

Sustainability report

Sustainable development challenges remain material to Assore's business. The group also works to promote the sustainability of its business by seeking to anticipate current and future issues that may present opportunities or threats to the continuity of its operations.

This sustainability section covers all the entities in which the Assore group has an interest, other than portfolio investments, and distinguishes between Assmang and AMT operations as defined in the scope and boundary sections. Assore's sustainability activities are reported broadly in accordance with the guidance provided by the Global Reporting Initiative (GRI) G3. Based on this disclosure the report meets application level B of the GRI G3 Sustainability Reporting Guidelines. The GRI Index supporting this format as well as additional information for selected areas can be found online – refer to the GRI Index.

Sustainability management: approach and structures

The boards of Assore and Assmang have ultimate responsibility for establishing policy and guiding responsible management of sustainability risks and opportunities associated with the group's operations. The Social and Ethics Committees SEC of the Assore board is chaired by an independent, non-executive director, whereas the Assmang SEC is chaired by a board member who is not involved in the day-to-day operations of Assmang. During the year under review, the Assmang SEC met quarterly and the Assore SEC met on three occasions in order to receive and review relevant information and performance data from the operations, and where necessary, provided strategic guidance. The SECs also monitored progress against the action plans put in place as a result of directors' liability and environment, health and safety legal compliance audits conducted in respect of sustainability issues.

In terms of the group's management systems (which have been described in detail in previous sustainability reports) material issues such as fatalities, lost time injuries (LTIs), major environmental incidents and instances of legal non-compliance are reported to Assore's Director Operations and Technical as soon as they occur.

All Assmang operations, as well as AMT's Rustenburg Minerals, Wonderstone and Grader Road operations are certified to both the ISO 9001 quality and ISO 14001 environmental standards. In addition, all Assmang operations (with the exception of Black Rock) are certified to the OHSAS 18001 international standard, with Black Rock scheduled for certification in the coming year.

ISO management systems are currently under development for the Icermax operation (part of the Wonderstone group of companies), which was acquired in the 2014 financial year. As the Zeerust operation was placed on care and maintenance during the year under review, the decision was taken not to proceed with certification of its ISO management systems.

Within the Assore structure, the Senior Manager Safety, Health, Environment, Risk and Quality reports directly to Assore's Director Operations and Technical and guides the investigation, rectification and close-out of incidents in order to manage the group's sustainability risks. In addition, this corporate function guides the approach to product stewardship issues and represents the group on sustainability matters in industry associations such as the International Manganese Institute (IMnI) and the International Chrome Development Association (ICDA). A similar structure exists within Assmang, with the Divisional SHEQ Manager reporting to the Chief Executive ARM Ferrous, who carries the legal responsibility for Assmang.

Legal compliance mechanisms and compliance status

Assore's SHEQ policies require legal compliance as a minimum performance level across all operations. As part of each operation's ISO-based management system, an up to date, site specific legal register detailing the applicable legislation and permit conditions with which the operation needs to comply is maintained.

In January 2015, the Wonderstone mine was issued with a water use license (WUL). However, Assmang's Cato Ridge Works and Black Rock Mine, as well as AMT's Rustenburg Minerals and Zeerust remain in a state of administrative non-compliance as their pending WUL applications have not yet been approved. Some of the applications for these WULs were lodged as far back as 2008 and management continues to engage with the Department of Water and Sanitation (DWS) to expedite the process of issuing these outstanding licences.

During the period under review, section 24G rectification processes were embarked upon at Rustenburg Minerals, Zeerust and Wonderstone in terms of the National Environmental Management Act (NEMA). These applications were proactively initiated after an internal audit identified certain activities that had been undertaken without securing the necessary environmental authorisations.

No fines or prosecutions for non-compliance in respect of legislation concerning the provision or use of products and services were incurred by either Assmang or the AMT operations over the current financial year, nor was the group prosecuted for any anti-competitive behaviour.

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HUMAN RESOURCES

Workforce composition

Employee numbers

As of 30 June 2015, the group had a total operational staff complement of 14 697 (2014: 14 034), comprising 6 713 employees and 7 966 contractors.

Workforce composition

Operation	Permanent employees	Temporary/ contract employees	Contractors as a proportion of the total workforce (%)	Permanent employees	Temporary/ contract employees	Contractors as a proportion of the total workforce (%)
	2015	2015	2015	2014	2014	2014
Beeshoek	675	622	48,0	623	802	56,3
Khumani	1 742	1 664	48,9	1 657	2 991	64,4
Black Rock	2 173	4 607	67,9	2 268	1 829	44,6
Cato Ridge Works	478	0	0,0	491	412	45,6
Dwarsrivier	1 100	554	33,5	1 123	504	31,0
Machadodorp Works	104	0	0,0	375	53	12,4
Total Assmang operations	6 272	7 447	54,3	6 537	6 591	50,2
Rustenburg Minerals	264	468	63,9	245	389	61,4
Zeerust	47	50	51,5	21	120	85,1
Wonderstone	106	1	0,9	94	8	7,8
Wonderstone Grader Road	24	0	0,0	29	0	0,0
Total AMT operations	441	519	54,1	389	517	57,1

Assmang operations account for 93,5% of the group's operational employees. Assmang employee numbers have decreased by 4,1% year-on-year, whereas contractor numbers have increased by 12,9%. This has resulted in the proportion of contractors in the workforce increasing to 54,3% (2014: 50,2%), which primarily reflects the large contractor workforce deployed for the Black Rock Expansion Project.

Machadodorp Works retrenched 327 employees during the reporting period as a response to unfavourable market economics in the ferroalloys sector.

During the year under review, construction commenced on the Sakura smelter in Sarawak, Malaysia. As of the end of the financial year, a total workforce of 1 340 was deployed on site, comprising 37 employees and 1 307 contractors.

AMT operations total staff complement was 960, and increased by 6,0% year-on-year. AMT's employee numbers increased by 13,4% year-on-year, primarily reflecting the transfer of processing plant staff from a contract to a permanent basis at both Rustenburg Minerals and Zeerust. This has resulted in the proportion of contractors in the workforce decreasing to 54,1% (2014: 57,1%).

Employment equity

WIM and HDSA (%)

Operation	Women In mining (%)	Women In mining (%)	HDSA management (%)	HDSA management (%)
	2015	2014	2015	2014
Beeshoek	8	13	57	57
Khumani	7	8	56	13
Black Rock	3	3	46	44
Cato Ridge Works	14	16	50	40
Dwarsrivier	13	15	59	75
Machadodorp Works	7	16	39	33
Rustenburg Minerals	15	12	48	53
Zeerust	0	9	15	50
Wonderstone	26	22	24	39

Note: Contractors not included in above figures

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Most Assmang operations have seen a decline in the proportion of women in mining in the workforce over the year, with Dwarsrivier and Cato Ridge Works being the only Assmang operations which currently comply with the 10% target for women in mining specified in the Mining Charter. For the AMT operations, Rustenburg Minerals and Wonderstone exceed the 10% women in mining target.

All of the Assmang mining operations comply with the 40% HDSA in management target, while for AMT operations, both Wonderstone and Zeerust fall short of the 40% HDSA in management target, primarily due to the small size of their respective management teams.

Training spend and literacy levels

The proportion of payroll spent on training at Assmang operations declined slightly year-on-year to 9,4% (2014: 10,0%), whereas the proportion of payroll spent on training at AMT operations increased by 50% year-on-year to 6,0% (2014: 4,0%).

The number of learnerships and bursaries extended by Assmang operations increased markedly over the reporting year, rising to 143 (an increase of 25%), whereas the number of bursaries extended more than doubled to 285 (2014: 141). The number of learnerships offered by AMT decreased by 50%, due to one apprentice completing his learnership, whilst the number of bursaries decreased slightly to 17 (2014: 21).

Literacy levels

Operation	% of workforce literate 2015	% of workforce literate 2014
Beeshoek	96	92
Khumani	98	97
Black Rock	99	97
Cato Ridge Works	100	100
Dwarsrivier	91	91
Machadodorp Works	100	97
Rustenburg Minerals	73	72
Zeerust	81	86
Wonderstone	76	73
Wonderstone Grader Road	96	97

Literacy levels have increased slightly across the group year-on-year, as a result of ABET initiatives and hiring policies. All Assmang operations have literacy rates in excess of 90%, with the two smelters reporting 100% literacy rates. Literacy rates are lower on the AMT operations in North West province, with Rustenburg Minerals reporting a literacy rate of 73%.

