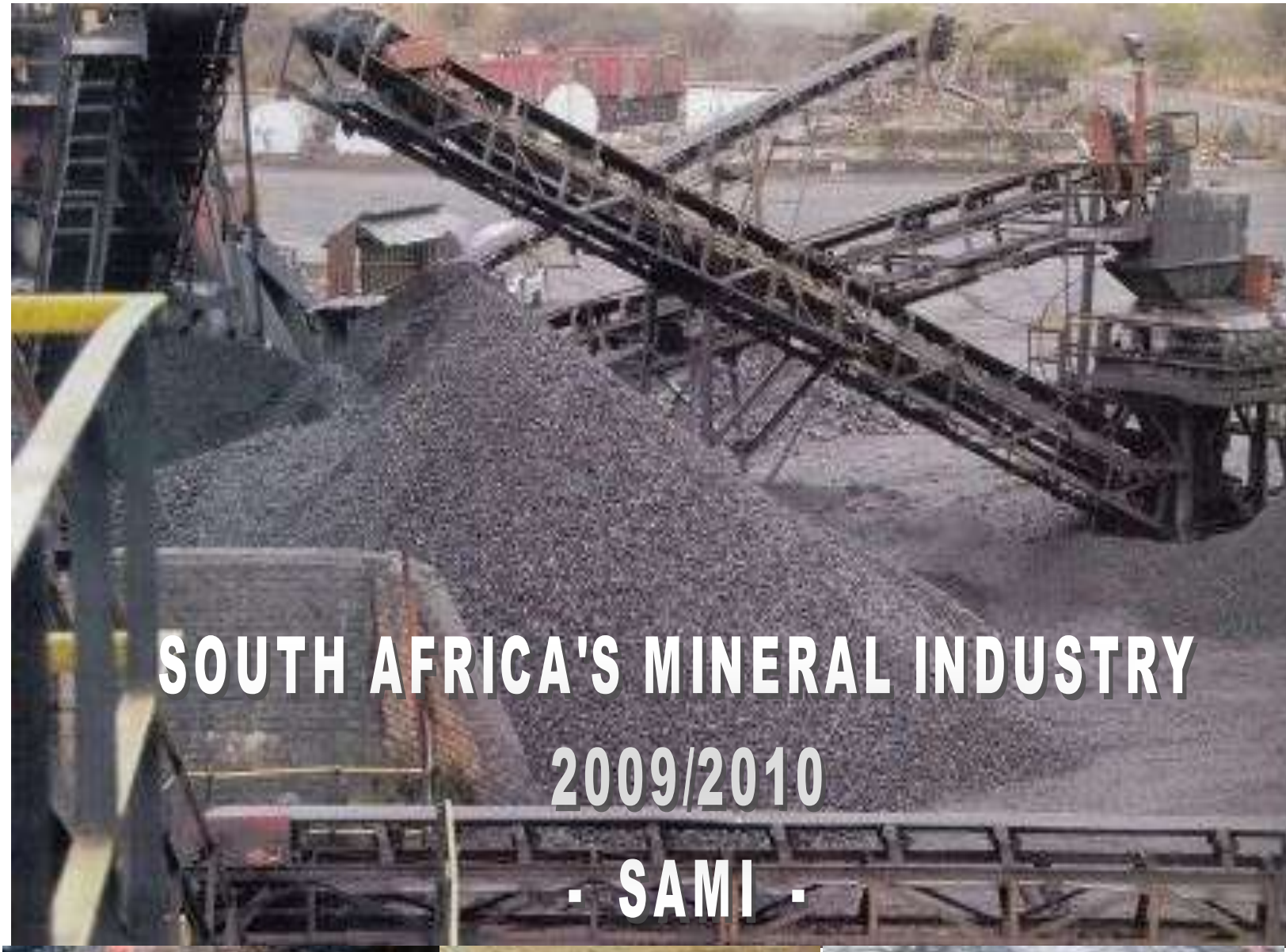

SOUTH AFRICA'S MINERAL INDUSTRY

2009/2010

- SAMI -

mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

DEPARTMENT: MINERAL RESOURCES
REPUBLIC OF SOUTH AFRICA

Directorate: Mineral Economics

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The cover picture represents South Africa's Coal Mining Industry.

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FOREWORD

The poor market conditions, which prevailed during the Great Recession, suppressing commodity prices during the first half of 2009 appear to have dissipated. Consequently, prices of most commodities which declined precipitously owing to poor demand from major markets, have improved significantly. Consistent with the better market conditions coupled with the rush for South Africa's mineral commodities as evidenced by the thousands (24 500) of prospecting and mining rights and permits applications received by the department since the MPRDA came into force in 2004, continues unabated. Also, the drive for further exploration of South Africa, using the latest technologies, is still gaining momentum, illustrated by the growing number of exploration activities currently taking place.

In 2009, South Africa's mining industry employed 5.1 percent less employees than in 2008, amounting to 492 219, representing 2.9 percent of the country's economically active population. The continued support which the DMR lends to Small, Micro and Medium Enterprises (SMME), through its Beneficiation Economics and Small Scale Mining Directorates, to help realise the potential of small scale mining and beneficiation projects to reduce poverty and unemployment, appeared to be accelerating, as evidenced by the 22 projects supported in 2009, bringing the total number of operational projects, which the department has supported since the inception of the Small Scale Mining programme to 112. These projects are estimated to have created a total of 1120 jobs.

Cooperation between the government and its social partners, (organised business and labour) helped reduce the potential impact of the recession on employment in the mining industry. This work, which culminated in the signing of the Declaration of Strategy for Sustainable Growth and Meaningful Transformation of the Mining Industry by the various stakeholders, indicates the seriousness with which all mining stakeholders in South Africa take the mutually reinforcing nature of competitiveness and transformation. This led to the gazetting of the revised Mining Charter, which includes the element of sustainability as well as clear targets to be achieved to ensure that the industry is transforming to address the concerns of the poor majority that has become increasingly apoplectic. The development and gazetting of the new Mining Charter as well as the ongoing amendment of the MPRDA illustrate government commitment to promote the industry as one of the main vehicles to drive its developmental state agenda. Minister Susan Shabangu declared a moratorium on new prospecting permits for a period of 6 months to audit those already received and issued as well as undertaking to provide an mining cadastre system, which would speed up the application and approval process. DMR officials are revising the regulatory framework and proposing amendments where necessary, consistent with the Minister's promise to improve competitiveness by removing any regulatory hurdles that impact negatively on the industry's competitiveness.

Approval of the beneficiation strategy, which seeks to maximise the value South Africa derives from its mineral resources, confirms the determination with which the authorities intend driving local value addition activities to enhance the country's competitiveness. Despite the lower revenues generated from sales of processed minerals in 2009, which, at R46.8 billion, were 47.3 percent less than 2008, the implementation of this strategy would ensure that the South African economy benefits much more from full scale value addition to its minerals. However, the fact that South Africa has become the most unequal society in the world in terms of income disparities despite being well endowed with resources and an advanced mining and minerals industry, has called into question the ethical acceptability and sustainability of such a situation, which is of great concern to government policy makers. To this extent, various interventions are sought to address this concern.

As the US efforts to spur economic growth through Quantitative Easing intensified, world economies, particularly emerging economies' exports became less competitive, driven by the unwelcome currency strength gains resulting from the flow of huge amounts of money from the developed markets in search of better returns. When other nations implemented policies that would deliberately weaken their currencies, analysts expressed concerns over emergence of currency wars, which could lead to trade conflict as more and more countries implement protectionist measures. However, the resolution of the G20 summit to allow developing countries to take macro-prudential measures appears to have averted such likelihood and saved the world economy from potentially devastating impacts.

It is appropriate to congratulate Mr Gaolatlhe Godfrey Oliphant on his appointment as the Deputy Minister of Mineral Resources and welcome him into the department. Mr Oliphant, who is a member of the ANC, has served in various structures of the organisation. He became a Member of the first democratic Parliament in 1994 representing the ANC in the National Assembly, was a member of the Portfolio Committee on Minerals and Energy and has held various Parliamentary Portfolio Committee Chairmanships including Public Works, Science & Technology, Communications as well as Labour. The department wishes to welcome Deputy Minister Gaolatlhe Godfrey Oliphant into the DMR family.

The department would like to thank the mining industry for submitting the requisite statistics as well as Mr Ian Robinson as external editor for this publication. Finally the input of DMR officials, whose efforts ensured the successful compilation of this publication, is highly appreciated. Accordingly, Ms Pamela Mashaba, Mr Landi Themba and Mr Alex Conradie who have served as Mineral Economist, Deputy Director (Energy & Non Ferrous Commodities) and Deputy Director (Precious & Ferrous Commodities), respectively, have left the department in 2010 to pursue other interests . The DMR wishes them well in their new endeavours.

M Bonga

Professional Economist
Mineral Economics Directorate

N Dlambulo

Acting Director:
Mineral Economics Directorate

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FERROUS MINERALS

INDUSTRIAL MINERALS

PART THREE: GENERAL INFORMATION

ABBREVIATIONS AND SYMBOLS

A$	Australian dollar
bbl	barrel
bbl/d	barrels per day
BGS	British Geological Survey
billion	thousand million
CIF	cost, insurance, freight
CIS	Commonwealth of Independent States. Par of the former Union of Soviet Socialist Republics (USSR)
China	People's Republic of China
CPI	Consumer price index
conc	concentrate carat ct carat
ct	carat
DM	Deutsche Mark
DMR	Department of Mineral Resources
DRC	Democratic Republic of Congo
DRI	Direct reduced iron
e	estimate
EAF	Electric-arc furnace
EU	European Economic Union
FOB	free on board
FOR	free on rail
FSU	Former Union of Soviet Socialist Republics (USSR)
g	gram
Ga	giga year
g/t	gram per ton
GAR	gross as received
GWe	net gigawatts electric
ILZSG	International Lead and Zinc Study Group
INSG	International Nickel Study Group
kcal	kilocalorie
kg	kilogram
kg/t	kilogram per metric ton
km	kilometre
kt	kiloton
kt/a	kiloton per annum
lb	pound avoirdupois
LME	London Metal Exchange
m	metre
m^3	cubic metre
Ma	million years
mic	metal-in-concentrate
Mct	million carats
Mozt	million ounces troy
Mozt/a	million ounces troy per annum
Mt	megaton (million tons)
Mt/a	million tons per annum
MVA	megavolt ampere
MWh	megawatt hour
na	not available
nar	not as received
ns	not specified
NW	North West Europe
ozt	troy ounce
pa	per annum
PGMs	platinum-group metals
ppm	parts per million
R	rand (South African currency)
SA	South Africa
S.ton	Short ton
t	metric ton
t/a	tons per annum
TCF	trillion cubic feet
UAE	United Arab Emirates
US	United States of America
USBM	United States Bureau of Mines
USGS	United States Geological Survey
w	withheld
WBMS	World Bureau of Metal Statistics
y	year
y-o-y	year-on-year
$	US dollar, unless stated otherwise
C$	Canadian dollar
£	British pound sterling
%	per cent

EXPLANATORY NOTES

Reference	Due to space limitations, only the sources of statistical information are given. The absence of a source reference to statistical data indicates that such data was sourced from the Directorate: Mineral Economics database of mineral production, sales and labour in South Africa. A bibliography is presented in Part Three.
Mineral Resource	Mineral Resource covers in situ mineralization as well as dumps or tailings, which have been identified and estimated through exploration/assessment and sampling from which mineral reserves may be derived by the application of modifying factors.
Minerals Reserve	In this publication, mineral reserve refers to the economically mineable material derived from a measured and indicated mineral resource. It includes diluting materials and allows for losses that are expected to occur when the material is mined. Appropriate assessment to a minimum of pre- feasibility study for a project or a Life of Mine Plan for an operation, must have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors.

PART ONE: SOUTH AFRICA'S MINERAL INDUSTRY

GENERAL REVIEW

P Mwape, L Malebo, E Mokwena, T Tjatjie, M Mnguni, M Mahote, A Andreas, R Masetlana, K Menoe

INTRODUCTION

The South African mining industry is long recognized as the most prominent sector and despite the fact that it is only the sixth largest contributor to total Gross Domestic Product (GDP) at present, it is still regarded as a cornerstone of the economy and the largest employer. Other sectors that contribute significantly to the country's economy are: manufacturing, electricity, financial services, tourism, communications and construction.

Demand for the majority of commodities that South Africa possesses has played a major role in growing the economy of the country. The mining industry is a well-established and resourceful sector of South Africa's economy and has a high degree of technical expertise as well as the ability to mobilize capital for new development. It has provided the impetus for the development of an extensive and efficient physical infrastructure and has contributed greatly to the establishment of the country's secondary industries. With the diversity and abundance of its natural resources, South Africa is a leading producer and supplier of a range of minerals and produced approximately 53 different minerals from 1 548 mines and quarries in 2009 as well as exported to approximately 80 countries. Gold was produced from 53 mines, platinum-group metals (PGMs) from 45 mines, coal from 108 mines and diamonds from 395 mines, all as primary commodities.

STRUCTURE OF THE MINING INDUSTRY

South Africa is now in its second decade of a constitutional democracy that has endorsed the principles of private enterprise within a free-market system, offering equal opportunities for its entire people. The State's influence within the mineral industry is not only confined to orderly regulation and the promotion of equal opportunity for all its citizens and investors, but also participates in mining operations through state owned companies like Alexkor, African Exploration Mining and Finance Corporation (Pty) Ltd (AEMFC), Industrial Development Corporation (IDC) etc.

