainage and erosion management and dust control, and may include temporary revegetation.

Projected closure costs associated with our Century mine have resulted in a modified approach to land management planning. Increasingly, we integrate closure considerations into early landform placement and design decisions to minimise future revision in creating final landforms suitable for closure. This philosophy has been applied to waste rock dump placement at our newly constructed Las Bambas mine, Kinsevere copper expansion pre-feasibility studies and major capital projects such as Rosebery's three-level waste rock dump.

Physical closure planning (landform management) at MMG involves starting well in advance and investing during the early stages in gathering information to make environmentally sound, cost-effective decisions. Our closure planning process involves identifying options and undertaking well-planned studies to thoroughly understand the implications of the various options. This documented understanding can then be used for financial provisioning and when appropriate, to engage and agree with stakeholders on the best management approach to achieve desired end land uses and closure criteria.

All of our operations have closure plans, which vary in maturity depending on the stage of mine life. The plans are tailored for each stage of the mining lifecycle, and direct resources to operations closest to the end of production. Costs and schedules for closure execution are integrated with Life-of-asset Plans.

For information on our financial provisions for closure, please refer to MMG's 2015 Annual Report.



### ROSEBERY TAILINGS STORAGE FACILITY

In February 2016 the Tasmanian Environment Protection Authority and West Coast Council approved the construction of a new tailings storage facility (TSF) at MMG’s Rosebery mine. This new TSF will allow the operation to continue once the current TSF reaches capacity in 2017. The site chosen for the new TSF is the existing ‘2/5 Dam’ facility that was used historically for tailings disposal but which was subsequently decommissioned in the 1980s. This site was selected following a community consultation process, in order to avoid the need to expand the mine’s footprint through new land disturbance. However, its proximity to local community residences and original, unlined construction method presented challenges for the design team to ensure that community and industry expectations would be met.

Key features of the approved TSF design include:

- > construction of the TSF bund wall from material which will support plant growth. This will help soften the changes to the scenic environment, reduce susceptibility to erosion and help mitigate risk from potential dust generation during dry periods;

- > installation of a bituminous liner and a grout ‘curtain’ structure to reduce the potential for seepage from the TSF; and
- > water-covered tailings deposition to minimise wind-blown dust and prevent oxidation of the tailings.

A range of engagement strategies were implemented to provide the local community with an understanding of the purpose of the project, its likely impacts and the social and environmental management strategies for TSF construction and operation. These meetings have also provided a valuable insight into social concerns and opportunities with stakeholder feedback used to review and refine our proposed approach.

Community sporting facilities and walking tracks are in the process of being constructed or upgraded to replace those made unavailable through redevelopment of the TSF. These facilities were selected based on suggestions from the community on which recreational facilities best service the Rosebery township.

Stage 1 of the construction of the new TSF facility commenced in the first half of March 2016 and is expected to take at least 12 months to complete.



### ADDRESSING TAILINGS PIPELINE LEAKS AT SEPON

At our Sepon mine, pipework is used to transfer water and tailings, a by-product of copper ore processing, to a tailings storage facility. In 2015 Sepon reported several leaks in the tailings transfer pipeline. Soil and water testing has confirmed limited environmental impact, however, the leaks are of concern to MMG, the local community, and the Lao Government. To address the impact, Sepon has replaced segments at risk of failure and introduced a management program in 2015 to control the ongoing risk. This program

included testing pipeline thickness, replacement of the high-priority pipeline sections with over 2.2 kilometres replaced to date, vegetation clearance, and implementation of daily inspections. Proactive repairs and improvements to containment have been ongoing. This includes the installation of an additional environmental containment pond and drainage bunds. Sepon has maintained consistent, regular and transparent engagement with local communities and the government and committed to staged replacement of the pipeline to ensure exposures are decreased and, ultimately, eliminated.