Labour relations

Assore operations Union representation breakdown	AMCU as a % of total workforce 2015	NUM as a % of total workforce 2015	NUMSA as a % of total workforce 2015	Solidarity as a % of total workforce 2015	Total union membership % 2015
Beeshoek	0,00	48,59	0,00	15,26	63,85
Khumani	0,00	51,89	0,00	26,87	78,76
Black Rock	0,00	72,34	0,00	14,86	87,21
Cato Ridge Works	0,00	9,62	71,97	8,58	90,17
Dwarsrivier	0,00	90,82	0,00	0,00	90,82
Machadodorp Works	0,00	0,96	33,65	17,31	51,92
Assmang group total	0,00	61,38	6,04	15,19	82,62
Rustenburg Minerals	56,06	4,92	0,00	0,00	60,98
Zeerust	0,00	0,00	0,00	0,00	0,00
Wonderstone	0,00	63,55	0,00	0,00	63,55
AMT group total	39,89	21,83	0,00	0,00	61,73

At the smelting operations, the National Union of Metal Workers of South Africa (NUMSA) are the dominant union represented, with representation ranging between 51,9% at the Machadodorp Works and 90,2% at the Cato Ridge Works.

On the Assmang mining operations, levels of unionisation range between 63,9% at Beeshoek and 90,8% at Dwarsrivier, with the National Union of Mineworkers (NUM) being the dominant union at all mines (and more minor representation for Solidarity).

At Rustenburg Minerals, the Association of Mineworkers and Construction Union (AMCU) is the dominant union, with 56,1% membership, whereas at Wonderstone, 63,6% of the workforce belong to NUM.

During the reporting period, there was no protected strike action on either the Assmang or AMT operations (2014: 7 shifts lost at AMT operations). However, there was an illegal strike by contractors at Rustenburg Minerals during wage negotiations, resulting in the loss of 25 production shifts at the Zandspruit shaft.

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HOUSING

As a reflection of the slow down in mine expansion in the Northern Cape, Assmang slowed the rate of housing construction at their Northern Cape operations.

Employee housing schemes

Housing scheme	Extension 3 Kathu	Uitkoms Kathu	Rooisand Kathu	Kuruman	Postmasburg	Mashishing	Total
2015							
Houses completed	327	96	515	181	308	33	1 460
Sold	301	87	384	98	208	0	1 078
Rental units	26	9	131	83	100	33	382
Under construction	0	9	17	14	32	0	72
2014							
Houses completed	327	88	515	155	203	33	1321
Sold	294	80	328	37	125	0	864
Rental units	33	8	187	118	78	33	457
Under construction	0	7	0	26	50	0	83

Construction volumes remained low, with an additional eight houses being completed in Kathu during the financial year. At the end of the reporting period, only eight owner houses and one speculative house were under construction by Uitkoms Home Owners Association and three owner houses and 14 speculative houses under construction in Rooisand. An additional 26 houses were completed in Wrenchville, Kuruman during the year, with an additional 14 houses under construction at the end of the financial year.

In Postmasburg, an additional 105 houses were completed during the financial year to house the employees relocated from Beeshoek village (which has now been vacated) to mine the Village Pit. At year-end, there were an additional 32 houses under construction.

A housing survey was conducted for Assmang operations in the Northern Cape in response to requests that the employee

housing scheme should have a positive impact on employee living conditions and meet the needs of employees:

The strategic objectives of this survey (and the revision of the existing housing policy that it will inform) include:

- ▶ Promotion of access to home ownership for permanent employees
- ▶ Development of affordable family units
- ▶ Provision of home ownership assistance to employees in specified locations in order to support sustainable development and discourage the further expansion of informal settlements and mine village.

This survey had 3 202 participants, with over 80% of participants being A – C band employees. The survey concluded that more than 90% of the people surveyed would prefer to build their own home than to rent. More than 60% of respondents stated that they would like to own a home in the area where they currently stay. It was also

identified that whilst nearly 90% of employees at Khumani and Beeshoek live in a municipal area, only 49% of Black Rock employees live in a municipal area (and over 43% live on communal land).

Some progress has been made in moving forward with the Wonderstone employee home ownership scheme, with Standard Bank having screened applicants and granted bonds for a number of employees. These applications were submitted to the Department of Human Settlements (DHS) in North West province in early 2015 to allow these employees to gain access to the Finance Linked Subsidy Programme (FLISP). To date, there has been no response from DHS. In an attempt to move forward on this issue, mine and corporate personnel have met with members of the regional municipality as well as local, regional and national representatives from the National Union of Mineworkers to try and encourage DHS to advance this process.

SAFETY PERFORMANCE

Assmang

Assmang completed 13 million fatality free shifts in the second quarter of the financial year, and in the same quarter, Assmang received a letter from the Chief Inspector of Mines, congratulating the Group on completing five years without a fatal accident.

Regrettably two fatalities occurred at Khumani Mine on 12 April 2015. Two employees, Messrs SA Mkhonto and J Mess, were fatally injured when a dump truck collided with a mobile shovel in the process of jump starting the shovel. Assore recognises that it has a duty of care to safeguard the health and safety of its employees and extends its sincere condolences to both of the families for their loss.

Lost-Time Injury frequency rates

Operation	LTI 2015	LTI 2014	LTIFR (weighted) 2015	LTIFR (weighted) 2014
Beeshoek	1	0	0,07	0,00
Khumani	10	4	0,29	0,10
Black Rock	14	14	0,35	0,44
Cato Ridge Works	3	1	0,38	0,12
Dwarsrivier	4	10	0,18	0,45
Machadodorp Works	0	2	0,00	0,32
Total Assmang operations	32	31	0,26	0,25
Rustenburg Minerals	12	9	1,62	1,23
Zeerust	2	1	1,49	1,35
Wonderstone	4	0	3,97	0,00
Wonderstone Grader Road	0	1	0	1,76
Total AMT operations	18	11	1,72	1,15

LTIFR calculated on a basis of 200 000 hours
Figures include contractors

A total of 32 Lost-Time Injuries (LTIs) were recorded for the Assmang operations (2014: 31), resulting in a Lost-Time Injury frequency rate (LTIFR) of 0,26 for the year (2014: 0,25).

No LTIs were recorded from the Sakura smelter construction site in Malaysia over the reporting period.

Notable safety milestones achieved during the financial year included:

- ▶ Dwarsrivier achieved two million fatality-free shifts in the second quarter of the financial year
- ▶ By the end of the financial year, the Machadodorp smelter had completed six consecutive quarters without an LTI
- ▶ Beeshoek mine experienced only one LTI for the year, resulting in an LTIFR for the year of 0,07. This safety performance is considered by the International Council for Metals and Mining to be world class.

AMT

No fatalities occurred on the AMT operations during the reporting year. Nevertheless the safety performance of the AMT operations continued to disappoint, with a total of 18 LTIs being recorded for the year, resulting in a LTIFR of 1,72 for the year (2014: 1,15). This is primarily due to an upward trend in LTIs at Rustenburg Minerals, with a 25% increase in the number of LTIs year-on-year, resulting in an LTIFR of 1,62 (2014: 1,23). It is however noteworthy that four of the 12 LTIs reported by Rustenburg Minerals were incurred by security staff as a result of criminal incidents which have been reported to the police.

After an LTI-free year in FY2014, Wonderstone recorded four LTIs, resulting in an LTIFR of 3,97 for the year. No LTIs were recorded at the Grader Road site during the year.

In response to the concerning upward trend in safety incidents, baseline risk assessments (BRAs) were redone for all AMT operations during the year to ensure that all major safety risks have been identified. These BRAs will form the basis for issue-based risk assessments, and will inform the development and revision of safety policies and procedures

SECTION 54S AND SECTION 55S

Prohibition notices issued

Six section 54 notices were served on Assmang operations during the reporting period (2014: 5) – three at Khumani and three at Dwarsrivier, resulting in the loss of 23 production shifts (2014: 18). During the year, two section 55 notices were served on Assmang operations (2014: 10).

For the year under review, three section 54 notices were served on AMT operations (2014: 3), two at Rustenburg Minerals and one at Wonderstone, which resulted in the loss of 33 production shifts at Rustenburg Minerals (2014: 17). During the year, two section 55 notices were served on AMT operations (2014: 2)

One prohibition notice was served on the Machadodorp Works in July 2014, but did not result in any loss of production.

OCCUPATIONAL HEALTH AND WELLNESS MANAGEMENT

The proactive management of employee health and wellness is the key focus of the group's occupational health management system, and is an area of risk that continues to attract increased priority and resourcing.

Pre-employment and exit medicals and periodic medical surveillance are a standard requirement across the group.

Consistent application of the group's occupational health management requirements to contractor employees continues to be a challenge. At a corporate level, SHEQ personnel are working closely with their peers in the procurement function to continuously ensure that contracts are structured in a manner that compliance with the group's minimum safety, health and environmental requirements can be monitored and enforced.

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At a site level, integration of automated time and attendance systems at AMT operations and SHEQ systems is being prioritised to ensure that site access is blocked for employees with overdue medical or training requirements, but enforcement of exit medical requirements remains a challenge.

Khumani's clinic has been certified to the SANS 16001 standard for Wellness and Disease Management for some time and was recognised at the Mine Safe conference in August 2014 for excellence in fully implementing the SANS 16001 standard and for its positive impact on employee wellness. During the reporting period, Black Rock's clinic was also certified to the SANS 16001 standard.