Private Sector

Corporate restructuring of the South African mining industry remains an ongoing exercise. Apart from geological resources and output, South Africa remains the centre of some of the largest mining companies in the world. The introduction of the Mining Charter in South Africa was aimed at transforming the mining industry to redress historical imbalances, so that the industry is consistent with the changes in the country's overall transformation of its social, political and economic landscape. The transformation of the mining industry has included the consolidation of ownership through minority buy-outs, separation of large diversified companies into two or more specialised companies as well as the purchase of South African mining assets by foreign companies.

Some of the associations related to the development and growth in the South African mining industry includes:

The *Chamber of Mines* of South Africa is a voluntary, private sector employers' organisation founded in 1889, three years after gold was discovered on the Witwatersrand. The Chamber is an association of mining companies and mines operating in the gold, coal, diamond, platinum and other mineral commodity sectors. Today, the organisation acts as the principal advocate of the major policy positions endorsed by mining employers. The Chamber represents the formalised views of its membership to various organs and spheres of governments, and to other relevant policy-making and opinion-forming entities, both within and outside of the country. The Chamber is represented in the Minister of Mineral Resources' Advisory Board, whose founding is rooted in Chapter 5 of the MPRDA.

The *South African Mining Development Association (SAMDA)* started in 2000 as a junior mining initiative by a group of people associated with various South African junior and BEE mining companies. SAMDA's mission is to create an enabling environment for raising finance, developing technical and other skills,

practising responsible environmental management and sustainable development and the maintenance of standards of good practices in the junior mining sector.

Workers in the mining industry are represented by the following organisations:

- The National Union of Mineworkers (NUM) which was formed on 4 December 1982. The NUM is the largest recognised collective bargaining agent representing workers in the Mining, Construction and Electrical Energy Industries in South Africa and the largest affiliate of COSATU, with offices in all the South African Provinces.

- The United Association of South Africa (UASA), which plays an important role in the international labour arena, joining hands with various international federations that promote global solidarity among workers of the world in their struggle against the negative effects of globalisation of the economy. Through its affiliation with the International Federation of Transport Workers (FIOST), the International Confederation of Free Trade Unions (ICFTU), and the World Confederation of Labour (WCL).

- Solidarity, a larger movement which fights for the rights of its members and their communities.

Many co-operative organizations serve the interests of the smaller groups and independent operators, or specific sectors of the industry. These include the Aluminium Federation of South Africa, the South African Copper Development Association, the Ferro-Alloy Producers Association, the Engineering Industries Federation of South Africa, the Southern Africa Stainless Steel Development Association, the Diggers Association and the Aggregate and Sand Producers Association of South Africa.

Government

Ownership, access and opportunity in regard to the country's mineral resources are regulated by the Mineral and Petroleum Resources Development Act of 2002 (MPRDA), which recognizes the state's custodianship over the country's mineral resources. The MPRDA regulates the prospecting for, and optimal exploitation, processing and utilisation of minerals, provides for safety and health in the mining industry, and controls the rehabilitation of land disturbed by exploration and mining. This Act defines the entire regulatory environment of the minerals industry, from rights and ownership to mineral sales and beneficiation. It also pertains to all other industries and entities that have an influence on the minerals business.

The Act's main objectives are to:

- recognize State custodianship of all mineral resources within the Republic of South Africa;
- promote equitable access to the nation's mineral resources, especially among historically disadvantaged South Africans;
- promote investment, growth and employment in the mineral industry thus contributing to the country's economic welfare;
- provide for security of tenure in respect of existing prospecting and mining operations;
- give effect to section 24 of the Constitution by ensuring that the nation's mineral resources are developed in an orderly and ecologically sustainable manner; and
- ensure that holders of mining rights contribute towards the socio-economic development of the areas in which they are operating.

Recognizing State custodianship of natural resources has brought South Africa in line with international best practice. This more universally recognized mineral rights system has led to the freeing-up of unused old order rights and hitherto effectively sterilized privately-owned mineral rights in prospective mineral terrains, which attracts international exploration and mining companies and increases the level of competition among local players.

The Act also aims to assist historically disadvantaged South Africans aspiring to conduct prospecting or mining activities, with the proviso that such assistance is fair and equitable and does not harm the interests of other parties. The Act provides a safe haven for owners of existing rights, or for those whose applications were being processed at the time of enactment and guarantees security of tenure in respect of prospecting and mining operations. Furthermore, this gives the holder of an "old order" mineral right an opportunity to comply with the provisions of the Act and also to promote equitable access to the country's mineral and petroleum resources.

The Advantages of the new system of State custodianship of mineral rights in South Africa

- The change from a dual system of ownership to a singular system where the state controls the ownership of mineral rights on behalf of the nation has facilitated access to mineral terrains for new entrants into the mining and minerals industry thus stimulating private sector activity.
- State control of mineral rights removes difficulties in legal and administration costs and delays caused by a fragmented mineral right holdings structure.
- The system of state custodianship of mineral rights enables the state to enforce the submission and release of exploration information, thereby avoiding the duplication of exploration activities.
- State custodianship of mineral rights prevents the hoarding of mineral rights and allows equal and equitable access to potential investors.

Review of the Mining Charter

The first mining charter of 2002 was developed on the principles of co-determination with all stakeholders in South Africa's mining industry. This charter provided for a review after 5 years in terms of progress made by all stakeholders. Through the second mandate of the Mining Industry's Growth, Development and Employment Task Team (MIGDETT), which started during the latter part of 2009, competitiveness and transformation were identified as mutually reinforcing attributes that will position the South Africa's mining industry along a sustainable growth path. On 30 June 2010 mining stakeholders represented in MIGDETT (Chamber of Mines, SAMDA, NUM, UASA and Solidarity) affirmed their commitment by signing a Declaration on the strategy for the sustainable growth and meaningful transformation of South Africa's mining industry. The declaration formed basis for the Mining Charter review, and it thus against this background that the revised Mining Charter is located within the broader context of the strategy. The revised Mining Charter which includes "sustainable development" as an additional element was published on the 13 September 2010.

Other Mining Policy Amendments

- Chapter XVI of the Mining Rights Act, (Act No 20 of 1967) in the form of the Precious Metals Act, 2005 (Act No. 37 of 2005);
- The Diamonds Act, 1986 (Act No 56 of 1986) in the form of the Diamonds Amendment Act, 2005 (Act No 29 of 2005), and the Diamonds Second Amendment Act, 2005 (Act No 30 of 2005).
- Geoscience Amendment Act, 16 of 2010
- The Housing and Living Conditions Standards for the Mining and Mineral Industry; and
- The Codes of Good Practice for the Mining and Mineral Industry

The Precious Metals Act, 2005 (Act No. 37 of 2005)

The objective of this Act is to provide for acquisition, possession, smelting, refining, beneficiation, use and disposal of precious metals. Precious metals include gold and the platinum group metals (PGMs). Since silver is produced as a byproduct and of its low value (price) compared to other precious metals, it has been excluded from the definition of precious metals.

The Diamonds Amendment Acts, 2005 (Act No. 29 of 2005 and Act No. 30 of 2005)

The rationale for the amendment of the Diamonds Act, 1986 (Act No.56 of 1986) was to: increase access to rough diamonds for jewellery manufacturing in South Africa, maintain security of supply of rough diamonds, promote the beneficiation of diamonds in South Africa, thus creating jobs and increasing participation especially from Historically Disadvantaged South Africans throughout the diamond value chain.

Housing and Living Conditions for the Mineral Industry

The Housing and Living Conditions were gazetted in April 2009, with an objective of developing basic guidelines aimed at fostering suitable housing and living conditions standard for mine workers and to ensure a decent standard of housing for mine workers.

The Codes of Good Practice for the Mineral Industry

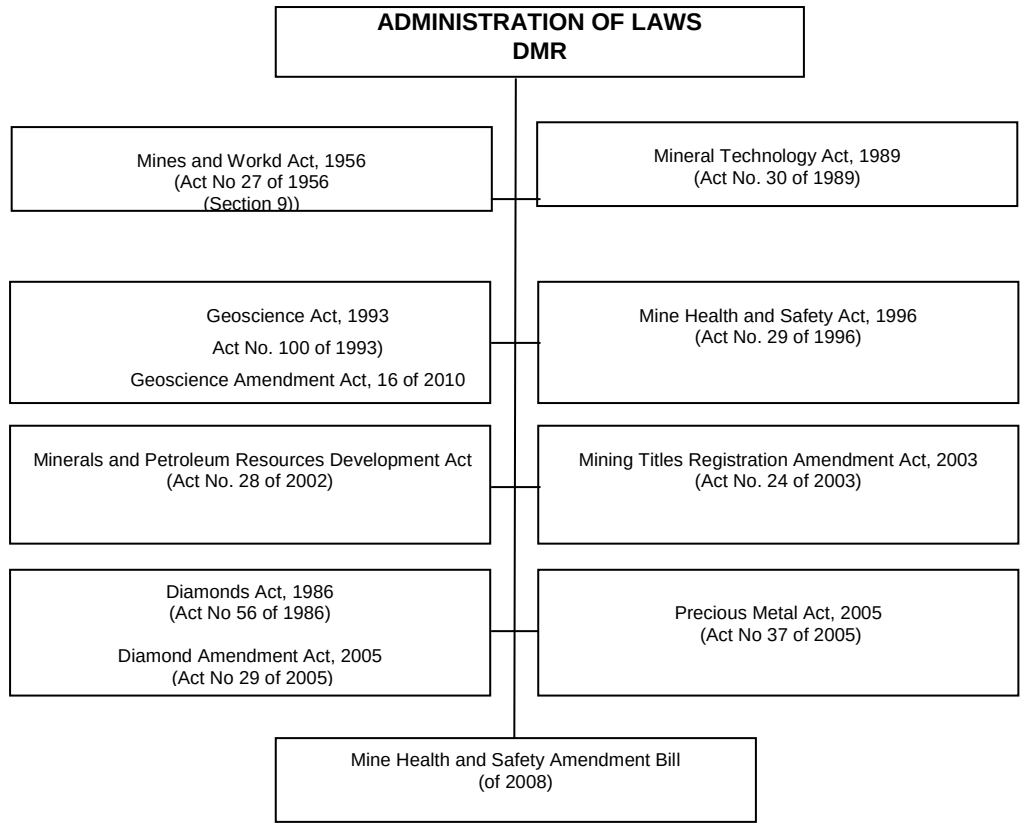
The objective of this Document is to create an industry that will proudly reflect the promise of a non-racial, non-sexist and prosperous South Africa and to set out administrative principles in order to facilitate the effective implementation of the minerals and mining legislation and enhance the implementation of the

Broad-Based Socio-Economic Charter applicable to the mining industry and to give effect to section 100(1)(b) of the Mineral and Petroleum Resources Development Act, 2002.

Department of Mineral Resources (DMR)

The Department of Minerals and Energy was divided into two separate departments in 2009 namely, Mineral Resources and Energy. The Department of Mineral Resources (DMR) assumes the custodianship of all mineral resources in the Republic of South Africa on behalf of its citizens. To this end, the department is enjoined with the responsibility of administering and regulating the mining industry. Various specialised divisions of the DMR and associated institutions are responsible for the administration of the mining and regulations (Figure 2) and for promoting the development of the industry. Mining is regulated by three branches, viz the Mineral Policy and Promotion branch, Mineral Regulation branch and the Mine Health and Safety Inspectorate.

FIGURE 2: SUMMARY OF SOUTH AFRICA'S ADMINISTRATION OF MINERAL LAWS



Source: DMR

The *Mineral Policy and Promotion Branch* of the DMR is responsible for formulating and promoting mineral-related policies that will encourage investment in the mining and minerals industry, making South Africa attractive to investors. The branch consists of three Chief Directorates: Mineral Policy that develops and reviews policies; Economic Analysis that provides macro-economic analysis and policy implications; and Mineral Promotion that promotes mineral investment and advises on trends in the mining industry.

The *Mineral Regulation branch* regulates the mining and minerals industry by managing the administration and evaluation of prospecting and mining rights in the country. This branch also plays a significant role in facilitating the transformation of the minerals and mining industry by providing equitable access to, and sustainable development of, the nation's mineral and petroleum resources, especially to increase participation by historically disadvantaged South Africans while contributing towards poverty eradication and maintaining a safe environment. The Mineral Regulation branch consists of three Chief Directorates that are accountable for all matters relating to mineral regulation within the nine regions. The Central Region is responsible for Gauteng, Free State and Northern Cape provinces; Western Region is responsible for North West, Western Cape and Mpumalanga provinces; while the Eastern Region is responsible for Limpopo, KwaZulu Natal and Eastern Cape provinces.

The *Mine Health and Safety Inspectorate* (MHSI) is responsible for implementing mine health and safety legislation. The Inspectorate ensures the safe mining of minerals under healthy working conditions and is represented in the various provinces by Principal Inspectors.

The DMR conducts regulatory and promotional activities in association with several, highly specialised associated institutions of government.

The Council for Geoscience undertakes geological mapping and carries out studies pertaining to the identification, nature, extent and genesis of ore deposits and also maintains national databases of the country's geoscientific data and information.