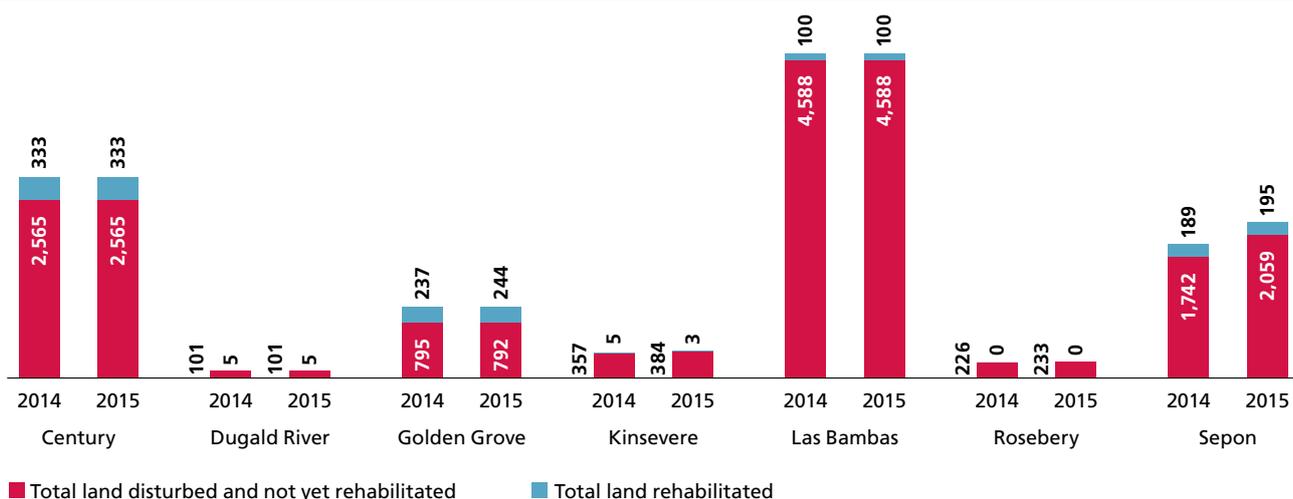


Employees conducting water monitoring at Sepon.

“The health and safety of our employees and the community is very important. We have conducted testing to ensure that any leaks are contained and have taken additional steps to prevent recurrence. We are strongly committed to setting an example of environmental protection with Lao regulations and international standards.”

*Suresh Vadnagra, General Manager, Sepon.*

## Cumulative land disturbance and rehabilitation at our operations (km<sup>2</sup>) (Figure 7)



## Land statistics for MMG (Table 9)

Amount of land managed	31,149km <sup>2</sup> (98% held for exploration)
Amount of land managed by our operating sites and advanced projects	735.6km <sup>2</sup>
> Area disturbed and not yet rehabilitated at end of 2014 (opening balance)	104.0km <sup>2</sup>
> New disturbance in 2015	3.62km <sup>2</sup> (89% in development areas at Sepon)
> Disturbed areas rehabilitated in 2015	0.26km <sup>2</sup> (75% at Sepon and Golden Grove)
> Area disturbed and not yet rehabilitated at end of 2015 (closing balance)	107.4km <sup>2</sup>



### Case study

## BIODIVERSITY MANAGEMENT AT DUGALD RIVER

Many considerations inform the development of new projects, one of which is the protection and enhancement of the biodiversity of our natural environment.

During routine biodiversity monitoring at Dugald River, MMG's development project in north-west Queensland, a federally listed marsupial species was discovered. Additional targeted monitoring confirmed that this species, *Carpentarian antechinus*, has an established habitat on the Dugald River mining lease and within the footprint of the proposed project.

MMG sought feedback from biodiversity experts to determine the most appropriate actions to manage potential environmental impacts on the species during the development of the Dugald River project. This proposal was referred to the Commonwealth Environment Minister in accordance with the *Environment Protection and Biodiversity Conservation Act 1999*. The Minister concluded that the proposed mitigation actions to be undertaken were acceptable. This is a positive outcome for both Dugald River and for this vulnerable species.

Monitoring data collected by MMG will contribute to broader research activities into the species. This work will target an improved understanding of lifecycle, habitat and dietary requirements and will aid future conservation efforts to protect *Carpentarian antechinus*.



Small mouse-like marsupial, *Carpentarian antechinus* (image supplied by Mark Sanders, EcoSmart Ecology).



## TAKING TIME TO MAKE THE RIGHT DECISIONS AT CENTURY

Mining at Century was completed in August 2015, with final production taking place in November 2015. Over the last year there has been significant activity to construct waste rock dump landforms.



Launching a drone at Century to conduct thermal imaging and monitoring of waste rock dumps.