As part of Rustenburg Minerals' increasing focus on occupational health management, a dedicated Occupational Health Nurse was employed during the year to manage and coordinate the operation's occupational health and wellness initiatives.

Occupational health surveillance

Operation	Number of medicals performed 2015	Number of audiometric surveillance test performed 2015	Number of cases referred 2015	Number of cases submitted for compensation 2015	Number of medicals performed 2014	Number of audiometric surveillance test performed 2014	Number of cases referred 2014	Number of cases submitted for compensation 2014
Beeshoek	2 930	3 082	51	13	2 685	3 205	28	0
Khumani	5 912	6 419	17	1	6 999	6 925	6	1
Black Rock	5 161	4 759	5	2	5 457	6 257	53	11
Cato Ridge Works	1 013	980	0	0	1 472	1 366	16	0
Dwarsrivier	2 393	2 557	4	0	2 513	3 054	4	1
Machadodorp Works	815	782	2	0	768	744	1	0
Combined Assmang sites	18 224	18 579	79	16	19 894	21 551	108	13
Rustenburg Minerals	1 161	1 161	6	3	898	898	7	3
Zeerust	142	142	0	0	70	70	0	0
Wonderstone	97	97	13	0	98	102	4	0
Wonderstone Grader Road	31	31	0	0	34	31	9	0
Combined Assore sites	1 431	1 431	19	3	1 100	1 101	20	3

Noise induced hearing loss

Hearing conservation programmes to prevent noise induced hearing loss (NIHL) are a key component of the occupational health management programme at all group operations in order to meet DMR's milestones for the elimination of NIHL in the workplace.

The hearing conservation programmes that have been implemented across the group to control occupational noise exposure combine the implementation of noise reduction strategies, monitoring of occupational noise levels, issuing of personal protective equipment (with disciplinary action being taken against employees found not to be wearing hearing protection in designated noise areas) and mandatory audiometric testing as part of routine medical surveillance.

During 2015, a total of 79 audiometric cases were referred for follow up on Assmang operations, a substantial drop from the number of referrals made during the previous reporting period (2014: 108). Of these, 64,5% of cases were referred by Beeshoek, reflecting the contractor workforce that were mobilised for the development of the Village Pit. Of the 79 audiometric cases referred for follow up, 16 were subsequently referred to Rand Mutual for compensation (2014: 13), of which 13 were from Beeshoek.

Black Rock reported a substantial drop year-on-year in both cases referred for follow up and cases referred for compensation. It is notable that no cases were referred for compensation by either of the smelters during the reporting year.

It is also encouraging that no compensable cases were recorded at Dwarsrivier during FY2015, reflecting the effectiveness of hearing conservation initiatives that have been implemented in recent years. During the reporting year, the use of rock drills at Dwarsrivier was discontinued, thus removing a major source of occupational noise.

During the reporting year, a total of three cases were referred for compensation by AMT operations, all of which originated from Rustenburg Minerals. The high incidence of audiometric cases referred for both follow up and compensation by Rustenburg Minerals continues to be cause for concern and it has been recognised that sustained engineering and management interventions will be required to address this issue. As part of this process, in March 2015, "new generation" sound attenuated fans were adopted as the mine standard at Rustenburg Minerals to reduce noise exposure for underground workers.

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Tuberculosis and HIV/AIDS management

Tuberculosis (TB) is the leading cause of death in South Africa, and is a priority area for both the Department of Health and DMR. As required by the DMR's TB guidelines, TB management is conducted as per the National TB Control Programme. A total of eight new TB cases were reported by Assmang operations during FY2015 (2014: 50), continuing a steady downward trend in new cases reported over the past three years. Six multi drug resistant (MDR) TB cases were identified at Assmang over the reporting period (FY2014: 14). All of the MDR cases recorded for Assmang operations during the year were on the Northern Cape mines (five at Black Rock and one at Khumani).

A total of seven TB cases were reported by AMT operations during the year (FY2014: 0), three of which have been confirmed as MDR cases. At Rustenburg Minerals, six new TB cases were reported during the year (of which three were MDR cases). One new TB case was also reported at Zeerust.

The sharp increase in the number of TB cases at Rustenburg Minerals is cause for concern, with the high proportion of MDR cases among the TB cases raising concerns about the effectiveness of treatment and support offered to employees who contract TB. This will be the subject of increased management focus in the coming year, and as a result, TB management has become a priority area for management at the AMT operations. Passive TB screening has been incorporated into the protocol for all entry, exit and periodic medicals. Emphasis has also been placed on the tracing and screening of contacts for identified TB cases, an initiative which has also been carried through to the Makgophe school at Rustenburg Minerals. It has been recognised that effective case management of TB cases is critical to the success of treatment, and needs to be implemented more thoroughly. Corporate SHEQ personnel continue to monitor the situation closely and to provide guidance on additional interventions that may be required.

HIV and AIDS management forms part of the comprehensive wellness management at all Assmang operations. HIV counselling is compulsory at all Assmang health facilities, although HIV testing is voluntary. In September 2014, Khumani performed free medical male circumcision for 59 employees and contractors, in support of the Department of Health's National Strategic Plan 2012 – 2016. An HIV prevalence survey conducted by Right to Care at Black Rock on World Aids Day in December 2014, and a counselling and voluntary testing (CVT) campaign was conducted at the Machadodorp Works, where 83% of the workforce were counselled and tested for HIV.

The following table summarises HIV prevalence rates for the group's operations for 2013/14. Site-specific data is presented alongside provincial and district municipal statistics, which demonstrate that HIV prevalence at Assore sites is estimated to be below that of the districts in which they are located.

HIV Prevalence Rates 2013/2014

Operation	HIV prevalence	Source	Provincial prevalence		Source	District prevalence		Source		
			2011/12	2012/13		2011/12	2012/13			
Khumani	3,4%	UGM Wellness	N Cape	17%	17,8%	DOH	JT Gaetsewe	17,7%	14,8%	DOH
Beeshoek	2,6%	UGM Wellness	N Cape	17%	17,8%	DOH	Siyanda	19,1%	14,3%	DOH
Black Rock	7,2%	Right to Care	N Cape	17%	17,8%	DOH	JT Gaetsewe	17,7%	14,8%	DOH
Cato Ridge Works	20%	ILIFU	KZN	37,4%	37,4%	DOH	Ethekwini	38%	39%	DOH
Dwarsrivier	11,7%	Careways	Limpopo	22,1%	22,3%	DOH	Sekhukhune	18,9%	23%	DOH
Machadodorp Works	13,9%	Careways	Mpumalanga	36,7%	35,6%	DOH	Nkangala	29,6%	32,1%	DOH
Rustenburg Minerals*	11,1%	Discovery Health	North West Province	29,5%	30,2%	DOH	Bojanalo	29,3%	33,9%	DOH
Zeerust*	11,1%	Discovery Health	North West Province	29,5%	30,2%	DOH	Ngaka Modiri Moloma	25,9%	24,9%	DOH
Wonderstone	13,8%	Discovery Health	North West Province	29,5%	30,2%	DOH	Ngaka Modiri Moloma	25,9%	24,9%	DOH

SA National HIV Prevalence: 29,5%

*Rustenburg Minerals and Zeerust statistics are aggregated because the two sites are covered by a single health management system

DOH – Department of Health

Revision of the occupational health monitoring protocol for manganese operations

During the reporting year, the occupational health monitoring protocol for the group's manganese operations was reviewed and revised to take account of a substantial body of recent medical research on manganese health. Much of this research was coordinated by the IMNI on behalf of member companies to ensure correct classification of products in terms of the Globally Harmonised System of Hazard Classification (GHS) and other related initiatives.

Review of the protocol was undertaken by an independent occupational medical practitioner with extensive experience of manganese operations. The revised protocol now provides a uniformity of approach to occupational health surveillance and management at Assmang's manganese mine and smelters. The protocol has also been implemented at the Sakura smelter in Malaysia, where it has been used to scope the content of the pre-employment medicals which are undertaken as part of the recruitment process.

ENVIRONMENTAL MANAGEMENT

Energy consumption and carbon emissions

Assore has been quantifying its greenhouse gas emissions (GHGs) since 2009 to inform the development of the group's energy and emissions management strategy. During the period under review, progress has been made in improving the reliability of energy consumption data, and on starting to calculate energy intensity for the group's operations. This information will input to the development of a carbon budget for the company in line with the evolving requirements of South African environmental legislation.