Mintek assists the minerals industry to operate more effectively by developing and making available the most appropriate and cost-effective mineral recovery and mineral beneficiation technologies. It is engaged in the full spectrum of minerals research: from the mineralogical examination of ores to the development of processing, extraction and refining technologies and also conducts research into: the production of added value products and feasibility and economic studies. Much of this work is carried out in close liaison with the local and international minerals and metallurgical industries.

The South African Nuclear Energy Corporation (NECSA) undertakes and promotes research and development in the field of nuclear energy technology and radiation sciences in order to process source material, special nuclear material and restricted material as described in Nuclear Energy Act, No 146, 1999, Sections 2(a), 2(b) and 2(c).

The Council for Scientific and Industrial Research (CSIR) conducts, inter alia, research related to specific minerals, brown fields mineral exploration, air quality, water pollution and purification, as well as mining and mineral processing technologies. The CSIR's Division of Natural Resources and Environment in the mining category focuses its research and development on the mining industry. Major research activity in this division focuses on the most crucial challenges threatening the health and safety of the underground workforce and overcoming a variety of technological challenges that impact on profitability in the mining industry. The division conducts fundamental research and technology development and provides general advice and assistance relating to the improvement of the underground environment and strata control, reduction of hazardous conditions associated with rock pressure in mining operations, as well as development of new or improved mining systems and equipment.

The South African Diamond & Precious Metals Regulator (SADPMR) was established by Section 3 of the Diamonds Act, 1986 (as amended in 2005), and replaced the South African Diamond Board which was de-listed as a Schedule 3A public entity in March 2007. The South African Diamond Board was established in 1987 in terms of the Diamond Act, Act 56 of 1986 to regulate control over possession, the purchase, and sale of diamonds, the processing and the export of diamonds.

The State Diamond Trader (SDT) is a state owned entity established in terms of Section 14 of the Diamonds Amendment Act, 29 of 2005. The SDT's main business is to buy and sell rough diamonds in order to promote equitable access to and beneficiation of diamond resources. The main aim of the SDT is to address distortions in the diamond industry and correct historical market failures to develop and grow South Africa's diamond cutting and polishing industry. The entity is eligible by law and proclamation to purchase up to 10% of the run of mine from all diamond producers in South Africa, and sell to registered customers through their application and approval process.

Petroleum Agency South Africa (PASA), promotes exploration for onshore and offshore oil and gas resources and their optimal development on behalf of government, as designated in terms of the Mineral and Petroleum Resources Development Act. The Agency regulates exploration and production activities, and acts as the custodian of the national petroleum exploration and production database.

Most of South Africa's institutions of higher education (universities and universities of technology) are not only responsible for the training of professional and technical personnel required by the mineral industry but also undertake mineral and/or mining research. The mining industry **strives** to conform to strict professional ethics and competitive technical practices through organisations such as the Geological Society of South Africa (GSSA), the Southern African Institute of Mining and Metallurgy (SAIMM) and the South African Council for Natural Scientific Professions (SACNASP).

MINERAL INDUSTRY STRENGTH

South Africa's development has been built on the country's enormous mineral resources, found in the following exceptional geological formations and settings:

- The Witwatersrand Basin yields some 93 percent of South Africa's gold output and contains considerable resources of uranium, silver, pyrite and osmiridium;
- The Bushveld Complex is known for its platinum-group-metals (with associated copper, nickel and cobalt mineralisation), chromium and vanadium bearing titaniferous iron ore formations as well as large deposits of the industrial minerals, including fluorspar and andalusite;
- The Transvaal Supergroup contains enormous resources of manganese and iron ore;
- The Karoo Basin extends through Mpumalanga, KwaZulu-Natal, Free State as well as Limpopo Province hosting large bituminous and anthracite coal resources;
- The Palaborwa Igneous Complex hosts extensive deposits of copper, phosphate, titanium, vermiculite, feldspar and zirconium ores;
- Kimberlite pipes host diamonds that also occur in alluvial, fluvial and marine settings;
- Heavy mineral sands contain ilmenite, rutile and zircon;
- Significant deposits of lead-zinc ores associated with copper and silver are found in the Northern Cape near Aggeneys.

South Africa accounts for 88 percent of recognized global reserves of platinum group metals (PGMs), 80 percent of manganese, 72 percent of chrome, 32 percent of vanadium and 13 percent of gold (Table 1). The bulk of the identified mineral resources and reserves were discovered by means of conventional exploration methods, and there is still considerable potential for the discovery of other world-class deposits in areas yet to be exhaustively explored with modern exploration technology. As a major mining country, South Africa's strengths include a high level of technical expertise as well as research and development activities. In addition, the new mining legislative framework facilitates access to permits/rights for interested parties.

TABLE 1 – SOUTH AFRICA'S ROLE IN WORLD MINERAL RESERVES, PRODUCTION AND EXPORTS, 2009

COMMODITY	RESERVES				PRODUCTION				EXPORTS			
	Unit	Mass	%	Rank	Unit	Mass	%	Rank	Unit	Mass	%	Rank
Aluminium[+]		*	*	*	kt	1025			kt	538	3,1	7
Alumino-silicates	Mt	51	*	*	kt	265	60,2	1	kt	109		*
Antimony	kt	350	16,7	3	t	3 000	1,6	3	t	*	*	*
Chrome Ore	**Mt**	**5 500**	**72,4**	**1**	**kt**	**6 762**			**kt**	**1035**		
Coal	Mt	30 408	7,4	6	Mt	250,6	3,6	7	Mt	60,5	6,4	5
Copper	Mt	13	2,4	14	kt	89	*	*	kt	27	*	*
Ferro-chrome		*	*	*	kt	2 346	39,2	1	kt	2 621	56,5	1
Ferro-Mn/Fe-Si-Mn		*	*	*	kt	392	*	*	kt	411	*	*
Ferro-silicon		*****	*****	*****	**kt**	**148,9**	**2,9**	**6**	**kt**	**82,0**	**2,1**	**1**
Fluorspar	Mt	80	17	2	kt	180	3,5	5	kt	*	*	*
Gold	t	6 000	12,7	1	t	197	7,8	5	t	180	*	*
Iron Ore	Mt	1 500	0,8	13	Mt	55,4	3,5	6	Mt	44,6	4,7	5
Lead	kt	3 000	2,1	6	kt	49	1,2	10	kt	47	1,9	14
Manganese Ore	Mt	4 000	80,0	1	kt	4 576	17,1	2	kt	3 978	26,6	2
Nickel	Mt	3,7	5,2	8	kt	34,6	2,4	12	kt	27,3	*	*
PGMs	t	70 000	87,7	1	t	271	58,7	1	t	251	*	*
Phosphate Rock	Mt	2 500	5,3	4	kt	2 237	1,4	11	kt	0	*	*
Silicon Metal		*****	*****	*****	**kt**	**38,6**	**2,8**	**6**	**kt**	**38,4**	**3,5**	**6**
Silver		*	*	*	t	77,8	0,4	20	t	70	*	*
Titanium Minerals	Mt	71	9,8	2	kt	1 100	19,2	2		*	*	*
Uranium	kt	435	8	4	t	623	1,3	10		*	*	*
Vanadium	kt	12 000	32,0	2	kt	11,6	25,4	1	kt	11,9	*	*
Vermiculite	Mt	80	40,0	2	kt	194,3	35	1	kt	164,6	*	*
Zinc	Mt	15	3,3	8	kt	29	0,2	25	kt	5	0,1	24
Zirconium	Mt	14	25	2	kt	395	32	2		*	*	*

Sources: *USGS, Mineral Economics Directorate*
Notes: *Full details given in respective commodity chapters*
[+] *Figure under Reserves refers to metal production capacity*
** Information not available*

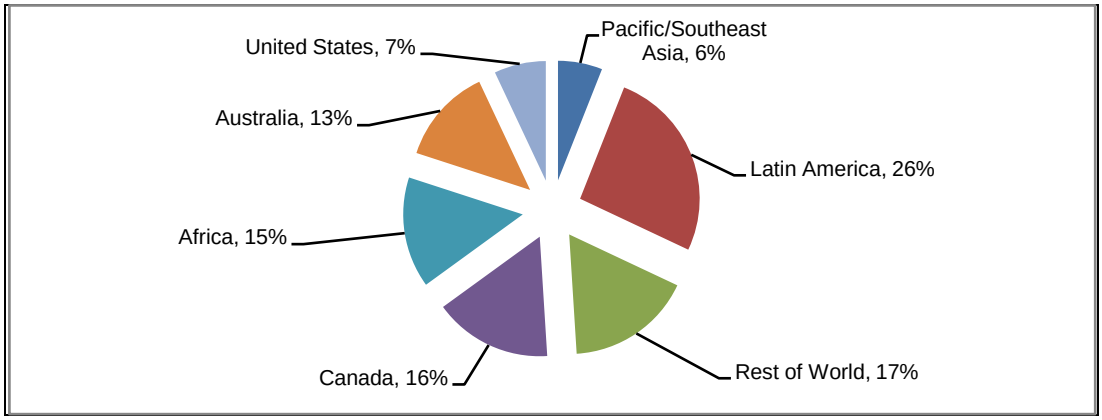
South Africa accounts for over 30 percent of the global production of ferrochromium, PGMs and alumino-silicates. It is also the world's leading producer of chrome ore, vermiculite and vanadium, and is among the top three producers of manganese ore, titanium minerals and antimony. The mining industry is also a leading exporter of mineral commodities, including PGMs, gold and vanadium (but not ranked due to lack of data from other countries), and a major exporter of manganese ore. Other important export commodities include ferro-manganese and fluorspar.

MINERAL EXPLORATION

Research conducted by Citigroup indicates that the country's non-energy mineral reserves are worth $2.5 trillion, making South Africa the world's richest country in terms of mineral resources. South Africa's mineral exploration budget decreased from $0.378 billion in 2008 to $0.2196 billion in 2009, accounting for 3 percent of the world exploration expenditure. The total world exploration expenditure suffered a decrease of 41.9 percent from $12.6 billion in 2008 to $7.32 billion in 2009, the largest annual decline in over 20 years owing to a reduction in exploration spending due to the global economic crisis. Most countries either cancelled or postponed exploration projects, with various regions experiencing a decline in exploration allocations for the first time in seven years.

The share of the world's total exploration budget for all three exploration stages dropped, with grassroots decreasing from 36 percent to 32 percent, late stage from 42 percent to 41 percent and mine site exploration budget from 22 percent to 27 percent, of the world exploration expenditure.

FIGURE 3: EXPLORATION EXPENDITURE BY REGION, 2009



Source: Metal Economics Group, 2009

Although Canada and Australia's share of world expenditure dropped from 19 percent to 16 percent and from 14 percent to 13 percent respectively, both countries continued to lead the world. South Africa dropped to 10th position from 9th position ranking in world exploration spending. Exploration expenditure is primarily driven by demand for specific commodities, the potential for discovery and the investment and regulatory environment. During 2009, the world experienced declining demand and prices for most commodities and this had adverse effects on the exploration strategies of most countries. South African mining companies have also adopted aggressive exploration strategies beyond the borders of the country, motivated largely by shallow deposits found in those countries.

Since the inception of the MPRDA in 2004, a total amount of 25 867 applications for prospecting and exploration rights were received by the Department of Mineral Resources, indicative of the continuing interest in exploration activities in South Africa, with PGM's, diamonds, gold, uranium and coal being the dominant targets. Exploration expenditure is expected to increase as the world economy slowly recovers from the recessionary conditions.

South Africa has the potential to supply a large share of the global demand for many commodities, but its rich endowment of natural resources and high mineral potential can only be developed and extended through a vibrant exploration sector. Factors that limit South Africa's ability to increase exploration activities include intense global competition for exploration investment and the cyclical nature of the mineral industry. In June 2010, the mining industry's stakeholders signed a declaration which symbolized commitment in positioning South Africa's mining industry on a trajectory of sustainable growth and meaningful transformation, which identified investment in mineral exploration as fundamental to the growth of South Africa's mining industry.

INFRASTRUCTURE DEVELOPMENTS

South Africa is one of the most sophisticated and promising emerging markets in the world. The unique combination of a well developed First-World economic infrastructure, and a rapidly emerging market economy, has given rise to an entrepreneurial and dynamic investment environment with many global competitive advantages and opportunities. Being a leading producer and supplier of a range of minerals, the country offers a highly competitive investment location ensuring that it can meet specific trade and investment requirements of prospective investors and business people, whilst meeting the development needs of its populace. The implementation of the Precious Metals Act, 2005 as well as the Diamond Second Amendment Act, 2005 is expected to increase investment in South Africa's mineral industry by ensuring the continuation of a competitive business environment and the lowering of barriers to entry. The Southern African subcontinent will also benefit from improved regional co-operation, seeking to harmonize legislation governing the mining industry.

South Africa boasts the most modern and extensive infrastructure in Africa, with a highly developed transport infrastructure consisting of extensive road and rail networks. Transnet is a public company recognised as a dominant player in the Southern African transport infrastructure, aimed at both supporting

and contributing to the country's freight logistics network. Its activities extend beyond the borders of South Africa into Africa and the rest of the world. Transnet Freight Rail (TFR) is the largest division within Transnet, representing the group's rail freight transport interests. The total rail infrastructure comprises 30 000 km of track, of which about 1 500 km comprises heavy–haul lines. There are dedicated railway lines for iron ore from Sishen, in the Northern Cape to Saldanha Bay on the west coast, and another for transporting coal from the coal fields of Mpumalanga to the Richards Bay Coal Terminal (RBCT) on the east coast.