Meanwhile, MMG has continued to investigate options to further utilise its extensive infrastructure in the region. In 2015 we conducted proof-of-concept studies to evaluate whether reprocessing of tailings is financially viable and to assess a range of closure options for the 350 hectare tailings dam. These financial, engineering and environmental studies will continue throughout 2016–18 and during this time the site will be placed in care and maintenance.

Monitoring will continue to manage impacts and to progress closure studies and trials which seek to address outstanding knowledge gaps. Remotely operated drones have been utilised to undertake thermal imaging of the waste rock dumps and monitor heat generation due to spontaneous combustion of oxidised, or exposed, zinc ore. Ongoing monitoring of geochemical parameters and groundwater chemistry, and the chemical and physical response of both capped and uncapped rock dumps, will assist the operation to confirm that the waste is settled and stable prior to commencing final rehabilitation. By taking additional time and effort to gain an improved, all-round understanding, we will ensure that final strategies provide the best balance of environmental, social and economic outcomes.



## IZOK CORRIDOR

The Izok Corridor project includes the Izok and High Lake deposits located in the Slave Geological Province in Nunavut, northern Canada. While MMG holds a number of promising zinc and copper deposits in this region, these deposits require regional infrastructure such as all-weather road access and a deep-water port in order to be viable. MMG has taken the decision to place our Izok, High Lake and High Lake East camps on care and maintenance while we continue to work in partnership with Inuit organisations and governments to try and address this issue.

MMG took the opportunity in 2015 to undertake clean-up and reclamation works at these camps, as well as to address legacy disturbance from previous owners at other satellite camps and drill sites which we own in this region.

The footprint of the facilities has now been greatly reduced and areas no longer in use have been contoured and access restricted to promote natural re-vegetation. Waste materials, and equipment and consumables no longer required, have been removed from the facilities. Site inspections were carried out by the federal government and the Kitikmeot Inuit Association in July 2015 in relation to land use permits. Positive feedback regarding our efforts was received from both parties:

“I am impressed with the measures that have been taken to all-but-eliminate potential future environmental liabilities from this site. MMG’s excellent standing in compliance and environmental stewardship has made a mark in the region.”  
*Inspector, Aboriginal Affairs and Northern Development Canada.*

“The KitIA is very satisfied with the demobilisation of the High Lake East site and efforts by MMG to restore the area to conditions prior to any activities. The KitIA would desire to see all companies in the exploration industry strive to achieve the same high standard and level of detail as demonstrated by MMG.”

*Project Officer, Kitikmeot Inuit Association.*



Take-off from High Lake airstrip.

## MANAGING THE SOCIAL AND ECONOMIC IMPACTS OF MINE CLOSURE

At MMG we aim to manage the impacts of mine closure on employees, host communities and economic development through our workforce transition strategies and the social development programs which we implement during operations. By aligning our social development programs to our Life-of-asset Plans we are moving toward a focus on longer-term economic development which is not reliant on mining and can be sustained post closure (refer to the **Social development and investment** section on page 16).



### Case study

#### TRANSITIONING TO CLOSURE AT CENTURY

In 2015 Century commenced the implementation of its workforce transition strategy as part of the planned closure of the Century operation. We undertook extensive workforce and community engagement to ensure that stakeholders were informed and supported during this process. This included providing employees with information, support and training to minimise the effect of closure.

Over the past 12 months Century has been working with affected individuals, local councils and employers in the local and northern Queensland region to identify and secure new positions for all trainees and apprentices, either within or outside of the mining industry. We continue to provide mentoring support to trainees and their new employers.

MMG also continued to work with lower gulf communities and their Native Title representative bodies in 2015. In June 2015 MMG and the Waanyi Prescribed Body Corporate

(PBC) entered into a three-year agreement designed to strengthen the relationship between the two parties, achieve lasting positive legacies for the Waanyi People and ensure ongoing engagement between MMG, Waanyi PBC and the Waanyi People. The agreement was designed to assist the PBC with operational, cultural and project support in recognition of the shared interest of providing lasting positive legacies to the Waanyi People.