Diesel and electricity usage

Operation	Diesel use 2015 (‘000ℓ)	Diesel use 2014 (‘000ℓ)	Electricity use 2015 (mWh)	Electricity use 2014 *(mWh)
Beeshoek	17 562	12 619	38 396	38 970
Khumani	32 474	34 050	186 112	175 213
Black Rock	5 271	4 529	105 739	102 881
Cato Ridge Works	530	515	608 273	639 712
Dwarsrivier	1 763	1 500	56 218	50 872
Machadodorp Works	787	804	169 480	207 973
Assmang Operations total	58 387	54 017	1 164 218	1 215 621
Rustenburg Minerals	3 297	4 330	10 617	9 618
Zeerust	1 426	*752	3 232	3 123
Wonderstone	163	159	2 168	2 083
Wonderstone Grader Road	79	95	146	150
AMT Operations total	4 965	*5 336	16 163	14 974

*Restated – kWh heading of previous report changed to mWh

Corporate carbon footprint

In line with the methodology laid down in the Greenhouse Gas Protocol – Corporate Standard – as well as ISO14064, GHG emissions are reported under three categories:

- **Scope 1:** Direct GHG emissions which occur from sources that are either owned or controlled by the company (eg emissions resulting from diesel consumption by mine vehicle fleets, consumption of reductants in furnaces and burning of liquid petroleum gas).
- **Scope 2:** GHG emissions from the generation of purchased electricity consumed by the company. This is purchased from Eskom, whose power is

predominantly generated by coal-fired power stations.

- **Scope 3:** GHG emissions that are a consequence of the company's activities, but occur from sources not owned or controlled by the company (e.g. product transportation and business travel) which are not reported on in this document.

During 2015, submissions to the Carbon Disclosure Project (CDP) were made by both joint venture partners in respect of the Assmang and AMT operations.

For the first time, an external consultant, Gilden Assurance, was commissioned to provide independent assurance in respect of

identified energy use and GHG emissions in accordance with the GHG protocol. This assurance was guided by the International Standard on Assurance Engagements (ISA) 3000, and reviewed energy consumption and GHG emissions in respect of the Beeshoek and Black Rock operations.

During the financial year, total Scope 1 and 2 emissions for the Assore group totalled 1 655 513 tCO₂e, a drop of 1,3% year-on-year. In the period under review, Scope 1 and 2 emissions from the Assmang operations totalled 1 627 380 tCO₂e, equivalent to 98,3% of the group's total emissions.

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Scope 1 and 2 emissions in CO₂e tons

	Scope 1 tons CO ₂ e	Scope 2 tons CO ₂ e	Total emissions CO ₂ e
2015			
AMT operations	13 019	15 114	28 133
Assmang	533 014	1 094 366	1 627 380
2014			
AMT operations	13 901*	14 003	27 905*
Assmang	507 210*	1 142 684	1 649 895*

*Restated from previous year

Scope 1 emissions

Scope 1 emissions from Assmang operations increased by 5,1%. This reflects an increase in diesel consumption on the Northern Cape operations, particularly at Beeshoek and Black Rock, where emissions increased by 39,2% (49 777 tCO₂e) and 16,4% (45 444 tCO₂e) respectively.

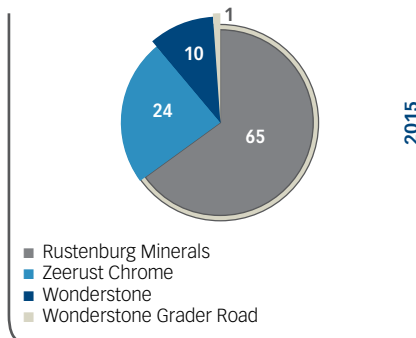
Scope 1 emissions from AMT operations reduced by 6,3%, which is principally attributable to a decrease of 23,9% in diesel consumption at Rustenburg Minerals. Over the same period, diesel consumption at Zeerust increased by 89,6%, reflecting an increase in mining production.

Scope 2 emissions

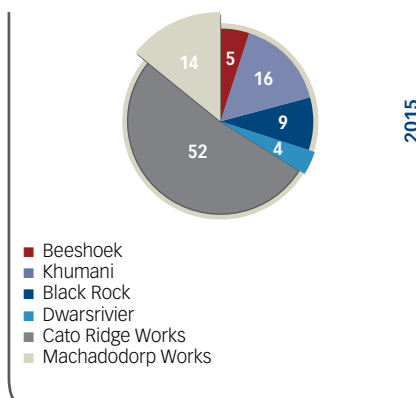
Scope 2 emissions from Assmang operations decreased by 4,2% over the reporting period. This reflects decreased production at the smelting operations, which account for the majority of the group's electricity consumption. As a result of the switching out of furnaces during the year under review, electricity consumption at the Machadodorp and Cato Ridge Works dropped by 18,5% and 4,9% respectively over the reporting period. Beeshoek and Black Rock operations reported tCO₂e emissions of 36 092 and 99 394 respectively which were verified in the Independent Assurance Report done by Gilden Assurance.

Scope 2 emissions from AMT operations increased by 7,9%, mainly due to a 10,4% increase in electricity consumption by the Rustenburg Minerals underground operations.

AMT operations
Scope 1 and 2 as % of total emission (CO₂e)



Assmang
Scope 1 and 2 as % of total emission (CO₂e)



Energy efficiency initiatives

A range of initiatives to achieve energy saving and the reduction of GHG emissions have been implemented on the Assmang operations. Energy efficiency initiatives have focused on the smelters, which are the most intensive energy users in the group, and thus present the greatest opportunities for energy saving.

During the year under review, variable speed drives have also been installed on the water coolers at furnaces 1 and 2 and the fugitive fume extraction system at the Cato Ridge Works. This project has been implemented by a third party on an energy saving share model, and has resulted in a reduction in purchased energy consumption and resultant Scope 2 emissions.

Recycling of baghouse filter dust in the pelletising/briquetting process at the Machadodorp Works has eliminated the need to transport the filter dust for disposal in a waste facility, resulting in reduced Scope 3 emissions, and modifications to raw materials handling infrastructure have contributed to a reduction in Scope 1 emissions.

At Khumani, a 100kW photovoltaic plant has been constructed, which feeds into the mine's own internal power distribution network, thus reducing purchased electricity consumption and resultant Scope 2 emissions.

The Sakura smelter in Sarawak, Malaysia, is due to be commissioned in early 2016. Electricity for the smelter will be purchased from Sarawak Energy, whose power generation is mainly sourced from hydroelectricity. Hydroelectric power is a low carbon energy source compared to electricity generated from fossil fuels (such as Eskom's coal fired power stations), thus resulting in reduced Scope 2 emissions per unit of production.

Financial implications of carbon taxation

The group continues to explore practical responses to the financial and environmental risks and opportunities that carbon-related issues pose to its business, including the proposed imposition of carbon taxation in South Africa.

Sustainability report continued

The carbon tax was originally scheduled for implementation in January 2015. Its introduction was delayed, but is now mooted for introduction during 2016. Whilst the precise details of the pending carbon tax remain under discussion, the model proposed will tax companies on the basis of their Scope 1 emissions, with certain “free” emissions allowances extended to certain industry sectors, operations that have emissions associated with their processes and companies that are deemed to be “trade exposed”.

Based on the guidelines provided to date, it is estimated that the additional carbon tax burden directly attributable to Assore in respect of the Assmang and AMT operations would be between R6,4 million and R12,8 million per annum. These calculations are based on a tax rate of R120/tCO₂e and Scope 1 emissions calculated for calendar year 2014, which is the most recent year for which detailed emissions data is available.

Operational risks associated with climate change

The group’s operations are primarily located within the arid zone and are therefore particularly vulnerable to changes in climatic regime, which could impact on security of water supply. Extreme weather conditions also have the potential to disrupt logistics as a result of damage to transport and power infrastructure.

Refer Annexure 1 for independent assurance obtained on electricity and diesel used as well as the extent of Scope 1 and 2 GHG emissions.

Water

During the period under review, considerable focus has been placed on improving water efficiency and water security for the group’s operations.

Water consumption (m³)

	Water consumption 2015 (m ³)	Water consumption 2014 (m ³)
Beeshoek	5 237 869	6 608 293
Khumani	3 647 534	3 440 654
Black Rock	877 478	916 126
Cato Ridge Works	322 400	394 247
Dwarsrivier	639 268	290 175
Machadodorp Works	105 799	52 261
Assmang operations total	10 830 348	11 701 756
Rustenburg Minerals	233 277	264 002
Zeerust	222 690	292 750
Wonderstone	3 062	2 417
Wonderstone Grader Road	1 523	1 230
AMT operations total	460 552	560 399

Water consumption across the group declined year-on-year, with Assmang reporting a 7,4% decrease in water consumption and AMT operations recording a 17,8% drop in overall consumption.

The most substantial drop in water consumption was recorded at Beeshoek, with a decline of 20,7%. This is attributable to greater water efficiencies achieved on the mine, including improved recycling of return water from the tailings facility and optimised operation of the thickener dam.

Water consumption was also reduced due to the demolition of the Beeshoek village to facilitate development of the Village Pit (including cessation of irrigation on the golf course).

A substantial increase in water consumption was reported by Dwarsrivier, with consumption increasing by 120,3%. This is partly attributable to increased dewatering activity associated with North Shaft, but also reflects a revised definition of water usage for reporting purposes, which now includes

both dewatering and abstraction from water supply boreholes (as per the terms of the site’s water use licences). A substantial 102,4% increase in water consumption was also reported by the Machadodorp Works, which is attributable to the temporary recommissioning of the pelletising plant.