Portnet is the largest port authority in Southern Africa, with the best-equipped and most efficient network of ports in Africa. The network connects the ports of South Africa and the rail networks of the Sub Saharan region. Most of South Africa's minerals are exported through five major ports, of which the largest are Richards Bay (capacity 61.14 Mt for coal exports), Saldanha Bay (32.8 Mt, chiefly for iron ore exports) and Durban (29.7 Mt, mainly for liquids, containers and break bulk cargoes). The Port of Ngqura being developed near Port Elizabeth in the Eastern Cape will increase the country's port capacity substantially.

South Africa boasts an outstanding telecommunications infrastructure, which has shown a rapid growth of the mobile telephone communications across the country. The Department of Communications is working on the development of an Integrated National ICT Policy Framework, which seeks to promote the convergence of technologies and stimulate the growth of the economy in line with the objectives of the National Industrial Policy. It aims to encourage e-commerce activities and expand ICT infrastructure, linking rural and urban communities as well as uplifting the poor. The number of South African Internet users passed the five-million mark for the first time in 2008, finally breaking through the 10% mark in Internet penetration for the country. This is a key finding of the Internet Access in South Africa 2010 study, conducted by World Wide Worx, released in January 2010. Telkom is the largest provider of communications services in Africa, with the second landline operator being Neotel.

Electric power is generated by the country's electricity utility, Eskom. As part of Eskom's Build Programme additional power stations and major power lines are being built on a massive scale to meet rising electricity demand in South Africa. Eskom's capacity expansion budget between 2010 and 2013 is R385 billion and is expected to grow to more than a trillion rand by 2026. Ultimately, Eskom plans to double its capacity to 80 000MW by 2026. In order to diversify energy sources and reduce South Africa's over-reliance on coal , the Government's renewable energy policy has set a target for a 4 percent contribution or about 10 000 GWh of electricity to be produced from renewable sources by 2013. The prevailing power situation has instigated some power intensive operations (e.g. International Ferro Metals and Tata Ferrochrome) to consider the adoption of co-generation technologies to supplement their electricity requirements. There is also a dedicated drive to invest in research and development for energy efficient technologies to promote energy efficiency and reduce carbon emissions.

South Africa's banking system is well-developed, which sets it apart from many other emerging economies, offering a mature market with a good regulatory and legal framework. The South African Reserve Bank (SARB) oversees the local banking services industry. The non-banking financial services industry is governed by the Financial Service Board (FSB). The South African banks are well capitalised and managed; as well as have prowess sophisticated risk-management systems and corporate-governance infrastructures comparable to First World economies. The International Monetary Fund's (IMF's) Article Report released on 10 September 2009, noted that the country's economy had weathered the effects of the financial crisis relatively well, due to the sound macroeconomic policies, underpinned by a consistent and transparent policy framework and a well-supervised financial system.

South Africa has a sizeable labour pool and a Human Development Index (HDI) survey, conducted by the United Nations in about 177 countries, places South Africa at 121 as a medium human development country. The Government, through the Amended Skills Development Act of 2003 tightened regulations to ensure continuous improvement in the skill development strategies across all industrial sectors. The Mining Qualifications Authority (MQA) is responsible for the provision and administration of skills development projects for the mining and minerals sector.

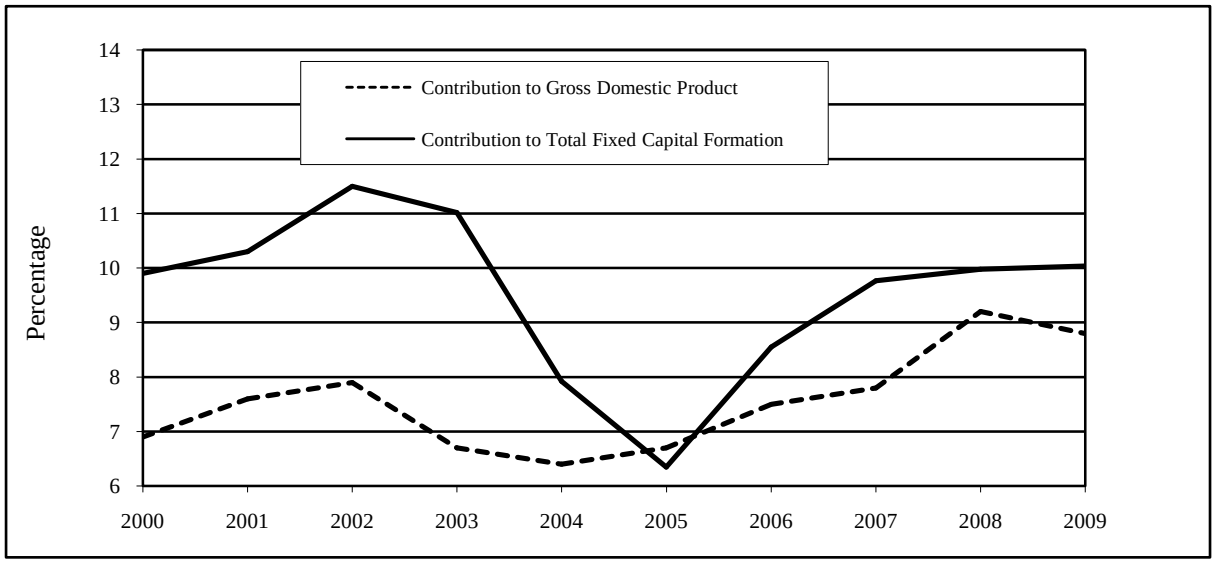
ROLE OF MINING IN THE NATIONAL ECONOMY

The mining industry continues to play a strategic role in South Africa's economic growth and development. In 2009, the real value added by mining in current prices contributed R212.5 billion ($25.28 billion) or 8.8 percent to Gross Value Added (GVA), an increase of R2.4 billion over the previous year (Figure 4 and Table 2). The increase in the value added by mining can be attributed to factors such as the slight depreciation of the rand/dollar exchange rate and low cost of consumables, since GVA at basic prices is the difference between output at basic prices and costs of intermediate consumables. However, the real value added by the mining sector in constant prices (2005) recorded a decrease of 7, 2 percent from 2008

to 2009. It is important to note that, if the value-added contribution of processed minerals (presently included in the manufacturing sector's figures) were added to that of mining and quarrying, the contribution of mining to the national accounts would be significantly higher, at approximately 20 percent.

During 2009, mining and quarrying contributed 10.0 percent to Gross Fixed Capital Formation (GFCF) (Figure 4 and Table 2). The contribution of mining to GFCF remained the same despite a sharp reduction in private sector investment in response to the global financial crisis. The contribution of mining to both fixed capital formation and gross value added has been increasing at a modest annual average of 0.1 percent. There was however a negative growth between 2002 and 2004, which was the period around which the MPRDA was promulgated and implemented. This decline could be related to uncertainty resulting from a lack of understanding of the guiding principles of the MPRDA and investors' cautious approach to new policies. This assumption can be supported by the upturn in 2005 as the investors gained confidence in the new legislation following the extensive international road show undertaken by the Department to explain the principles of the Act.

FIGURE 4: CONTRIBUTION OF MINING AND QUARRYING TO GROSS DOMESTIC PRODUCT AND TOTAL FIXED CAPITAL FORMATION, 2000 – 2009 (Current Rand Terms)



Source: SARB: Quarterly Bulletin, June 2009

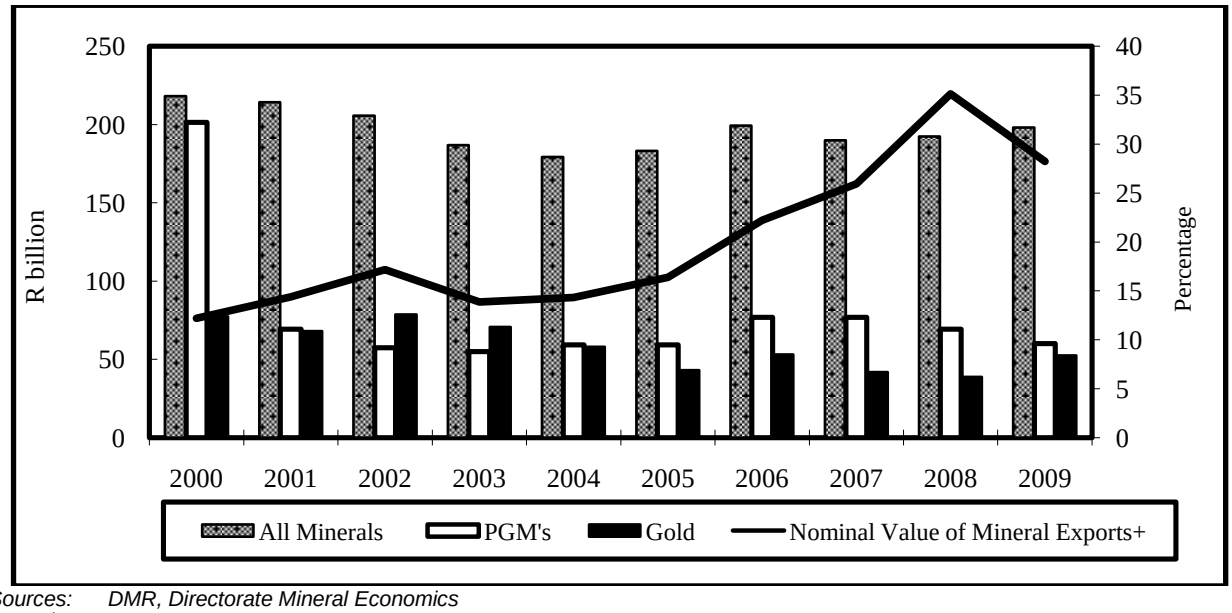
TABLE 2: CONTRIBUTIONS OF MINING AND QUARRYING TO GROSS DOMESTIC PRODUCT, FIXED CAPITAL FORMATION AND TOTAL NATIONAL EXPORTS OF GOODS, 2000–2009 (at current prices)

	CONTRIBUTION TO VALUE ADDED			CONTRIBUTION TO FIXED CAPITAL FORMATION			CONTRIBUTION TO NATIONAL TOTAL EXPORT OF GOODS		
Year	National Gross Domestic Product (basic prices)	From Mining (basic prices)		Total Fixed Capital Formation	From Mining		Total Exports	From Mining	
	R' million	R' million	%	R' million	R' million	%	R' million	R 'million	%
2000	838 217	63 391	7.6	139 647	13 847	9,9	222 061	76 304	34,4
2001	928 216	77 214	8.3	153 525	15 871	10,3	265 832	89 943	33,8
2002	1 065 696*	92 730*	8.7	172 151*	19 802*	11,5	333 251*	109 357*	32,8
2003	1 155 150*	82 770*	7.2	196 999*	21 706*	11,0	291 434*	86 747*	29,8
2004	1 270 600*	91 198*	7.2	226 180*	17 917*	7,9	310 525*	89 546*	28,8
2005	1 401 067*	105 992*	7.6	263 754*	16 743*	6,3	358 361*	102 486*	29,1
2006	1 572 319*	132 301*	8.4	324 083*	27 715*	8,6	447 690*	138 878*	31,8
2007	1 793 147*	156 969*	8.8	406 918*	39 742*	9,8	533 791*	161 755*	30,3
2008	2 058 028*	210 079*	10.2	513 749*	51 266*	10,0	704 293*	219 593	30,8
2009	2 182 054	212 469	9.7	543 392	54 545	10,0	556 432	176 390	31,7

Sources: *DMR, Directorate Mineral Economics*
SARB, Quarterly Bulletin June 2009, pS104 -105
Notes ** Revised figures*

Contribution of primary mineral export sales to South Africa's total export revenue during 2009 decreased by 19,6 percent from R219,5 billion in 2008 to R176,4 billion in 2009. The percentage contribution however, increased by 0,9 percent due to the decrease in exports by other sectors like manufacturing (Figure 5 and Table 2).

FIGURE 5: CONTRIBUTION OF PRIMARY MINERALS TO TOTAL EXPORTS SALES[#], 2000-2009



Sources: *DMR, Directorate Mineral Economics*
Notes:[+] *Includes gold*
[#] *Total exports of goods only, including gold*

In 2009, South Africa exported primary and processed minerals to 82 countries. Europe and the Pacific Rim countries remained the most important export destinations accounting for 73.0 percent of primary minerals and 50.5 percent of the selected processed minerals respectively, exceeding all other destinations (Table 3). When precious metals and minerals are excluded from primary mineral exports, the Pacific Rim countries accounted for 49.9 percent and Europe for 33.2 percent of the total value of exports in 2009. The Pacific Rim region recorded an increase in exports value of both primary and processed minerals, due to higher demand, particularly from China and India, which increased by 35.5 percent and 33.9 percent respectively.