MMG has continued to encourage and work with the Gulf Aboriginal Development Company (GADC) to restore governance measures and support GADC's annual general meeting (AGM) to ensure a proper and representative GADC Board. In December 2015, with assistance from MMG, the GADC held an AGM and a new and ratified Board was established. MMG is looking forward to engaging with the new GADC Board to complete a number of outstanding matters relating to the Gulf Communities Agreement (GCA).



Students at the college in Normanton have, like all schools in the Gulf region, been assisted with Century's community investment.

# 2015–18 OBJECTIVES AND TARGETS

OBJECTIVES	2015–18 TARGETS
<p><b>1</b> Deliver a low-cost, high-performing organisation, with a culture characterised by our values.</p>	<p>MMG values reflected in our People and Culture Survey results. MMG Operating Model embedded at all sites and offices. SAP Human Resources systems embedded across all operations.</p>
<p><b>2</b> Our people understand and demonstrate our STEP models, culture and values in all business interactions.</p>	<p>100% people in leadership roles have participated in MMG leadership development training programs within three months of joining MMG.</p>
<p><b>3</b> All our people (including contractors) are competent and motivated to work safely and are supported by visible leadership and effective systems and processes.</p>	<p>A year-on-year reduction in annual TRIF across the MMG Group and at each site.</p>
<p><b>4</b> Exposure Management Plans are based on a comprehensive understanding of exposure potential and a practical application of the hierarchy of controls, which keep exposures within acceptable limits.</p>	<p>Baseline exposure monitoring programs completed at all sites. Exposure Management Plans implemented at all sites. A year-on-year reduction in occupational exposure profile at all sites relative to a 2015 baseline.</p>
<p><b>5</b> Closure planning is inclusive, knowledge based and meets stakeholder expectations.</p>	<p>Closure Plans that have stakeholder-agreed closure criteria in place at all operations within five years of closure.</p>
<p><b>6</b> Interactions respect our host communities and their values, beliefs, culture and heritage.</p> <p>Open, transparent, community-supported grievance mechanisms close out disputes to the satisfaction of all parties.</p> <p>Community investments provide sustainable advancement to the social and economic development of our host communities.</p>	<p>Be an accepted participant in the Voluntary Principles on Security and Human Rights (VPSHR). Resolution of all complaints/grievances according to site procedures. Community Investment Plans that target community stakeholder-agreed Quality of Life indicators at all sites.</p>
<p><b>7</b> Mineral Waste Management Plans are based on a comprehensive knowledge of the geochemical characteristics of waste and construction materials.</p> <p>Water Management Plans are catchment based.</p>	<p>Mineral Waste and Water Management Plans implemented at all sites.</p>
<p><b>8</b> Critical controls for material operational risk events are identified, implemented and verified.</p>	<p>Critical control verification reporting to management in place for all material risks, at all sites.</p>

# 2015 AND 2016 MILESTONES

We set annual milestones to keep us on track to meet our 2015–18 targets. Our performance against our 2015 milestones is detailed below and should be read in conjunction with the objectives and targets on page 31. The numbers 1–8 below cross-reference the objectives.

2015 MILESTONES	PROGRESS	2016 MILESTONE
1 People and Culture Survey refreshed to reflect new values.	● We updated and refined the survey to reduce and focus content to align with our values.	Executive Committee endorsement of local versus global talent strategy. Talent identified in all Level 3 and Level 4 employees through formal assessment.
Operating Model implemented at Las Bambas.	● We have continued to make progress in implementing the Operating Model at Las Bambas. We reviewed work done on site and identified synergies. We also increased collaboration in line with the philosophy of the model.	Operating Model implemented at Kinsevere.
SAP Human Resources systems embedded at Kinsevere and plan developed for implementation at Las Bambas in 2016.	● We established site Process Support Networks to provide technical support in system use and to communicate process changes. Tracking of process compliance has commenced.	Implementation of SAP Human Resources systems at Las Bambas; including training to up-skill personnel who are part of the Las Bambas Process Support Network.
2 100% of people leaders have access to current leadership training and development tools.	● MMG's online training centre continued to deliver accessible tools and training to MMG employees, such as the 'Success Through Every Person' (STEP) Onboard Application. A leadership module was also developed as part of the training program that supports our approach to safety.	Deployment of training sessions in support of our Creating Safe Work program.
3 Reduction in TRIF relative to 2014.	● MMG's TRIF was 2.1 in 2015 including Las Bambas and 2.3 in 2014 excluding Las Bambas. Only Kinsevere and Dugald River achieved reductions in their 2015 annual TRIF compared with 2014.	Group-wide TRIF result of 1.9 or less.
4 Baseline exposure monitoring completed at all operating sites (excluding Las Bambas).	● Rosebery, Century, Golden Grove, Kinsevere, Dugald River and Sepon have completed their baseline monitoring. Monitoring is ongoing at Geraldton Port and has commenced for Las Bambas.	Baseline exposure monitoring completed at Las Bambas.
Exposure monitoring data analysis completed to inform management plan development (at all operating sites).	● Analysis of monitoring data to inform development of Exposure Management Plans is not yet complete. Management plans are in development for Sepon and Golden Grove.	Development and full implementation of Exposure Management Plans for sulphuric acid mist, diesel particulate matter, lead and noise, where these are health threats at sites.
Baseline exposure profile established (for all operating sites).	● Milestone unable to be met. Focus has been on completing monitoring activities and understanding the current level of implementation, and effectiveness, of exposure controls. Exposure baselines will be progressively set as data analysis is completed in 2016.	Our focus is on implementing Exposure Management Plans. We will assess the impact on exposure profile once we are confident that the management plans have been effectively implemented.