The most significant change in water consumption for the AMT operations was reported at Zeerust, with a 23,9% decline in water consumption year-on-year. This primarily reflects the improved recirculation of decant water from the tailings facility for reuse.

Water use licences

In January 2015, a water use licence was issued for Wonderstone, and work is now underway to ensure that site water management and monitoring practices comply with the conditions of this licence.

Water use licence applications are still pending for Black Rock, Cato Ridge Works, Rustenburg Minerals and Zeerust, with some applications dating as far back as 2008. Management continues to engage proactively with the Department of Water and Sanitation (DWS) to expedite the issuing of these outstanding licences.

Extensive surface and groundwater studies are currently being undertaken to apply for a consolidated WUL that will replace the existing WULs that have been issued for Dwarsrivier mine.

Water quality management

Minimising the impact of the group’s operations on water quality is also a priority, particularly for operations located in catchments that are challenged by declining water quality. Extensive surface and groundwater quality monitoring programmes are undertaken by all operations to demonstrate compliance with the conditions of their WULs and other environmental authorisations, and the group also takes an active role in the catchment management authorities where its sites are located.

During the year under review, the ageing sewage treatment systems at Rustenburg Minerals have been upgraded to minimise the potential for bacteriological groundwater pollution. Redundant sewage treatment infrastructure was also decommissioned at Wonderstone.

Sustainability report continued

Water security

Interruption of water supply by Sedibeng Water to Khumani mine continued to be a challenge over the reporting period, and has resulted in significant disruption to the mine's production. Sedibeng's ability to provide uninterrupted supply is constrained by increased water demand in the region, as well as ageing and poorly maintained water distribution infrastructure whose capacity has reached or exceeded its design capacity. A regional task team (with representation from Assmang, Sishen, Sedibeng and the DWS) has been convened to address the challenge of providing reliable water supply to the region.

In the short term, attention has been focused on upgrading and optimising the operation of the Postmasburg pump station, whose design and maintenance limitations have previously constrained supply to downstream users. Khumani has also applied to DWS for the construction of additional on-site water storage facilities to provide increased buffer capacity and the licensing of additional water abstraction boreholes on the mine property.

In the medium term, mines in the region are working with Sedibeng and DWS to assist in the upgrading and maintenance of the Sedibeng water supply infrastructure, through both the provision of engineering expertise and the investment of capital. Long-term options to develop additional pipeline capacity which will cater for increased future water demand by mining companies and communities across the region are also under consideration.

Waste management

Waste rock and process waste (including tailings from the miners and slag generated by the smelters) remain the largest waste streams generated by the group's operations.

Waste generated by operations

Operation	Waste rock 2015 (m ³)	Tailings/ slag 2015 (tons)	Waste rock 2014 (m ³)	Tailings/ slag 2014 (tons)
Beeshoek	30 378 392	903 037	49 648 892	722 343
Khumani	26 370 969	2 854 968	29 227 913	2 693 916
Black Rock	137 521	236 096	40 926	211 871
Cato Ridge Works	Not applicable	119 411	Not applicable	122 042
Dwarsrivier	356 621	295 693	290 077	241 819
Machadodorp Works	Not applicable	26 422	Not applicable	27 213
Assmang operations total	57 243 503	4 435 627	79 207 808	4 019 204
Rustenburg Minerals	2 233 021	46 435	1 626 859	46 055
Zeerust	1 475 737	53 948	663 764	22 723
Wonderstone	55 044	Not applicable	48 568	Not applicable
Assore operations total	3 763 802	100 383	2 339 191	68 778

During the period under review, Beeshoek reported a reduction of 38,8% in waste rock generation, resulting from a scaling back of stripping activity at East Pit. Over the same period, waste rock generation at Black Rock increased by 236%, which is attributable to the Black Rock Expansion Project (BREP), primarily the sinking of the new ventilation shaft at Gloria. It should be noted that much of the waste rock generated by BREP is broken underground, and is therefore not hoisted for disposal on surface.

On the AMT operations, Rustenburg Minerals recorded a 37,3% increase in waste rock generation due to the opening up of a new box cut at Groenfontein, whilst Zeerust recorded 122,3% and 137,4% increases in waste rock and tailings generation respectively in response to an increase in production following the opening of the Cut 4 box cut.

Slag sales from the Cato Ridge Works were suspended during the year under review, pending the promulgation of new waste management regulations.

Land management and financial provision for closure

All sites have biodiversity action plans which are used to inform land management practices and post-operational land use alternatives. At Khumani, a condition of the EMPR approval was the establishment of a biodiversity offset agreement to compensate for clearance of priority species. A biodiversity offset area adjacent to an existing conservation area has been identified and it is expected that this will be concluded in the coming year.

Sustainability report continued

Up-to-date closure plans are in place for each of the group's operational sites, which inform the financial quantum required for the eventual rehabilitation and closure of each site at the end of its operational life.

Independent consultants are used to calculate financial provisions for closure in line with DMR requirements. This closure provision constitutes the single largest environmental liability for the group's operations, totalling R1 021,9 million for the Assmang operations (2014: 817,2 million) and R23,0 million for the AMT operations (2014: 19,8 million).

Assmang and AMT operations – rehabilitation and closure provisions

R'000	2015			2014		
	Total liability	Environmental fund	Current guarantees in place	Total liability	Environmental fund	Current guarantees in place
Mining operations						
Beeshoek	119 273	70 327	51 009	117 186	66 082	38 389
Khumani	320 784	66 518	254 266	298 681	62 577	187 032
Black Rock	209 506	59 664	149 842	178 609	55 940	122 669
Dwarsrivier	48 533	9 169	39 363	42 249	8 576	33 673
Sub-total	698 096	205 678	494 480	636 725	193 175	381 763
Alloy operations						
Cato Ridge Works	119 705	–	–	105 842	–	–
Machadodorp Works	204 095	–	–	74 596	–	–
Total Assmang operations	1 021 896	205 678	494 480	817 163	193 175	381 763
Mining operations						
Rustenburg Minerals	15 987	0	13 000	12 750	0	13 000
Zeerust	3 452	0	3 500	4 088	0	3 500
Wonderstone	3 605	0	4 500	2 967	0	4 500
Total AMT operations	23 044	0	21 000	19 805	0	21 000

Note that closure and rehabilitation liabilities are reported on a 100% basis

The total closure liability for Assmang mining operations is R698,1 million, a 9,6% increase on the previous year. The largest increases in closure liability were seen at Black Rock and Dwarsrivier, whose closure liabilities increased by 17% and 15% respectively to reflect expansion of mining operations. Assmang's closure liability for its mining operations is provided for through a combination of environmental trust funds and bank guarantees, in line with the requirements of MPRDA.

In line with its commitment to responsible environmental management, Assmang's financial statements continue to make provision for obligations associated with the potential rehabilitation of the Cato Ridge and Machadodorp smelters, even though these industrial (rather than mining) sites do not require such provisions in terms of South African legislation. The closure liability for Assmang smelters is R323,8 million, which reflects a substantial increase of 173,6% in the closure provision for the Machadodorp Works compared to the previous year. This increased provision is based on contaminated land and groundwater assessments conducted for the site that have resulted in a revised closure estimate.

The total closure liability for AMT operations is R23,0 million (2014: R19,8 million), a 16% increase year-on-year. The increase in AMT closure liability is primarily due to a 25% increase in the closure liability for Rustenburg Minerals, due to the opening up of new mining areas and disturbance caused by reclamation of tailings for sale from the tailings facility. The closure liability at Zeerust declined by 16% year-on-year, reflecting the emphasis on site rehabilitation prior to the mine being put on care and maintenance. The AMT closure liability is now solely provided for by bank guarantees.

STAKEHOLDER ENGAGEMENT

Assore recognises that its ability to establish and maintain long-term relationships with a diversity of stakeholders is integral to its risk management processes. Accordingly, Assore continues to seek, develop and strengthen mutually beneficial partnerships with key stakeholders through a variety of mechanisms in order to support its business strategy.

The group's operations engage with local communities through a range of mechanisms, including social investment forums for future forums, community meetings and community open days.

The challenge of engaging with host communities

In recent years, the need to engage more actively and effectively with host communities has become increasingly apparent.

The western limb of the Bushveld in North West province has experienced social unrest and political volatility since 2012. Whilst the situation has stabilised since the platinum sector strike in 2014, ongoing tension and sporadic violence has been fuelled by community dissatisfaction over perceived poor service delivery on the part of government and widespread retrenchments due to the downturn in the minerals sector. Similar socio-political factors have contributed to increasing volatility in the Steelpoort Valley, with community protests disrupting production at many of the mines on the western limb of the Bushveld, including Dwarsrivier.