TABLE 3: SOUTH AFRICA'S EXPORT VALUE OF PRIMARY AND SELECTED PROCESSED MINERAL PRODUCTS ACCORDING TO DESTINATION, 2009

REGION	PRIMARY				PROCESSED	
	Including precious metals/minerals %		Excluding precious metals/minerals %		%	
	2008	2009	2008	2009	2008	2009
Europe	79,3	73,0	50,4	33,2	40,0	30,2
Pacific Rim countries	14,3	20,1	34,2	49,9	42,6	50,5
Middle and Near East	1,3	0,9	3,2	2,1	1,4	0,7
North and Central America	0,7	0,3	1,5	0,7	12,8	15,4
South America	0,6	0,3	1,4	1,0	1,2	0,3
Africa	0,6	0,4	1,6	1,0	2,0	2,8
Other	3,2	5,0	7,7	12,1	**	0,1
TOTAL	100	100	100	100	100	100

Sources: *DMR, Directorate Mineral Economics*
*** Not available*

The total state revenue from the mining sector, which includes assessed tax, provisional tax and secondary tax, decreased by 55.0 percent from R30.2 billion in 2008 to R13.2 billion in 2009 (Table 4).

The negative performance of the mining sector can be attributed to the global recession which led to the decline in revenue of exports commodities resulting in the fall of profits and thus causing a decrease in the tax collected from the sector.

TABLE 4: CONTRIBUTIONS OF MINING AND QUARRYING TO STATE REVENUE, 2000–2009

YEAR Ended 31 Mar	Mining Taxation	State Share of Profits and Diamond Exports Duties	Total Revenue	As Percentage of Total State Revenue	State Aid[#]
	R' 000	R'000	R'000	%	R'000
2000	1 072 047	120 083	1 192 130	0,6	27 990
2001	4 499 248	452 903	4 952 151	2,3	34 939
2002[¢]	8 885 713	169 313	9 055 026	3,5	28 914
2003	7 129 959*	1 036 842*	8 164 802*	0,3	20 349
2004	3 877 880*	415 787*	4 293 667*	0,9	32 530
2005	6 789 419*	1 420 486*	8 209 905*	1,0	36 225
2006	14 976 467*	885 895*	15 862 363*	0,3	37 339
2007	18 645 420*	921 932*	19 576 353*	0,1	24 139
2008	29 311 829*	850 444*	30 162 284*	0,1	21 000
2009	13 270 124	297 566	13 567 690	0,2	21 000

Sources: *National Treasury, South African Revenue Service*
DMR: Directorate Financial Planning and Management Accounting
*Notes: * In respect of leased mines*
 # Aid to marginal mines
¢ In 2002, R28 914 000 from State Aid budget was directed to Council for Geoscience for technical investigation on the mines that required State Aid.

Mining continues to make a significant contribution to public finances in terms of the large labour force it employs. In 2009, the mining industry, excluding exploration, research and development organisations and head offices, employed 2.9 percent of South Africa's economically active population (Table 5), or 3.2 percent of all workers in the non-agricultural formal sectors of the economy.

The average number of workers employed in the mining industry decreased by 5.1 percent, from 518 519 in 2008 to 492 219 in 2009, due to the impact of the world economic crisis resulting in downscaling of operations as well as suspension of projects due to decline in commodity demand and prices. However, during the ten year period from 2000 to 2009, a total of 74 660 jobs were created, emphasizing the importance of mining to the economy of South Africa.
Wage income from mining amounted to R66.10 billion in 2009 or 27.4 percent of total mining revenue, an increase in nominal terms of 8.6 percent compared with that of 2008.

TABLE 5: EMPLOYMENT AND WAGES IN SOUTH AFRICA'S MINING INDUSTRY, 2000–2009

YEAR	EMPLOYMENT		WAGES				
	Number employed	As % of total economically active population	Total		Per worker per annum		As % of total mining revenue[#]
			Nominal	Real[+]	Nominal	Real[+]	
			R million		R	R	
2000	417 559*	2,6	22 128	27 407	52 898	64 623*	22,5
2001	406 994*	2,7	24 368	28 595	59 979	69 301*	24,7
2002	415 988*	2,6	26 228	28 339	63 335	67 040*	19,3
2003	435 628*	2,7	30 827	33 056	71 748*	72 740*	26,2
2004	448 909	2,9	33 655	34 124	77 515*	80 146*	26,9
2005	444 132	2,6	36 682	36 703	86 299*	90 305*	25,6
2006	456 337	2,7	39 447	41 756	92 578*	99 149*	20,3
2007	495 150	2,9	50 072	49 924	100 826*	100 527*	22,4
2008	518 519	2,9	60 876	65 193	125 730	134 647*	20,3
2009	492 219	2.9	66 096	66 096	134 282	134 282	27.4

Sources: *Quarterly Labour Force Survey (Stats SA), May 2010*
DMR, Directorate Mineral Economics
Notes: *# Export plus local commodity sales*
+ Deflated by means of the CPI with 2009 as base year
Notes: ** Revised figures*

Provincial employment distribution was distinctly lopsided with five provinces (North West, Mpumalanga, Gauteng, Limpopo and the Free State) employing 91.5 percent of the mining workforce, which in turn earned 90.5 percent of the total remuneration (Table 6).

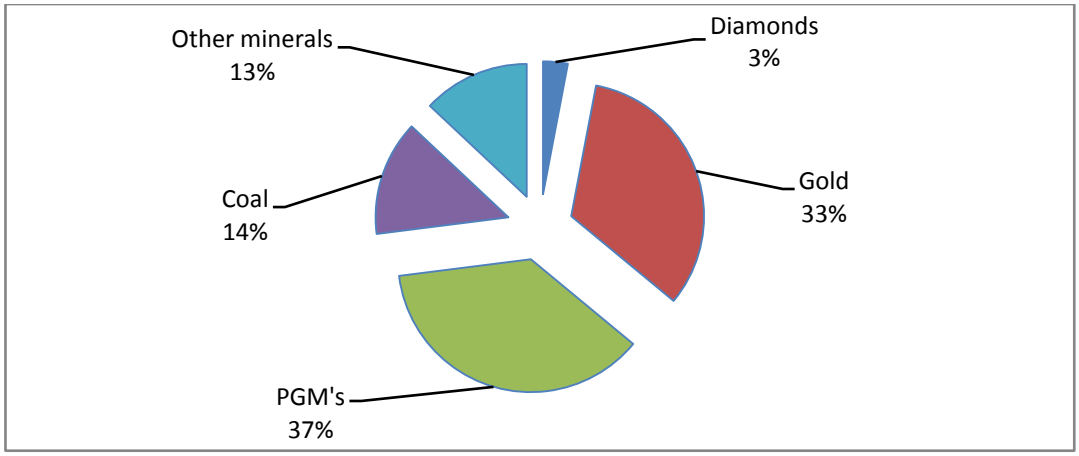
TABLE 6: EMPLOYMENT AND REMUNERATION BY PROVINCE, 2009

PROVINCE	EMPLOYEES		TOTAL REMUNERATION	
	Number	%	R million	%
North West	170 998	34,7	22 338	33,8
Mpumalanga	90 381	18,4	15 131	22,9
Gauteng	81 251	16,5	8 740	13,2
Limpopo	64 124	13,0	8 350	12,6
Free State	43 955	8,9	5 290	8,0
Northern Cape	26 856	6,0	3 929	5,9
KwaZulu-Natal	10 496	2,1	1 770	2,7
Western Cape	3 207	0,7	474	0,7
Eastern Cape	951	0,2	74	1,1
TOTAL	492 219	100	66 096	100

Source: DMR, Directorate Mineral Economics

In 2009, PGMs remained the largest employer, contributing 37.4 percent to the total mining industry's labour force, while gold employed 32.5 percent, despite the 8 and 4 percent decline in both industries compared to 2008 respectively. The diamond industry was hardest hit having dropped by 35 percent from 18 609 employees in 2008 to 12 109 employees in 2009, while the coal industry's employment increased by 8 percent to 70 792 employees in the same period. An increase in the coal industry's employment figures can be attributed to the increasing demand both local and global resulting in expansion projects and newly development mines (Figure 6).

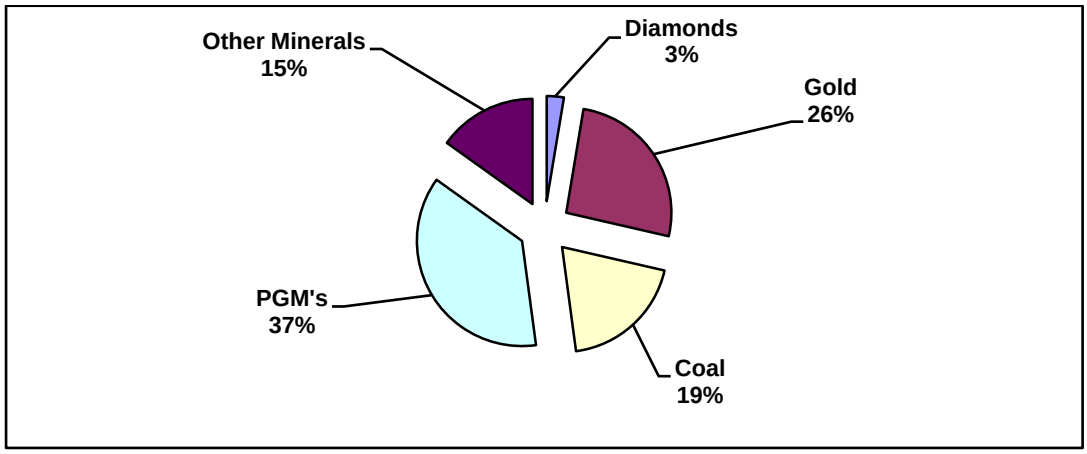
FIGURE 6: MINING INDUSTRY'S EMPLOYMENT BY SECTOR, 2009



Source: DMR, Directorate Mineral Economics

The PGMs industry was responsible for 37 percent of the total remuneration, gold industry for 26 percent and coal accounted for 19 percent, (Figure 7).

FIGURE 7: MINING INDUSTRY'S REMUNERATION BY SECTOR, 2009



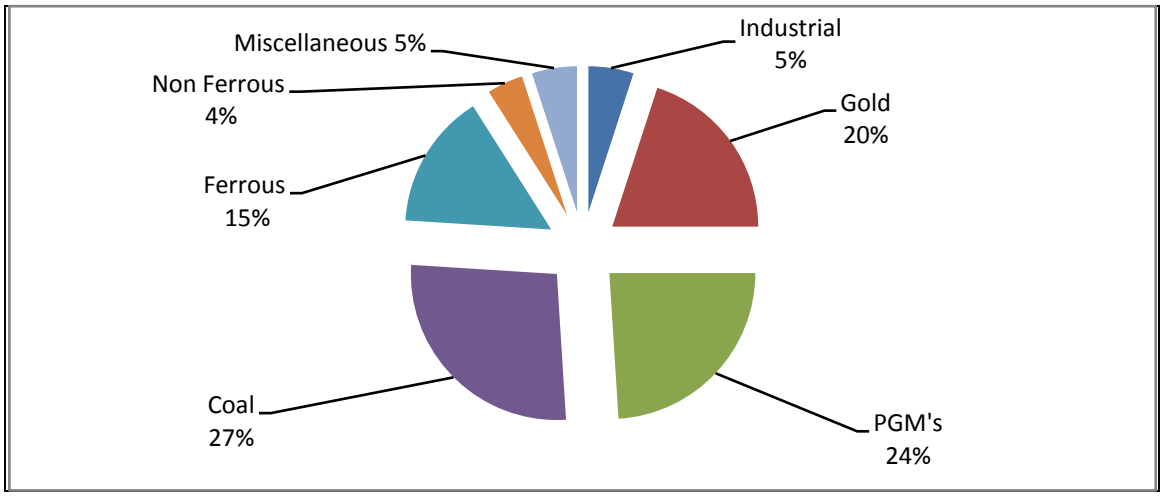
Source: DMR, Directorate Mineral Economics

MINERAL PRODUCTION AND SALES IN 2009

The global economic crisis in 2009, resulted in declining demand for commodities and downward price movement. South Africa's gold and PGMs production decreased by 7.6 percent and 1.6 percent respectively, compared with 2008. The decrease in production in both sectors was largely due to lower grade ore particularly in the gold mines, operational constraints and the decrease in demand for PGMs from the automotive sector. The largest fall in automotive demand came from Europe.

South Africa's total primary mineral sales revenue fell by 19.6 percent from R300.3 billion in 2008 to R241.3 billion in 2009 (Table 8). When the total sales and export sales are expressed in US dollars, the annual decreases were 21.4 percent (from $36.4 billion to $ 28.6 billion), and 11.7 percent (from $26.6 billion to $20.9 billion) respectively. This decrease could be attributed to the declining demand and a decrease in most commodity prices brought about by the global economic crisis. However, the increase in gold price boosted its export revenue which increased by 6.8 percent. Although coal's contribution to total sales revenue decreased by 9.8 percent from R72.5 billion in 2008 to R65.4 billion in 2009 (Figure 8), it emerged as the highest total sales revenue earner due to increased demand both locally and globally particularly from Asia, while PGMs maintained its leading position as the highest export earner with 30.3 percent, followed by gold (26.6 percent) and coal (17.5 percent).

FIGURE 8: CONTRIBUTION OF PRIMARY MINERALS TO TOTAL SALES REVENUE, 2009



Source: DMR, Directorate Mineral Economics

Domestic mineral sales value decreased by 19.6 percent to R64.9 billion in 2009 from R80.7 billion in 2008 and, when expressed in dollar terms, the sales value decreased by 21.4 percent to $7.7billion in 2009 from $9.8 billion in 2008.