2015 MILESTONES	PROGRESS	2016 MILESTONE
5 Consultation on closure criteria conducted with key stakeholders at all operations that are within five years of closure.	● Consultation with key stakeholders on closure criteria was ongoing at Sepon and Century in 2015.	Consultation on closure criteria conducted with key stakeholders at all operations that are within five years of closure.
6 Finalise Security Management Plans for Sepon and Kinsevere.	● Security Management Plans finalised and under implementation at Kinsevere and Sepon.	Finalise Security Management Plan for Las Bambas. Independent assessments undertaken at Las Bambas, Kinsevere and Sepon to confirm effectiveness of their Security Management Plans and alignment with VPSHR.
100% resolution of all complaints/grievances.	● 57% resolution of all grievances received 1 January to 30 November 2015.	100% resolution of all complaints/grievances in accordance with site procedures.
Alignment of all site Community Investment Plans to the MMG Community Development Investment Strategy.	● All operating site Community Investment Plans are aligned with MMG's Community Development Investment Strategy. Century and Las Bambas have aligned Community Investment Strategies. At our Dugald River project, a participatory engagement process is a necessary precursor to formalising a strategy.	Quality-of-life indicators verified with site communities and other stakeholders. Monitoring, evaluation and reporting processes established for quality-of-life indicators.
7 Endorsed actions in place to address all non-compliances (identified through the 2015 integrated audit process) that are related to Mineral Waste and Waste Management Plan implementation at Century, Dugald River, Golden Grove and Sepon.	● Milestone partially met – actions arising from a recent audit at Century are not yet being tracked in our Incident and Events Management system.  The audit at Dugald River was deferred.	Deployment of site Management Assurance Reviews for mineral waste and water as per approved plan.
8 Finalise Critical Control Plans for material operational risk events.	● Critical controls for the failure of tailings storage facilities were the focus in 2015. Critical Control Plans for all preventative controls have been developed and implemented into business management systems at all operating sites. Emergency response critical controls are under development.	Implementation of critical control management plans for solvent extraction plant fires and failure of tailings storage facilities, at relevant operations.

● Milestone met or substantially met      ● Progressed      ● Milestone not met

# ASSURANCE TERMS AND STATEMENT



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## Independent Limited Assurance Report in relation to MMG Limited 2015 Sustainability Report

### Our limited assurance conclusion

Based on the limited assurance procedures conducted, nothing has come to our attention that causes us to believe that the Subject Matter as detailed below for the year ended 31 December 2015 has not been reported and presented fairly, in all material aspects, in accordance with the Criteria as presented below.

To the Management and Directors of MMG

We have carried out a limited assurance engagement in order to state whether anything has come to our attention that causes us to believe that the subject matter detailed below ('Subject Matter') and as presented in the MMG 2015 Sustainability Report ('the Report') has not been reported and presented fairly, in all material respects, in accordance with the criteria ('Criteria') below, including the application of elements of International Council on Mining and Metals ('ICMM') *Sustainable Development ('SD') Framework*.