Western Limb of the Bushveld

In order to protect the safety and security of its employees and assets under these challenging circumstances, AMT and its black economic empowerment partner Mampa Investment Holdings (Mampa) have intensified their efforts to engage constructively with neighbouring

Sustainability report continued

communities surrounding Rustenburg Minerals through various community forums and focus groups. The intent of this engagement is to improve information dissemination and work towards alignment of community and company expectations. In order to do this, these forums meet regularly to allow communities to voice their requests and concerns, and also give the company an opportunity to explain its processes and systems. A particular focus for these discussions has been the provision of training and employment opportunities for the youth from neighbouring communities.

At Rustenburg Minerals, quarterly meetings are held with the Makgophe, Witrandjies and Motlhabé Tribal Authorities, which are attended by senior mine management, as well as Community Economic Development (CED) staff, representatives of Mampa and other group personnel, who are invited to attend on a needs basis. This engagement is supplemented by frequent meetings which are held with municipal representatives and groups within the community. The mine also communicates with stakeholders via a regular newsletter, with 3 000 copies being circulated within neighbouring communities. Monthly meetings are also held with the stakeholders of each CED project supported by AMT.

In addition to its engagement with external stakeholders, Rustenburg Minerals also recognises the importance of engaging with its internal stakeholders on matters of mutual concern. A future forum, comprising representatives of management, employees and organised labour, meets on a quarterly basis to review and discuss the implementation of the SLP. These meetings provide a mechanism to proactively engage on issues relating to human resource development, development of portable skills and restructuring the workforce under circumstances of downsizing and/or retrenchment.

Steelpoort Valley

During the year, community unrest continued to grow in the Steelpoort Valley due to perceptions of poor government service delivery, with particular dissatisfaction being expressed over slow progress in tarring of the Phasha/Mampuru road. Protests involving the blockading of roads and the burning of tyres and trucks – with resultant disruption of access to neighbouring mines – began in January 2015, and required the intervention of provincial and district government who committed to the immediate commencement of the project.

Delays in project implementation led to heightened tensions in the region, and with time, community focus shifted from government's service delivery to discontent at the mines' perceived slow progress in delivering on commitments made in their social and labour plans. In particular it was alleged that failure of mines to deliver on community development projects was to blame for poor road conditions, lack of electricity and water, limited employment local labour and low levels of procurement of goods and services from local providers.

To address this challenge, Dwarsrivier and other mines in the Steelpoort Cluster have formed a task team, which continues to monitor the situation closely and works to respond in a consistent and cooperative manner to community concerns. This approach ensures a consistent response to community demands, and is likely to result in the implementation of some jointly funded major projects which will have a great impact on the communities than smaller, individually funded initiatives.

A summary of the group's key stakeholders and the issues raised with them during engagement, as well as the stakeholder mechanisms employed are summarised in the table below.

Stakeholder table

Stakeholder	Summary of material issues	Method of engagement
Shareholders and the investment community	<ul style="list-style-type: none"> ➤ Profitability ➤ Regulatory compliance ➤ Financial and non-financial risk management ➤ Outlook for the base metals/alloys market ➤ Performance against targets ➤ Long-term sustainability of the business 	Annual and six monthly reports, SENS announcements, press statements
Industry associations <ul style="list-style-type: none"> ➤ Chamber of Mines ➤ Ferroalloy Producers Association ➤ International Council on Metals & Mining ➤ International Manganese Institute ➤ International Chrome Development Agency ➤ Energy Intensive Users Group 	<ul style="list-style-type: none"> ➤ Worker safety ➤ Occupational health ➤ Environmental issues ➤ Carbon-related issues (including carbon taxation) ➤ Trends in national and international legislation ➤ Logistics ➤ Risks associated with land tenure and nationalisation 	Representation on the executive bodies of these associations, as well as task groups established in terms of their strategic work
Employees and organised labour <ul style="list-style-type: none"> ➤ National Union of Mineworkers ➤ National Union of Metalworkers of South Africa ➤ Solidarity 	<ul style="list-style-type: none"> ➤ Remuneration and benefits ➤ Conditions of service ➤ Job security ➤ Career development (including training) ➤ Accommodation ➤ Worker safety ➤ Occupational health ➤ Transformation and employment equity 	Staff meetings at all levels, "toolbox talks", inductions, health & safety meetings, internal publications, notice boards, union negotiations, career path planning
Host communities	<ul style="list-style-type: none"> ➤ Employment ➤ Safety and health considerations ➤ Preferential procurement ➤ Small and Medium Enterprise Development ➤ Social upliftment ➤ Land management ➤ Mine closure and rehabilitation 	Public meetings, public participation process for Environmental Impact Assessments, participation in local economic development initiatives, funding of corporate social responsibility initiatives

Stakeholder	Summary of material issues	Method of engagement
Customers	<ul style="list-style-type: none"> ➤ Product quality ➤ Product pricing ➤ Development of new products ➤ Adherence to delivery schedules ➤ GHG-related issues ➤ Product stewardship ➤ Compliance with REACH/GHS requirements for registration and product labelling 	<p>Customer site visits, contract negotiations, quality management system, conference attendance. Use of customer feedback to influence annual report content</p>
Joint venture partners <ul style="list-style-type: none"> ➤ African Rainbow Minerals ➤ Sumitomo ➤ Mampa Investment Holdings ➤ Exxaro ➤ China Steel 	<ul style="list-style-type: none"> ➤ Profitability ➤ Regulatory compliance ➤ Financial and non-financial risk management ➤ Outlook for the base metals/alloys market ➤ Performance against targets ➤ Long-term sustainability of the business ➤ Roles and responsibilities within the respective joint ventures 	<p>Representation on the Assmang board and Excom, board meetings for individual Assore operations and active participation in industry associations</p>
National, provincial and municipal government <ul style="list-style-type: none"> ➤ Department of Mineral Resources ➤ Department of Water and Sanitation ➤ Department of Environmental Affairs ➤ Department of Labour ➤ Department of Trade and Industry ➤ Receiver of Revenue ➤ Various provincial and municipal authorities 	<ul style="list-style-type: none"> ➤ Regulatory compliance ➤ Fulfilment of statutory reporting requirements ➤ GHG-related issues ➤ Land management ➤ Mine closure (including adequate financial provision for rehabilitation) ➤ Pollution prevention ➤ Conservation of surface and groundwater resources ➤ Employee health & safety ➤ Workforce transformation and employment equity ➤ Preferential procurement ➤ Tax payment 	<p>Statutory reporting, inspections by government representatives, permit applications, legal compliance audits, public participation process for Environmental Impact Assessments, engagement on targeted issues</p>
Parastatal service providers <ul style="list-style-type: none"> ➤ Eskom ➤ Transnet 	<ul style="list-style-type: none"> ➤ Continuity of electricity supply ➤ Power and freight tariffs ➤ Availability of rail berths ➤ Upgrade of port facilities ➤ Negotiation of mutually beneficial contracts and service agreements 	
Contractors and other service providers <ul style="list-style-type: none"> ➤ Mining contractors ➤ Transport companies ➤ Construction contractors ➤ Consultants ➤ Healthcare providers ➤ Shipping companies ➤ Insurance companies 	<ul style="list-style-type: none"> ➤ Procurement practices (including preferential procurement) ➤ Terms and conditions of contracts (including penalties) ➤ Regulatory compliance ➤ Occupational health & safety ➤ Environmental management 	<p>Contract negotiations, tender processes, safety inductions, health & safety meetings, site inspections and audits, performance reviews, ISO certification</p>
Non-governmental organisations <ul style="list-style-type: none"> ➤ Groundwork ➤ BenchMarks Foundation 	<ul style="list-style-type: none"> ➤ Pollution prevention ➤ Conservation of surface and groundwater resources ➤ Employee health & safety 	<p>Engagement through established open forums created for general engagement with host communities</p>

PRODUCT STEWARDSHIP

As the company responsible for marketing the group's products, Assore's wholly owned subsidiary, Ore & Metal, has a responsibility to proactively manage financial and reputational risk by positively influencing the business and social environment in which it operates. The group therefore plays an active role in industry associations that aim to promote the use and sustainability of commodities that it produces, and to foster cooperation between peer companies to address issues of common concern.

Involvement in industry associations

An Ore & Metal representative currently serves on the IMnI's Occupational Health, Environment and Sustainability (OHES) Committee. Ore & Metal also chairs IMnI's Regulatory Affairs Committee, which monitors manganese-related national and international legislation and lobbies on regulatory issues of importance to the sector. The IMnI has just completed the implementation of its five-year OHES plan, and is currently consulting with its neighbours to identify areas of focus for the coming five years.

In November 2014, the IMnI convened an OHES seminar in Kuala Lumpur, with the intention of sharing knowledge and research gathered by the international manganese industry with the newly emergent Malaysian manganese sector in Sarawak. This workshop considered the challenges of incorporation of a manganese smelting industry within Malaysia's legislative framework, discussed occupational health management and reviewed ferromanganese slag classification and opportunities for potential use. The event was attended by representatives of the Malaysian manganese producers, state and national government delegates and service providers.