The major local income earner for the year was coal at 53.1 percent, followed by metallic commodities at 22.4 percent, and industrial commodities at 15.5 percent while miscellaneous mineral commodities accounted for 9.1 percent of local sales value.

TABLE 7– SOUTH AFRICA'S PRIMARY MINERAL SALES BY PROVINCE, 2009*

PROVINCE	LOCAL SALES (FOR)		EXPORT SALES (FOB)		TOTAL SALES	
	R'000	%	R'000	%	R'000	%
North West	6 108 588	9.4	48 652 361	27.6	54 760 949	22.7
Mpumalanga	30 201 847	46.5	38 583 778	21.9	78 542 176	28.5
Limpopo	12 276 741	18.9	20 700 205	11.7	68 785 625	13.7
Gauteng	2 996 507	4.6	23 644 323	13.4	26 640 830	11.0
Northern Cape	4 320 913	6.7	30 979 460	17.6	35 300 373	14.6
Free State	2 645 462	4.1	10 353 267	5.9	12 998 729	5.4
Western Cape[#]	3 549 499	5.5	1 343 940	0.8	4 893 440	2.5
KwaZulu-Natal	2 448 954	3.8	2 132 226	1.2	4 581 180	1.9
Eastern Cape	407 073	0.6	0	0.0	407 073	0.2
TOTAL[#]	64 955 584	100,0	176 389 560	100,0	241 345 144	100,0

Note: [#] Hydrocarbons were produced and sold at a value of R1 070 million locally
** Revised methodology used, therefore substantial changes from previous years is expected*

The bulk of mineral revenue was generated from North West, Mpumalanga, Northern Cape, Limpopo and Gauteng provinces collectively accounting for 90.5 percent of the total primary mineral sales revenue (Table 7). Mpumalanga emerged as the leading contributor to both local and total sales revenue, with North West province being the major contributor to export sales revenue. Mpumalanga is mainly dependent on coal as a major contributor towards minerals revenue, North West depends on PGMs, Gauteng on gold, Northern Cape on diamonds and Limpopo on PGMs, diamonds, copper as well as coal.

TABLE 8: MINERAL PRODUCTION AND SALES, 2009

COMMODITY		PRODUCTION	LOCAL SALES (FOR)		EXPORT SALES (FOB)		TOTAL SALES	
		Quantity	Quantity	Value (Rmil)	Quantity	Value (Rmil)	Quantity	Value (Rmil)
1. Precious Diamonds	ct	6118 974	**	**	**	**	**	**
Gold	kg	197 628	6 584	1 701	180 597	46 994	187 181	48 695
Platinum-group metals	kg	271 393	**	4 322	188 879	53 459	**	57 782
Silver	kg	77 780	8 070	30	70 128	256	78 198	287
2. Semi-precious stones			*	*	*	*	*	*
3. Ferrous[@]	t	66 753 757	*	4 539	49 561 099	31 442	*	35 981
4. Non-ferrous[+@]	t	207 672	99 584	3 977	105 458	4 906	205 042	8 884
5. Energy Coal	t	250 581 674	184 708 946	34 463	60 463 767	30 934	245 172 713	65 398
Uranium oxide	kg	628 978	**	**	**	**	**	**
6. Industrial[@]				10 037		1 018		11 056
7. Miscellaneous				5 884		7 378		13 262
TOTAL#				64 956		176 390		241 345

Notes: All quantities are in metric tons, unless otherwise specified
***Not available: where applicable, earnings are included under 'Miscellaneous'*
[@] Full details given in respective overview chapters
[+] Excludes titanium and zirconium minerals which are included under Miscellaneous'
** Nil*
[#] In addition Hydrocarbons were produced and sold at a value of R1 070 million locally

SELECTED PROCESSED MINERAL SALES

South Africa is the world's leading producer of chrome and vanadium as well as a leading supplier of their alloys. It is also the major producer of iron and manganese ores. Output for processed minerals decreased by 18.5 percent from 8.1 Mt in 2008 to 6.6 Mt in 2009 due to the decrease in both local and global demand, manganese being the hardest hit showing 48 percent decrease, while chromium and vanadium suffered a 28 and 29 percent declines respectively. This led to a decline in both the total export and local sales of 43 and 53 percent respectively, which reduced the total sales by 45.6 percent from R86.1billion in 2008 to R46.8 billion in 2009 (Table 9).

TABLE 9: PRODUCTION, LOCAL AND EXPORT SALES OF SELECTED PROCESSED MINERAL PRODUCTS, 2009

COMMODITY	PRODUCTION	LOCAL SALES		EXPORT SALES		TOTAL SALES	
		Mass	Value (FOR)	Mass	Value (FOB)	Mass	Value (FOB)
	t	t	R'000	t	R'000	t	R'000
Chromium alloys	2 346 132	432 424	2 252 973	2 620 935	15 881 599	3 053 358	18 134 572
Manganese alloys	392 606	67 628	597 822	413 202	3 624 742	480 830	4 222 564
Vanadium[+]	14 353	1 790	266 968	11 942	1 390 352	13 732	1 657 320
Other: Classified[x]	3 875 533	720 812	6 240 682	2 870 108	16 568 153	3 590 920	22 808 836
TOTAL 2009		1 222 654	9 358 445	5 916 187	37 464 847	7 138 841	46 823 292
TOTAL 2008		1 412 277	17 400 694	6 108 985	68 666 569	7 521 262	86 067 263

Source: DMR, Directorate Mineral Economics
Notes: [+] Contained vanadium.
[x] Comprises aluminium, titanium slag, zinc metal, low-manganese pig iron, silicon alloys and metal, phosphoric acid, and antimony trioxide

Three provinces, viz. KwaZulu-Natal, Mpumalanga and North West collectively contributed 76.6 percent of the total processed minerals sales revenue in 2009 (Table 10). Aluminium and titanium slag dominated the KwaZulu-Natal contribution, whilst more than three quarters of Mpumalanga's total sales revenue was derived from chromium alloys and the North West's total processed mineral sales revenue was derived from chromium alloys and vanadium. These three provinces dominated the export sales revenue, with a combined contribution of 92.9 percent. Chief contributors to local sales revenue were KwaZulu-Natal, Mpumalanga and Gauteng, together aggregating 89.7 percent.

TABLE 10: SALES OF SELECTED PROCESSED MINERAL PRODUCTS BY PROVINCE, 2009

PROVINCE	LOCAL SALES (FOR)		EXPORT SALES (FOB)		TOTAL SALES	
	R'000	%	R'000	%	R'000	%
KwaZulu-Natal	3 917 397	41.9	15 987 637	42.7	19 905 034	42.5
Mpumalanga	2 712 883	29.0	10 755 081	28.7	13 467 964	28.8
North West	536 190	5.7	8 073 067	21.5	8 609 257	18.4
Gauteng	1 761 569	18.8	1 526 625	4.1	3 288 194	7.0
Limpopo Province	349 254	3.7	642 275	1.7	991 529	2.1
Western Cape	81 154	0.9	480 160	1.3	561 314	1.2
TOTAL	9 358 447	100	37 464 845	100	46 823 292	100

Source: DMR, Directorate Mineral Economics

IMPORTS OF SELECTED PRIMARY AND PROCESSED MINERAL PRODUCTS

South Africa is a major producer and exporter of many ores and metals but is nevertheless, a relatively small producer of processed mineral products, particularly the more sophisticated processed products. The country remains a major importer of these mineral products due to the lack of local facilities to further process the minerals to specialized grades. It is for this reason that South Africa has developed a mineral beneficiation strategy, as a counter-cyclical intervention to create opportunities for local and foreign investors to operate proximal to source of mineral production

TABLE 11: IMPORTS OF SELECTED PRIMARY AND PROCESSED MINERAL PRODUCTS, 2009

PRODUCT	VALUE (FOB)		
	2008 R'000	2009 R'000	Year on year % change
Precious			
Diamonds	720 478	691 817	-3.98
Other precious and semi-precious stones *	736 508	214 198	-70.92
Precious metals +	10 582	11 106	4.95
Ferrous@			
Primary	957 743	562 357	-41.28
Processed	29 725	16 878	-43.22
Nonferrous@	261 355	154 238	-40.99
Coking Coal	150 485	168 164	11.75
Industrial@			
Primary	4 630 719	4 323 486	-6.63
Processed	7 576 831	6 927 160	-8.57
Manufactured	1 119 534	1 236 413	10.44
TOTAL#	16 193 961	14 305 817	-11.86

Source: South African Revenue Service, 2009
Notes: Includes natural and synthetic precious or semi-precious stones and dust and powders of these stones
+ Includes alloys containing base metals
@ Full details given in relevant chapters
 # In addition, crude oil to the value of R124 billion was imported during 2008.

The value of the more significant imports during 2009 decreased by 11.86 percent from R16.2 billion in 2008 to R14.3 billion in 2009 (Table 11). The value of imports of processed minerals into the country underpins the importance of adding value to local or imported mineral commodities by means of beneficiation processes or stages. There was a notable decrease in the import value of most primary and processed minerals, despite the depreciation of the rand/dollar exchange and this could be attributed to the declining demand for most commodities, resulting from the global crisis. Semi precious stones, perceived to be luxury commodities, were hard hit recording a drastic decrease of 70.9 percent from R736 million in 2008 to R214 million in 2009. According to the Jewellery Council of South Africa the global crisis also led to the decline in the local manufacturing capacity resulting in the loss of 45 percent of the labour force.

There is vast potential for value addition of the country's minerals for both local and foreign consumption, by developing advanced technological methods and developing skills to produce beneficiated products with the competitive advantage required to penetrate export markets. Apart from the benefit of value added to mineral commodities with each succeeding stage of beneficiation, it will also contribute towards the developmental state's agenda of poverty alleviation and job creation.

REPORTED MINERAL-RELATED PROJECTS IN SOUTH AFRICA

The value of known committed mining and minerals projects in South Africa amounted to R15.7 billion by August 2010, of which 78 percent was for primary minerals and 22 percent for processed mineral products (Table 12). Platinum projects dominated the primary minerals, accounting for 95 percent followed by gold at 5 percent of the total primary mineral investment.

TABLE 12 –COMMITTED MINERAL-RELATED PROJECTS IN SOUTH AFRICA, 2009*

SECTOR	COST R million	COST+ $ million	AS A PERCENTAGE OF PRIMARY MINERALS	AS A PERCENTAGE OF TOTAL MINERAL PRODUCTS
Primary	12 347	1 692	100	78
Gold	685	94	5.5	5.5
Platinum	11 662	1 598	94.5	93.5
Other	0		0.0	0.0
Processed minerals	3 382	464		22
TOTAL	15729	2155		100

Note: +At a Rand/dollar exchange rate of R7.30, as at August 2010

In addition, the value of prospective mining and minerals projects amounted to R6.9 billion (Table 13). These are identified projects in which funds are not yet allocated. Of these, 93 percent is for primary minerals and 7 percent for processed minerals. Again, platinum projects dominate in primary minerals projects accounting for 61 percent followed by gold at 23 percent, and other commodities at 16 percent.

TABLE 13 –PROSPECTIVE MINERAL-RELATED PROJECTS IN SOUTH AFRICA, 2009*

SECTOR	COST R million	COST+ $ million	AS A PERCENTAGE OF PRIMARY MINERALS	AS A PERCENTAGE OF TOTAL MINERAL PRODUCTS
Primary	6 413	879	100	93
Gold	1 473	202	23.0	21.4
Platinum	3 940	540	61.4	57.1
Other	1 000	137	15.6	14.5
Processed minerals	485	67		7
TOTAL	6898	945		100

Note: +At a Rand/dollar exchange rate of R7.30, as at August 2010

THE SMALL- SCALE MINING (SSM) SECTOR IN SOUTH AFRICA

The potential of small-scale mining as a tool to reduce poverty and create employment, especially in the rural areas, was recognised by the Department of Mineral Resources (DMR) in the late 1990's. The objectives of the Directorate of Small Scale Mining include ensuring that small businesses progressively increase their contribution to growth and performance of the South African economy in critical areas such as job creation, equity and access to markets and also, to promote the transformation of small scale mining activities into commercially viable and sustainable projects capable of making a meaningful contribution to poverty alleviation and increased economic activity.

A new focus will be towards rural areas to mine proven economic deposits that are resident in the rural poverty areas. The support will continue to lean on commodities and mineral deposit sizes that are suitable for small scale mining operations.

MINERAL BENEFICIATION

The South African Government adopted a new macro-economic policy known as the New Growth Path which seeks to place the economy on a production led growth trajectory in order to overcome the country's developmental challenges of unemployment, inequality and poverty. This policy prioritises the mining value chain, with particular emphasis on mineral beneficiation as one of the activities/sectors that present the highest investment value proposition. In order to attain this goal, the Department has put together a mineral beneficiation strategy that will provide a framework through which the orderly development of the country's mineral value chains will take place. This strategy draws from a range of legislations and policies such as the Minerals and Mining Policy for South Africa (1998), Mineral and Petroleum Development Resources Act (Act No. 28 of 2002) and the Broad-Based Socio-Economic Empowerment Charter for the Mining Industry (Mining Charter).

It is envisaged that the implementation of this strategy will take place in the financial year 2011/12. The implementation of this strategy will be a multilateral endeavour, led by the DMR, which will include other Government Departments, State Owned Entities and other mining industry stakeholders such as labour, business, mineral beneficiators and institutes of higher learning.