### Subject Matter and Criteria

The Subject Matter and Criteria for our limited assurance engagement for the year ended 31 December 2015 for the reported boundary included:

- ▶ Whether MMG has disclosed its material sustainability risks and opportunities within the Report in line with the AA1000 Principles Standard ('AA1000 APS') definition of materiality
- ▶ ICMM Subject Matters 1 to 5, as described in the table below

For the purposes of this engagement, the specific Subject Matter and Criteria were defined as follows:

Area	Subject Matter	Criteria (and location in MMG's 2015 Sustainability Report)
ICMM Subject Matter 1	The alignment of MMG's sustainability policies to ICMM's 10 SD Principles and mandatory requirements set out in ICMM Position Statements	MMG's reported alignment of its sustainability policies to ICMM's 10 SD Principles and mandatory requirements set out in ICMM Position Statements (p8 and appendix)
ICMM Subject Matter 2	MMG's material sustainability risks and opportunities based on its own review of the business and the views and expectations of stakeholders	MMG's description of its process for identifying material issues and the Global Reporting Initiative ('GRI') definition of completeness as per the G4 Sustainability Reporting Framework and AA1000 APS definition of materiality (p1)
ICMM Subject Matter 3	The existence and status of implementation of systems and approaches used by MMG to manage a selection of material sustainability risks and opportunities (selected through a random process) including: <ul style="list-style-type: none"> <li>▶ Tailings and waste rock management <ul style="list-style-type: none"> <li>▶ Waste by type and disposal method</li> </ul> </li> <li>▶ Water access and use <ul style="list-style-type: none"> <li>▶ Water discharge quality and destination</li> </ul> </li> <li>▶ Human rights <ul style="list-style-type: none"> <li>▶ Human rights training of security personnel</li> <li>▶ Human rights screening of new suppliers</li> <li>▶ Grievances related to human rights</li> <li>▶ Operations taking place in or adjacent to Indigenous peoples' territories</li> </ul> </li> </ul>	MMG's description of the systems and approaches to manage the selected material sustainability risks and opportunities.
ICMM Subject Matter 4	MMG's reported performance during the 1 January to 31 December 2015 reporting period for the material sustainability risks and opportunities identified in Subject Matter 3 above	Performance information criteria disclosed by MMG for each indicator including: <ul style="list-style-type: none"> <li>▶ Total weight of waste by type and disposal method (pp25-27)</li> <li>▶ Total water discharge quality and destination (pp23-24)</li> <li>▶ % of security personnel trained in MMG's human rights policies or procedures that are relevant to operations (p15)</li> <li>▶ % of new suppliers that were screened using human rights criteria (qualitative only) (p7 and p15)</li> <li>▶ Number of human rights impact grievances filed, addressed and resolved through formal grievance mechanisms (p11)</li> <li>▶ Number of operations taking place in or adjacent to Indigenous peoples' territories; number and % of operations with formal agreements with Indigenous peoples' communities (p20)</li> </ul>
ICMM Subject Matter 5	MMG's self-declared application level of GRI G4 Sustainability Reporting Guidelines	GRI G4 Core 'in accordance' criteria

The Subject Matter did not include:

- ▶ Data sets, statements, information, systems or approaches other than the Subject Matter
- ▶ Management's forward looking statements
- ▶ Any comparisons made against historical data

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#### **Management Responsibility**

The management of MMG is responsible for the preparation and fair presentation of the Subject Matter in accordance with the Criteria, and is also responsible for selection of methods used in the Criteria. No conclusion is expressed as to whether the selected methods used are appropriate for the purpose described above.

Further, MMG's management is responsible for establishing and maintaining internal controls relevant to the preparation and presentation of the Subject Matter that it is free from material misstatement, whether due to fraud or error; selecting and applying appropriate criteria; maintaining adequate records and making estimates that are reasonable in the circumstances.

#### **Assurance Practitioner's Responsibility**

Our responsibility is to express a limited assurance conclusion on the Subject Matter based on our assurance engagement conducted in accordance with the International Federation of Accountants' *International Standard on Assurance Engagements 3000: Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* ('ISAE 3000'), with regard to ICMM's *SD Framework: Assurance Procedure* and the terms of reference for this engagement as agreed with MMG.