On a national level, Assmang continues to hold the deputy chairmanship of the Ferroalloys Producers Association (FAPA) and representatives from the smelters serve on both FAPA's Technical and Logistics Committees. In the past year, FAPA has been particularly active in lobbying government on issues such as carbon taxation, emissions reporting and implementation of the pending waste regulations.

Ore & Metal is also represented on the Southern African committee of the ICDA, which facilitates the sharing of learning experiences between peer companies,

particularly with regard to safety and occupational health management.

Product registration and stewardship

Ore & Metal continues to monitor and respond to changes in national and international legislation that could influence the mining, beneficiation, sale, transport or usage of its products.

An important area of IMnI's focus in recent years has been the revision of the International Maritime Organisation's (IMO) codes, which have implications for the categorisation of the company's products. To address the requirements of the revised International Maritime Solid Bulk Cargoes (IMSBC) code, test work has been undertaken during the year to confirm that Assmang's manganese and iron ore fines products do not have the potential to liquefy in transit. IMnI has also been active in lobbying IMO for the revision of the IMSBC code for silicomanganese alloy, which will see it recategorised from a Group B cargo (defined as a cargo possessing a chemical hazard that could give rise to a dangerous situation on a ship) to a lower risk Group C cargo.

Ore & Metal continues to track the implementation of "REACH type" initiatives in key markets such as China, Japan, South Korea, India and Turkey which may require registration of its products. Similarly, it monitors changes to the requirements of the Globally Harmonised System of Hazard Classification (GHS) which may require modifications to product labelling and safety data sheets.

COMMUNITY ECONOMIC DEVELOPMENT

Assore recognises that it has a responsibility to facilitate social upliftment in the communities within which it operates, and seeks to respond to the challenges of livelihood support and economic diversification in a manner that is appropriate for the different socio-economic and geographical settings of its operations.

Community economic development expenditure

In the year under review, total community economic development (CED) expenditure has decreased, in line with lower expected profits. In 2015, CED expenditure for the Assmang operations totalled R107,2 million (a reduction of 33,4% on the previous year's total of R136,4 million), whilst CED

expenditure for the AMT operations declined by 33,5%, from R23 million to R15,3 million.

Structure of the CED function

The Assore group's CED programme is structured to encompass aspects of Corporate Social Investment (CSI), Social Economic Development (SED) and Enterprise Development (ED). These three activities are aimed at directing financial and other resources so that economic opportunities and social conditions can be substantially improved in host communities.

Assore's CED expenditure is primarily funded by the Boleng Trust (formerly the Bokomoso Trust) and the Sacco Foundation (previously known as the Chairman's Fund), with a particular emphasis on education. Funding for SED is principally funded from the Boleng Trust, with some contribution from the AMT operations, whereas ED is funded only by the AMT operations. Similarly, Assmang's SED initiatives are funded at an operational level to meet commitments made in the social and labour plans (SLPs) in respect of skills development, capacity building, social upliftment and poverty alleviation.

The complex reporting requirements around aspects of SED performance are critical in maintaining the company's social licence to operate. These include reporting to the DMR in terms of SLPs the Mining Qualifications Authority with respect to skills development and the Department of Trade and Industry in terms of the dti codes of good practice (which focus mainly on issues related to broad-based black economic empowerment).

Community economic development expenditure

In previous years, only a single consolidated figure has been reported for CED expenditure for Assmang and AMT respectively, which has made it difficult to identify the relative priority and resourcing allocated to the many facets of CED. In order to highlight the priority given to different aspects of CED, for the first time, an attempt has been made to report on expenditure in the following focus areas:

- Infrastructure development
- Education
- Health
- Basic needs and social development
- Enterprise development
- Social economic development
- Other

Sustainability report continued

Community Economic Development expenditure – breakdown per operation

Operation	Rand value spent on infrastructure development 2015	Rand value spent on education 2015	Rand value spent on health 2015	Rand value spent on basic needs and social development 2015	Rand value spent on arts and culture 2015	Rand value spent on social economic development 2015	Rand value spent on enterprise development 2015	Rand value spent on other 2015
Beeshoek	14 872 274	3 430 296	186 395	881 386	0	1 812 536	1 254 260	4 014 488
Khumani	6 102 006	2 488 626	1 774 118	1 217 576	432 897	13 598 049	12 215 721	8 505 610
Black Rock	6 118 839	358 107	5 000	1 223 143	5 000	6 140 793	341 507	6 725 016
Cato Ridge Works	0	1 712 769	292 456	338 198	66 000	0	0	701 624
Dwarsrivier	3 803 283	778 428	62 033	354 246	346 448	0	1 294 675	544 383
Machadodorp Works	152 884	0	233 172	0	0	1 935 459	838 637	30 121
Assmang operations total	31 049 286	8 768 226	2 553 174	4 014 549	850 345	23 486 837	15 944 800	20 521 242
Rustenburg Minerals	830 890	1 534 559	40 508	102 436	0	0	458 890	99 523
Zeerust	689 951	236 001	40 508	0	0	0	42 411	66 690
Wonderstone	10 224 157	567 886	86 542	235 182	0	0	6 141	68 529
AMT operations total	11 744 998	2 338 446	167 558	337 618	0	0	507 442	234 742

For Assmang operations, the greatest CED expenditure has been made on infrastructure development (R31,0 million), social economic development (R23,4 million) and enterprise development (15,9 million).

For AMT operations, the majority of CED spend has been on infrastructure development (R11,7 million) and education (R2,3 million).

CED project monitoring, evaluation and completion

During the period under review, emphasis has been placed on improving project management skills and strengthening governance structures for CED projects.

As part of Assmang's internal audit programme, a review was conducted by KPMG during the year to assess the effectiveness of management control over LED and CSI projects for all operations. This review was conducted to determine whether:

- A detailed strategy (supported by appropriate policies, procedures and delegation frameworks) exists to effectively govern LED and CSI activities
- Adequate processes are in place to ensure minimum authorisation and reporting requirements are in place for LED and CSI activities
- Appropriate financial governance is in place
- Adequate project management governance has been implemented
- Sound development principles have been adopted during the design and implementation of projects.

The findings of this review have been used to strengthen the governance and management mechanisms in place at both a site and corporate level. The learning points arising from this review have provided valuable guidance to inform the selection and implementation of projects and to enhance the sustainability of Assmang's CED initiatives.

Stakeholder engagement on CED issues

Community CED forums have been established for all AMT mines and have been structured to facilitate engagement on a community-by-community basis. These fora are attended by at least one senior member of mine management, as well as CED staff, and other mine personnel are invited to attend on a needs basis. This engagement is supplemented by regular meetings which are held with municipal representative and groups within the community.

Meetings are held with the stakeholders of AMT's individual CED projects in a monthly basis.

All Assmang operations have established social investment forums to discuss social upliftment projects they sponsor in the neighbouring communities.

Assmang's Local Economic Development initiatives

Assmang's LED initiatives continue to focus on infrastructure development projects, which are usually undertaken in partnership with government.

Over the past year, Assmang's Northern Cape operations have continued to focus on a number of water-related projects to provide sustainable sources of water supply to communities in water-stressed areas. For example, Beeshoek has progressed the Gatkoppies water connection project and the construction of a water tower for the Boitshoko community to improve water pressure, as well as the renovation of ablution facilities for the Groenwater Early Childhood Development centre. Khumani has funded the upgrading of the Khai Appel sewage infrastructure, which has contributed to great water efficiencies and improved community health, and Black Rock contributed R4 million to the Gasegonyana Bulk Water Support project, to improve water security to Kuruman and surrounding villages via the Kuruman Water Reservoir.

In a similar vein, Dwarsrivier is currently drilling a series of boreholes to establish sustainable sources of water supply for key facilities within the Kalkfontein village.

During the year under review, Dwarsrivier completed a number of infrastructure projects committed to in the SLP, including electrification of Kalkfontein village, the upgrading of the Mashishing and the construction of an Early Childhood Development centre in Malekane village.

Rustenburg Minerals Community Economic Development projects

Makgophe Primary School and Crèche
Imfundo Likusasaletu and Thatakakitso continue to provide educational intervention training to both the teachers and students in grades 1 to 7 as well as in the crèche grade respectively. The school has been equipped with a media centre that will service both learners and the local community. The media centre houses two libraries as well as a computer centre that was equipped with 40 new computers during the year. The computer centre will continue to support the CAMI educational programme offered to learners for English, Mathematics and perceptual skills, and will also provide basic computer training for the teachers which will be facilitated by Thatakakitso and their designated facilitator.

Imfundo also supplied a teacher for the Intermediate phase due to staff shortages at the school. Both service providers are also heavily involved in the functions that take place at the school and work in conjunction with the CED team in planning these events.

Rustenburg Minerals continues to provide financial support to the crèche in order to assist some of the parents with school fees. All the crèche expenses, including the teachers' salaries, are covered by Rustenburg Minerals, with the parents funding the cook's salary to provide school meals using groceries supplied by the mine.