ECONOMIC OUTLOOK FOR THE SOUTH AFRICAN MINERALS INDUSTRY – 2009/2010

After many years of sustained growth since the dawn of democracy, South Africa's economy fell into recession for the first time in 2008/2009. The economic slowdown which had started in 2008 with the weakening of domestic demand was exacerbated when the global crisis led to a sharp fall in exports. The sectors affected the most include manufacturing and mining which declined mainly as a result of lower exports as well as agriculture which contracted due to adverse climatic conditions. The construction sector showed sustained growth, boosted by a public investment programme in the transport infrastructure and the highly successful 2010 FIFA Soccer World Cup.

When demand for minerals and metals began to slow down in 2008, it ended a five-year period of growth for capital spending driven by demand from countries like China and India. This affected supply and because the global minerals and metals industries are cyclical, highly competitive and have historically been characterized by alternating periods of over and under capacity, commodity demand and prices were affected accordingly. Companies began to defer major investments on capital projects, including projects that were already under construction, but remain in limbo in 2010 as owners are still re-evaluating market demand. These developments led to job losses in the mining industry estimated at just under 40 000. This number could have been higher had the government, labour unions and mining companies not intervened and established a mining industry stakeholder forum, the Mining Industry Growth, Development and Employment Task Team (MIGDETT), which lessened the impact of the global financial crisis on the industry.

Due to its prudent macroeconomic policies, South Africa was one of the few countries on the continent able to implement strong and co-ordinated countercyclical fiscal and monetary policies. South Africa's economic growth path is highly correlated with that of the world. Both global and South Africa's, economies recovered substantially from the depths of recession between the first quarter of 2009 and the first quarter of 2010. South Africa's 4.6 percent annualized GDP growth rate in the first quarter of 2010 was the best in two years. Although South Africa's GDP growth for the second quarter has not yet been published, it is generally expected that just as global economic growth cooled off somewhat in the second quarter, so too has South Africa's, with annualised GDP growth expected to have fallen by around 3 percent.

However, just as the world appeared to be recovering somewhat from the recession, the EU sovereign debt crisis most ostensibly from the PIIGS (Portugal, Italy, Ireland, Greece and Spain), loomed large threatening to drag the world economy back into a double dip recession.

TABLE 14: METALS AND MINERALS PRICES

COMMODITY	UNIT	2008 Average	2009 Average	% Change	Q1 2010 Average
Aluminium High Grade, LME Cash	$/t	2573.21	1664.36	1.3	2163.24
Antimony, Metal Bulletin Free Market	$/t	6108.16	5200.86	1.5	6486.63
Cadmium, Metal Bulletin Free Market	$/lb	297.51	149.86	3.4	177.81
Coal Steam: local FOR	R/t	141.53	162.75	1.0	174.50
Export FOB	R/t	711.99	515.58	-1.8	541.00
Anthracite, local FOR	R/t	602.42	690.33	-0.6	769.00
Export FOB	R/t	598.43	889.75	-3.5	839.00
Cobalt, Metal Bulletin Free Market	$/lb	93.64	17.35	-0.1	21.76
Copper: Grade A, LME Cash	$/t	6899.55	5112.77	3.1	7232.42
Ferrochrome, charge 52% Cr*	$/lb, Cr	1.80	0.91	-6.3	1.02
Ferromanganese, High Carbon, 7.5% C*	€/t	1803.93	912.74	-2.5	958.51
Ferrovanadium, 70 – 80% V*	$/kg V	61.34	25.01	-0.4	28.63
Gold, London Price	$/ozt	872.13	973.32	1.0	1109.53
Ilmenite concentrate 54% TiO2	A$/t	102.71	86.05	-2.4	73.92
Lead, LME Cash	$/t	2090.78	1718.86	2.8	2219.68
Lithium Ore, Petalite 4%	$/t	212.50	212.50	0.0	212.50
Managanese Ore: 48 – 50% metallurgical*	$/mtu	14.09	5.37	-3.6	7.11
Molybdenum: Molybdic Oxide*	$/ib. Mo	29.97	11.38	0.5	15.73
Nickel, LME Cash	$/t	21100.9	14633.19	1.9	19952.93
Palladium, London Price	$/ozt	355.65	263.48	2.4	440.15
Platinum, London Price	$/ozt	1574.87	1204.85	1.8	1561.20
Rhodium, Johnson Matthey Base Price	$/ozt	6584.88	1586.51	2.1	2567.93
Rutile concentrate 95% TiO2	$/ozt	709.32	741.76	0.5	750.00
Silver, London Price	A$/t	15.01	14.66	1.9	16.92
Tantalum Ore: 30% TaO5	$/ozt	35.00	35.50	0.0	N/A
Tin, LME Cash	$/lb	19189.5	13563.83	1.3	17209.45
Uranium oxide, NUEXCO spot	$/t	64.24	46.68	-0.9	42.35
Vanadium Pentoxide*	$/lb	13.55	6.04	-0.6	6.68
Zinc, specialized high grade	$/lb	1875.18	1653.77	2.4	2288.85
Zircon: Foundry grade, Bulk,FOB	$/t	762.50	85.68	0.9	849.00
	A$/t				
Average Exchange Rates	R/US $	8.2866	8.4371		7.5132

Source: Metal Bulletin
N/A: Not Available

The year 2009 saw precipitous declines in many metals and minerals prices from record highs of the first quarter of 2008. The decline in prices started in the last quarter of 2008, with prices of most commodities falling by about half from the record four quarter highs. The firm global economic activity led by China led to strong increases in demand for most metals and minerals towards the end of 2009 and resource markets recovered with virtually all minerals and metals prices at levels significantly above their long run historical trends and in many cases above start of year levels.

Despite a rebound in the first quarter of 2010, South Africa's metals and minerals total from revenue sales contracted by nearly 24 percent from US$36.4 billion in 2008 to US$27.6 billion in 2009, due to the fall in prices in almost all the minerals and metals with the exception of gold. The slump in revenue was mainly as a result of a plunge in world PGM, ferrous and non ferrous mineral prices (excluding iron ore. The world GDP is expected to reach 4.2 percent by 2012, led emerging average growth of 7.5 percent, sub-saharan Africa at 6.5 percent, whilst South Africa is forecasted at 4.2 percent. Fiscal spending in infrastructure programmes of emerging economies, as well as household consumption are the basis on which mineral demand is expected to grow rapidly.

Industry outlook

Historically, the automotive and construction markets have been the largest drivers of metal consumption, accounting for more than 50 percent of the total demand. Other metal and minerals consuming industries include energy, electrical equipment, agriculture, domestic and commercial equipment and industrial machinery. With these sectors reverting towards production capacities prevailing before the global economic crisis, the outlook for the mining industry in the medium term looks optimistic as it responds to

continuing growth in global demand for minerals and metals. In the near-term, the South African industry revenue growth should bounce back from the depressed levels of 2009, as the country is likely to be among the first to benefit when the global economy returns to strength. Most metals and minerals prices rose substantially over the first quarter of 2010 due to global macroeconomic stimulus measures for infrastructure development, pushing current prices above average levels of 2009. Firm global economic activity particularly in China is expected to support strong increases in demand for most metals and minerals over the next three years. Furthermore, the shift toward faster and more resource intensive global growth led by developing countries will lead to strong rise in commodity demand over the next decade.

It is anticipated that the price of platinum will continue to increase throughout 2010, reaching the $1800/oz mark in 2011. The outlook for precious metals remains positive over the medium term but bearish over the long term. It is expected that authorities in emerging markets, particularly China and India, will continue to diversify their foreign exchange reserves, with gold set to gain from this capital reallocation. Other precious metals like silver, palladium and platinum will also benefit from the anticipated increase in gold price. However, prices for gold and other precious metals have moved well ahead of their fundamentals and are set to decline once temporary demand from portfolio reallocation subsides, and particularly once central banks begin to hike interest rates in order to ease potential inflationary pressures.

The South African mining sector's prospects in the coming years look positive, although the speed and extent of total global economic recovery is still uncertain. The challenges that may face the sector include electricity supply shortages and skills and safety concerns. Production levels fell during the recessionary period, but increased marginally from October 2009 and this could be a sign of growing physical demand for commodities. With buoyant prices and production levels beginning to show, the industry is poised to increase experience higher export volumes and revenues in 2010. Some of these gains may however be offset by a stronger rand.

PRECIOUS METALS AND MINERALS OVERVIEW

Donald O Moumakwa

INTRODUCTION

South Africa is the world's largest producer of platinum-group metals (PGMs) and the fifth largest producer of gold. The country is also a major producer of diamonds, while silver is produced as a by-product from gold, lead-zinc, copper and PGM mines. Precious metals were produced from 87 mines, while diamonds were produced by 395 operations during 2009.

PRODUCTION AND SALES

South Africa's production and sales of precious metals are shown in Table 1. The country's aggregated production fell 3.0 percent to 546.7t mainly as a result of a 7.1 percent decline in gold production. Export sales of precious metals increased marginally from 500.0t in 2008 to 501.7t in 2009. However, revenue from export sales fell 17.6 percent to just over R100 billion due to lower prices resulting from the global economic crisis. Similarly, revenue from total sales decreased by 22.5 percent to R106 billion.

TABLE 1: SOUTH AFRICA'S PRODUCTION AND SALES OF PRECIOUS METALS, 2008 AND 2009

COMMODITY	YEAR	PRODUCTION	LOCAL SALES		EXPORT SALES		TOTAL SALES	
		t	t	R million	t	R million	t	R million
GOLD	2009	197.6	6.6	1 701.3	180.6	46 994.2	187.2	48 695.5
	2008	212.7	8.8	1 997.6	190.0	43 994.5	198.8	45 992.1
PGMs	2009	271.3	*	4 322.9	251.0	53 459.3	*	57 782.2
	2008	275.8	*	13 448.3	223.0	77 904.3	*	91 352.6
SILVER	2009	77.8	8.1	31.0	70.1	256.2	78.2	287.2
	2008	75.2	7.9	28.3	87.0	318.6	94.9	346.9
TOTAL	2009	***546.7***	*****	***6 055.2***	***501.7***	***100 709.7***	*****	***106 764.9***
	2008	***563.7***	*****	***15 474.2***	***500.0***	***122 217.4***	*****	***137 691.6***

Source: DMR, Directorate Mineral Economics
** Confidential*

South Africa's 2009 diamond production fell by 52.3 percent to 6.1 Mct. Low global demand for diamonds led to export sales decreasing by 13.1 percent. By contrast, local diamond sales more than doubled in 2009, mainly due to the government's efforts to promote local sales for beneficiation purposes.

EMPLOYMENT

Employment in the precious metals and mineral mines declined by 7.5 percent to 356 197 (Table 2), mainly as a result of a 35.0 percent drop in the number of employees in the diamond mines as producers reduced production in line with demand. However, total remuneration for the year increased by 6.0 percent to just over R44 billion, raising the average remuneration per employee by 14.8 percent to R123 707.

TABLE 2: EMPLOYMENT AND REMUNERATION IN SOUTH AFRICA'S PRECIOUS METALS AND MINERALS (INCLUDING DIAMOND) MINES, 2005-2009.

YEAR	AVERAGE NUMBER OF EMPLOYEES	TOTAL REMUNERATION (R'000)	AVERAGE REMUNERATION (R/employee)
2005	337 701	26 143 212	68 100
2006	347 998	27 618 263	79 363
2007	371 945	35 040 346	64 208
2008	384 978	41 486 270	107 763
2009	356 197	44 064 129	123 707

Source: DMR, Directorate Mineral Economics

OUTLOOK

The global market for polished diamonds has stabilized on the back of the world recovery from the global economic crisis. As a result, global rough diamond production is expected to increase over 2009 levels in 2010, but is not expected to return to historic highs for the foreseeable future.

Global PGM supplies are expected to increase in 2010 as demand strengthens in the physical investment and automotive sectors. Global gold supply is also expected to increase marginally in 2010 due to slight increases in both scrap supply and mine production. Another successive record high of silver mine production is expected, with the bulk of the growth coming from the gold and base metals mining sectors. Silver scrap supply will continue to fall in 2010, although the scale of losses is likely to be relatively modest.

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DIAMONDS

Donald O. Moumakwa

WORLD SUPPLY

The effects of the global economic crisis on the diamond industry became more apparent in 2009 as companies reduced production in line with demand. According to the Kimberley Process Certification Scheme (KPCS) statistics, world diamond mine production declined by 23.4 percent to 124.8 million carats (Mct) in 2009 (Table 1), mainly due to significantly reduced production in countries where the De Beers Group and its joint venture partners operate, including Botswana, Namibia, South Africa and Canada. Similarly, the value of global mine production decreased by 32.3 percent to $8.6 billion.