#### **Level of Assurance**

Our procedures were designed to obtain a limited level of assurance on which to base our conclusion, and, as such, do not provide all the evidence that would be required to provide a reasonable level of assurance. The procedures performed depend on the assurance practitioner's judgement including the risk of material misstatement of the Subject Matter, whether due to fraud or error. While we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems, which would have been performed under a reasonable assurance engagement. We believe that the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

#### **Work performed**

Our procedures included, but were not limited to:

- ▶ Interviewing a selection of MMG staff and management at both a site and corporate level responsible for the Subject Matter and the preparation of the Report
- ▶ Determining whether material topics and performance issues relevant to the Subject Matter identified during our procedures had been adequately disclosed
- ▶ Sample testing of reported data, performance statements, claims and case studies included in the Subject Matter against supporting source information, MMG's reported boundary. This included procedures conducted on site at MMG's Kinsevere mine
- ▶ Sample testing as to whether the methods used for calculating data were aligned with the stated Criteria
- ▶ Reading selected management information and documentation supporting assertions made in the Subject Matter
- ▶ Reading selected MMG policies and standards and assessing alignment with ICMM's 10 Sustainable Development Principles and other mandatory requirements as set out in ICMM's Position Statements
- ▶ Performing a gap analysis between MMG's GRI index and the 'GRI in accordance criteria' for a Core Report

#### **Use of Our Report**

We disclaim any assumption of responsibility for any reliance on this assurance report, or on the Subject Matter to which it relates, to any person other than management and Directors of MMG, or for any purpose other than that for which it was prepared.

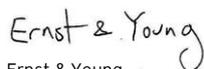
#### **Independence, Competence and Experience**

In conducting our assurance engagement, we have met the independence requirements of the APES 110 Code of Ethics for Professional Accountants. We have the required competencies and experience to conduct this assurance engagement.

Ernst & Young has provided a range of services to MMG including but not limited to the provision of certain stakeholder engagement and materiality assessment services. We believe the provision of these services has not impaired our independence with respect to this work.

#### **Matters relating to electronic presentation of the Sustainability Report**

Our review was of the web-based information that was available via web links as of the date of this statement. We provide no assurance over changes to the content of this web-based information after the date of this assurance statement.



Ernst & Young  
Melbourne, Australia  
3 May 2016

# GLOSSARY

## REGULARLY OCCURRING ACRONYMS

AMD	Acid and metalliferous drainage
CEO	Chief Executive Officer
CMC	China Minmetals Corporation
DRC	Democratic Republic of the Congo
EY	Global consulting firm or member firms of Ernst & Young Global Limited
GADC	Gulf Aboriginal Development Company
GRI	Global Reporting Initiative
ICMM	International Council on Mining and Metals
ISO	International Organization for Standardization
Lao PDR	Lao People's Democratic Republic
LTIF	Lost time injury frequency
LXML	Lane Xang Minerals Limited Sepon
MCA	Minerals Council of Australia
MMG	MMG Limited
NAF	Non-acid forming waste rock
PAF	Potentially acid forming or unsegregated waste rock
PBC	Prescribed Body Corporate
SHEC	Safety Health Environment and Community
STEP	Success through every person
TRIF	Total recordable injury frequency
TSF	Tailings storage facility
UN	United Nations
VPSHR	Voluntary Principles on Security and Human Rights

## DEFINITIONS

**Acid and metalliferous drainage (AMD):** AMD is created when rocks that contain naturally occurring sulphide minerals are disturbed and exposed to air and water. This accelerates the natural weathering process and may lead to the release of low pH (acidic) or neutral drainage water with elevated salinity and metals concentrations. If not responsibly managed, AMD can impact the revegetation of mining wastes, and degrade surface and groundwater quality. Waste rock with the potential to form AMD is termed 'potentially acid forming' or PAF waste rock.

**Artisanal and small-scale mining:** Artisanal mining is often characterised as mining practised by individuals, groups or communities using low technology or mechanisation. It can be highly organised, involving many people in different roles and hierarchies.

**Life-of-asset Plan:** A strategic planning process which looks to optimise the value derived from an operation over its life cycle.



## KEY CONTACTS

We welcome your comments on this report. Please contact us with your feedback or suggestions.

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