Special functions held at the Makgophe School during this year included the annual awards day, grade R graduation and grade 7 farewell, supplemented by other functions for Heritage Day, the grade 7 entrepreneurs day and the "Annie" movie excursion. For the grade R graduation, the learners staged a performance of "The Jungle Book", and each graduate received a commemorative t-shirt and a pack of sweets.

Rustenburg Minerals small business initiatives

Tsholofelo Bricks and Paving

During the year, the brick making project was handed over to two candidates identified by the Makgophe Community and has been registered in the name of Tsholofelo Bricks and Paving. One of the entrepreneurs is in charge of the management of the day-to-day running of the project, manufacturing maxi, stock and paving bricks, while the other responsible for the marketing.

A meeting has since been held with DMR, at which it was agreed that the mine had fulfilled its responsibility towards developing this small business, and could exit the project.

Ofbon Garden Services

A company by the name of Ofbon was given the opportunity to maintain the gardens on the mine, at the school and the sports facility after being identified from the value chain of the mine. The opportunity will provide Ofbon with a base cash flow and will also provide a valuable reference to procure contracts from similar operations in the surrounding areas.

The CED department supplies the project with cleaning materials on a monthly basis.

Case study: The Princess Project

The Princess Project is an initiative that has been launched this year to raise awareness of female health and wellness issues among learners in rural communities and to facilitate better school attendance by young women. A growing body of research indicates that as many as 60% of female learners in South African schools miss school regularly because of lack of access to adequate and affordable sanitary protection, which can potentially amount to months of absenteeism over the course of their school career. This unnecessary disruption to their education is increasingly being recognised as a contributing factor to the disappointingly low percentage of girls who matriculate at the end of their school careers.

The Princess Project awareness campaign, sponsored by the Boleng Trust and private donations from AMT employees, was held on 29 August 2014 at Rustenburg Minerals and 12 September 2014 at Zeerust. A total of 289 girls from Makgophe Primary School, Kgalatlowe Secondary School and Motshobana Middle School attended the Rustenburg Minerals event, while the Zeerust event was attended by 80 learners from Mmasebudule Primary School, Nietverdiend Primary School and Sakalengwe Secondary School.

The Princess Project coordinates wellness days in schools within AMT mines' host communities which provide young women with a rare opportunity to engage candidly with health professionals from the mine and government clinics and other medical service providers on issues such as puberty, teenage pregnancy, personal hygiene and sexually transmitted diseases. These presentations are supplemented by an information pack containing pamphlets on sexual health and literature on other aspects of female health. The atmosphere of these events is festive, and designed to be a celebration of female health and wellness.

At the end of the event, each attendee is presented with a Princess pack, comprising a range of personal hygiene products and a Subz reusable sanitary pack. The Subz pads and panties are fully washable, reusable sanitary protection for women, which have SABS approval. If looked after correctly, the product is designed to last several years, and restore dignity to young women who would otherwise not be able to afford sanitary protection.

Feedback from the attendees expressed gratitude for the Subz packs and confirmed how much they appreciated the opportunity to engage openly and honestly on sensitive issues which they may not feel free to discuss in their home or school environments. Due to the success of these events, it is intended that the Princess Project will be rolled out to other group operations in coming years.

Wonderstone Community Economic Development projects

Wonderstone educational initiatives

Rainbow Crèche

This year, a number of maintenance issues were addressed at the Rainbow Crèche, and a new jungle gym was installed as the old one was not sufficient for the growing number of learners at the school.

A special function was held to mark the grade R graduation. As part of the graduation day celebrations, the class performed a play for their parents and teachers and each learner was presented with a commemorative t-shirt.

The Natanja Christian School

The second phase construction of the Natanja Christian School was completed by year-end and includes a trade training centre or Further Education and Training (FET) College.

ECD Facilitator Training

Wonderstone is undertaking a joint project with the Love Trust to train current and future early childhood development facilitators. This initiative will allow them to become accredited and register their enterprises in order to qualify for grants to assist them in providing quality education at the foundation level.

Wonderstone small business development initiatives

Waste management

The second phase of this project was completed in partnership with the municipality during the year under review. This phase included adaptation of the truck to empty waste skips, placement of 30 skips throughout Letsopha for additional waste management solutions and the supply of private bins to the new wards that have been developed. Skips were strategically placed on every street corner for people to empty their waste into, and will be collected by the truck on a regular basis.

The municipality has renewed all the wage contracts for another 12 months.

Candle making project

The mine continues its support of the candle making project with raw materials and visits the project regularly to assist them with any challenges.

Zeerust Community Economic Development projects

Mmasebudule Primary School

The construction of the new Mmasebudule Primary School was completed during the year, with the official opening being held on 6 March 2015. The opening ceremony was attended by Boleng Trustees, the construction team, mine personnel and various community members along with the learners and staff of the school. A number of local businesses assisted with catering, chairs, tent and décor.

Special functions held at the school included the first Mmasebudule Primary School awards day, the grade R graduation ceremony and a visit to the a nearby game farm. For the grade R graduation, the learners staged a performance of "The Jungle Book", and each graduate received a commemorative t-shirt and a pack of sweets.

Mmasebudule Primary School vegetable garden

An agricultural consultant was contracted at Mmasebudule to assist in the establishment of a vegetable garden at the school which produces vegetables that are used in the preparation of school meals. This support has included training for the lady in charge, as well as regular visits to check on the garden and its progress.

Annexure 1

Independent assurance report to the directors of Assore Limited

Introduction

Gilden Assurance Proprietary Limited (Gilden Assurance) has been engaged by the directors of Assore Limited (Assore) to perform an independent assurance engagement in respect of identified electricity and diesel used, as well as Greenhouse Gas (GHG) emissions for the year ended June 2015 (1 July 2014 – 30 June 2015). This assurance report is produced in accordance with the terms of our engagement letter dated 10 September 2015.

Gilden Assurance permits the use of this assurance report, to enable the directors to demonstrate that they have discharged their governance responsibilities by commissioning an independent assurance report in connection with the selected data reported.

We do not accept or assume responsibility to any third parties ie other than the directors and the company, for our work or for this report to the fullest extent permitted by law, save where such third parties have obtained our prior written consent.

Scope and subject matter

The subject matter in the scope of the assurance engagement was limited to Assore's electricity and diesel used (page 8), as well as the "Scope 1" and "Scope 2" GHG emissions at the Beeshoek and Black Rock operations respectively (page 9) and as defined by The GHG Protocol: A Corporate and Accounting Standard – Revised Edition (WRI & WBCSD, 2004) (GHG Protocol). Gilden Assurance's responsibilities did not extend to any other information.

Responsibilities of the directors of Assore

The directors of Assore are responsible for the generation, collection and reporting of the selected data in accordance with the GHG Protocol.

Responsibilities of the independent assurance provider

Gilden Assurance's responsibilities were to conduct an assurance engagement and to report its conclusions to the directors in accordance with the assurance procedures followed.

The assurance methodology followed was guided by the International Standard on Assurance Engagements (ISAE) 3000, *Assurance engagements other than audits or reviews of historical financial information* issued by the International Auditing and Assurance Standards Board, which standard *inter alia* requires that the assurance practitioner follows due process and comply with ethical requirements.

Summary of work performed

The management of the Beeshoek and Black Rock operations provided Gilden Assurance with the relevant supporting information and documentation related to the selected data reported.

Gilden Assurance applied the GHG Protocol as audit criteria in respect of the underlying data in the scope of the assurance engagement.

Gilden Assurance's *limited assurance* procedures consisted of:

- interviewing relevant management personnel
- evaluating the operations' process of data determination
- testing key controls in the reporting process
- analysing and reviewing the relevant data and calculations on a sample selective basis
- reviewing the reported data for consistency with the work performed by Gilden Assurance.

Inherent limitations

The assurance scope and work performed were limited to the Beeshoek and Black Rock operations respectively and do not represent the total amounts for the group.

In addition, the evidence gathering procedures for *limited* assurance are more restricted than those applicable to *reasonable* assurance. *Limited* assurance per definition thus provides less assurance than *reasonable* assurance.

Conclusion

We believe that the information provided by Assore and the work performed by Gilden Assurance are sufficient and appropriate to form a basis for our *limited* assurance conclusion.

In our opinion, and on the basis of our *limited* assurance procedures, nothing has come to our attention which has caused us to believe that the amount of electricity and diesel used, as well as the "Scope 1" and "Scope 2" GHG emissions prepared for Assore's Beeshoek and Black Rock operations, respectively, for the year ended June 2015, are not fairly represented in all material respects.



Petrus Gildenhuys

Director: Gilden Assurance Proprietary Limited
Johannesburg
16 November 2015



Gilden Assurance is an independent provider of environmental, social and corporate responsibility consulting and assurance services. More information is available at <http://www.gildenassurance.co.za>.