TABLE 1: WORLD ROUGH DIAMOND PRODUCTION, 2009

COUNTRY	PRODUCTION					
	MASS			VALUE		
	Mct	%	RANK	US $ million	%	RANK
Angola	13.8	11.1	5	1 179	13.7	4
Australia	15.6	12.5	4	312	3.6	7
Botswana	17.7	14.2	3	1 436	16.6	3
Canada	11.0	8.8	6	1 474	17.1	2
DR of Congo	21.3	17.1	2	225	2.6	8
Guinea	0.7	0.6	10	28	0.3	9
Namibia	1.2	1.0	8	408	4.7	6
Russian Federation	34.8	27.9	1	2 340	27.1	1
South Africa	6.1	4.9	7	885	10.2	5
Zimbabwe	1.0	0.8	9	20	0.2	10
Other	1.6	1.3		329	3.8	
Total: 2009 2008	124.8 162.9	100.0		8 636 12 732	100.0	

Source: KPCS Statistics

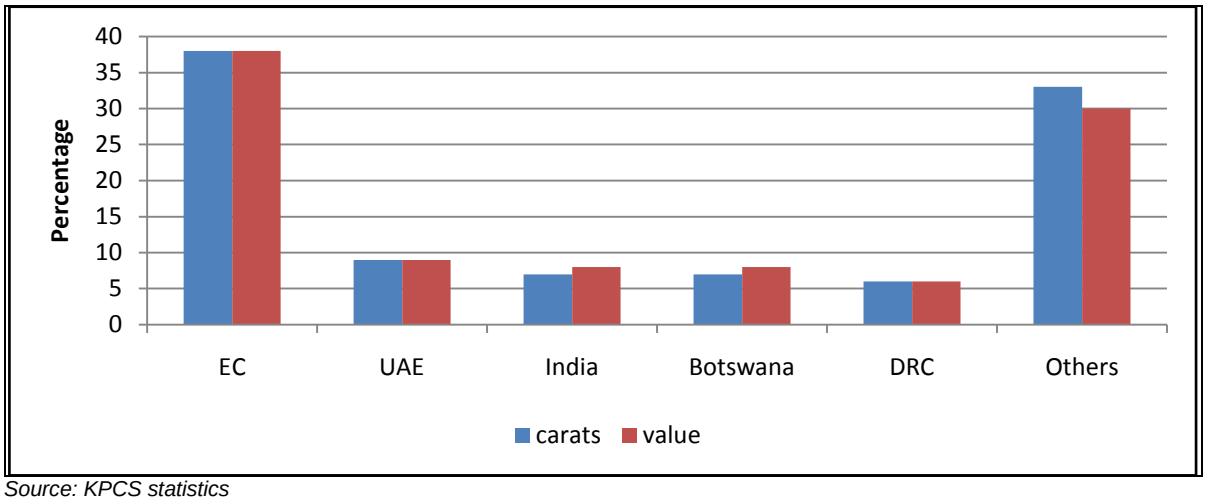
Of the top ten diamond producing countries, only Angola and Australia recorded increases in production by 55 percent to 13.8 Mct 4.7 percent to 15.6 Mct, respectively. The Southern African region appears to have been most affected by the global economic crisis, with South Africa, Botswana and Namibia decreasing production by at least 45 percent.

Despite a 5.7 percent decrease in production to 34.8 Mct, the Russian Federation remained the world's largest rough diamond producer, both by volume and value. The DRC remained the 2nd largest producer by volume but slipped down to 8th place in terms of value. South Africa slipped a rank down in terms of both carats and value. The country is now ranked 7th by mass and 5th by value.

WORLD DEMAND

Rough diamond trade (exports) between countries fell by 35.8 percent to $25.0 billion in 2009 after the economic crisis reared its ugly head. A total of 317 Mct were exported around the globe, with the European Community (EC) accounting for 38 percent of both total volume and value (Figure 1). However, it should be borne in mind that the EC does not produce rough diamonds and therefore relies on imports from diamond producing countries. Rough diamonds were exported to cutting and polishing centres in various geographic regions, mainly Mumbai and Surat (India), Antwerp (Belgium), Tel Aviv (Israel), New York (USA) and China.

FIGURE 1: GLOBAL ROUGH DIAMOND EXPORTS, 2009



Source: KPCS statistics

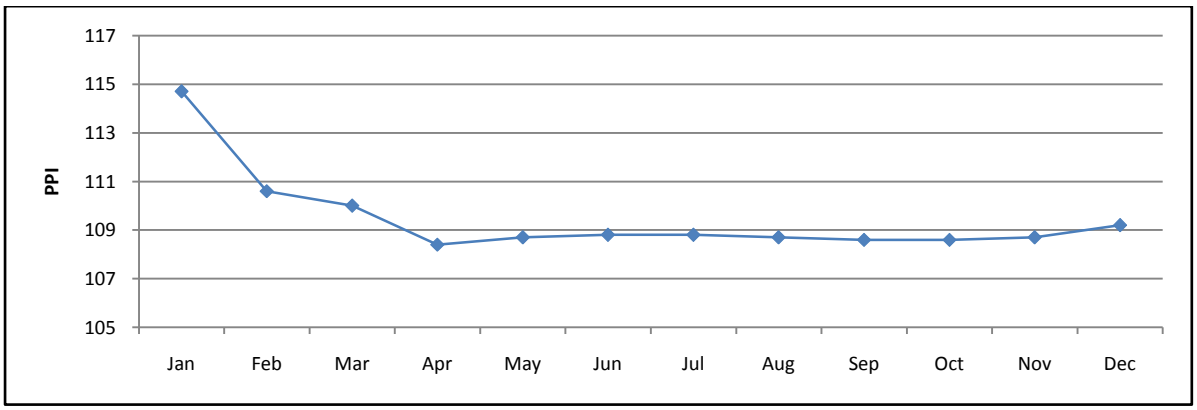
The US remained the world's largest polished diamond consumption market in 2009, despite its global trade in diamonds falling by more than 30 percent. About $12.76 billion worth of diamonds were imported from 71 countries, representing a 35.5 percent decrease from the $19.8 billion worth of imported diamonds in 2008. About 85.5 percent of total US imports in 2009 came from Israel, India and Belgium.

China overtook Japan to become the second largest diamond consumption market in 2009 after a 30.7 percent increase in diamond imports to a high of $699 million. This has been attributed to China's economic growth and the expansion of its domestic jewellery market. The jewellery industry in China reached total sales of $32.26 billion, reflecting a 10 percent growth year on year.

PRICES

IDEX (International Diamond and Jewellery Exchange) Online global polished diamond price index (PPI) indicate that for the better part of 2009, average global polished diamond prices showed very little signs of inflation or deflation (Figure 2). After decreasing for four consecutive months at the beginning of the year, the PPI showed almost no fluctuation for the next seven months, with a modest upward movement of only 0.1 percent. The PPI finally showed a modest growth in December 2009, rising by 0.4 percent from its average November level.

FIGURE 2: THE IDEX ONLINE POLISHED DIAMOND PRICE INDEX BY MONTH, 2009.



Note: Price Index is a percentage number that shows the extent to which a price has changed over a period as compared with the price in a certain year, in this case April 2004-March 2005, taken as a standard year. Source: IDEX Online.

Weak consumer demand for diamonds resulted in an 11.5 percent decrease in the 2009 average rough diamond price to $69.20 per carat, according to KPCS statistics. The most valuable rough stones were produced in Lesotho, with an average price per carat of $1 455. This was distantly followed by Liberia and Namibia, with average prices per carat of $396.94 and $342.97, respectively. Diamonds produced in South Africa were valued at an average of $144.23 per carat, while those from the DRC proved to be of relatively low quality, attaining an average of only $10.60 per carat.

DEVELOPMENTS IN SOUTH AFRICA

Local Supply and Sales

South Africa's 2009 diamond production was less than half of 2008 production, falling by 52.3 percent to 6.1 Mct. Diamonds sourced from kimberlites contributed 91.8 percent to the country's total production, while alluvial and marine diamonds contributed 4.8 and 3.4 percent, respectively. Production from De Beers Consolidated Mines dominated the country's total output with a contribution of approximately 85 percent, despite a 49 percent reduction in carats recovered in 2009.

The major reason for low production levels recorded in 2009 was the low levels of demand from consumers and low diamond sales recorded around the world. South Africa was no exception, with the country's export sales decreasing by 13.1 percent. By contrast, local diamond sales more than doubled in 2009, mainly due to the government's efforts, through the State Diamond Trader (SDT), to promote local sales for beneficiation purposes.

Employment

Lower demand and the consequent decline in diamond prices resulted in several retrenchments across diamond operations in South Africa as producers cut down on production. As a result, the average number of employees in the country's diamond mining industry declined by 35.0 percent to 12 109 in 2009 (Table 2), while total remuneration for the year declined by 17.0 percent to just over R1.8 billion. This resulted in an average remuneration per employee of approximately R149 438, an increase of 27.5 percent over the 2008 value. Productivity per employee decreased by 27.3 percent from 693 ct in 2008 to 504 ct in 2009.

TABLE 2: EMPLOYMENT AND REMUNERATION (INCLUDING CONTRACTORS) IN SOUTH AFRICA'S DIAMOND INDUSTRY.

YEAR	AVERAGE NUMBER OF EMPLOYEES	TOTAL REMUNERATION (R'000)	AVERAGE REMUNERATION (R/employee)
2005	21 976	2 564 066	116 676
2006	20 115	2 205 838	109 661
2007	19 471	2 192 902	112 624
2008	18 609	2 181 625	117 235
2009	12 109	1 809 550	149 438

Source: DMR, Directorate Mineral Economics

Mining

On 24 September 2009, Petra Diamonds recovered a 507.55 ct white diamond at its Cullinan operations in South Africa. The diamond, which was later named "The Cullinan Heritage" to reflect the date of its recovery on Heritage Day, was considered to be among the top 20 largest high-quality rough diamonds ever found worldwide. It was recovered alongside three other special white stones (168 ct, 58.50 ct and 53.30 ct) of similar colour and clarity in the same production run. The Cullinan Heritage was purchased at a tender in South Africa in February 2010 for $35.3 million, the highest sale price on record ever achieved for a rough diamond from source.

The acquisition of Kimberley Underground operations by Petra from De Beers was completed in May 2010. Kimberley Underground comprises Bultfontein, Du Toitspan and Wesselton, three historic mines that were at the heart of the diamond rush during the 19th century. De Beers and Petra reached an agreement in September 2007 but since the operations had ceased production in August 2005, the latter operated the mines under care and maintenance, with ore being stockpiled on surface. Full production has since commenced upon completion of the acquisition. Petra had also previously acquired both Koffiefontein and Cullinan from De Beers, which resulted in the latter's contribution to the country's total rough diamond output falling from 93 percent in 2008 to 85 percent in 2009.

In June 2010, Petra Diamonds announced that it had successfully negotiated a new debt facility of $78 million with the International Finance Corporation (IFC) and the Rand Merchant Bank (RMB). The debt package would be used to fund expansions at the Williamson mine in Tanzania and the Cullinan mine in

South Africa in a bid to position the company well to deliver on its core objective to treble annual production to over 3 Mct. The company will be putting in place a three year expansion programme to increase throughput at Williamson mine to 10 million tons per annum with an annual production of 600 000 carats. At Cullinan, Petra is targeting underground mining throughput of 4 Mt/a by 2019, ramping up annual production to 2.2 Mct.

OUTLOOK

The global market for polished diamonds has stabilized on the back of a world recovery from the effects of the global economic crisis. There were already higher levels of demand in the first quarter of 2010 than at the same time in 2009, and history has shown that demand generally rebounds strongly in post-recessionary periods as manufacturers and retailers look to rebuild their inventories. Although consumer demand has not yet fully recovered to pre-crisis levels, production is expected to increase over 2009 levels in 2010, but is not expected to return to historic highs for the foreseeable future.

The additional supply of rough diamonds in 2010 is expected to put a downward pressure on prices in the short-term. However, the longer-term outlook remains bright for diamond prices. Increased demand for diamond jewellery, spurred on by a continued recovery in the global economy, is expected to provide a platform for diamond price increase.

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GOLD

P Perold

WORLD SUPPLY

Total world gold supply increased by 8.4 percent to 4 264t during 2009, mainly due to a sharp increase in the supply of scrap. Gold mine production increased by 6.8 percent to 2 549t (Table 1), while net official sector sales decreased by 82.3 percent to 41t and scrap supply rose by 27.2 percent to 1 674 tonnes. South Africa's reserve base decreased by 17 percent to 6000t during 2009, mainly due to several mine closures as they reached the end of their economic life.

TABLE 1 – WORLD GOLD RESERVES AND MINE PRODUCTION, 2009

COUNTRY	RESERVES			PRODUCTION°		
	t	%	Rank	t	%	Rank
Australia	5 800	12.3	2	222.8	8.7	2
Canada	1 000	2.1	8	96.0	3.8	8
China	1 900	4.0	6	324.0	12.7	1
Indonesia	3 000	6.3	4	157.5	6.2	7
Peru	1 400	2.9	7	182.4	7.2	6
Russia	5 000	10.6	3	205.2	8.1	4
South Africa	**	**	1	197.6*	7.8	5
USA	3 000	6.3	4	219.2	8.6	3
Other	19 900	42.3	-	944.9	37.1	-
TOTAL	47 000	100.0		2549.6	100.0	

Sources: # *USGS, 2010, pp 66-67*
° *Klapwijk, et al, 2010, pp 40 - 41*
** *DMR, Directorate Mineral Economics - Statistics under review.*

WORLD DEMAND

In 2009, total world gold demand increased by 8.4 percent to 4 264t. This was the net effect of a 16.3 percent decrease to 2 417t in demand for fabrication, a 51.6 percent fall in gold bar hoarding to 187t, an increase of 333 percent in implied net investment to 1 429t and a decrease of 27.8 percent to 254 t in producer de-hedging.

PRICES

The average dollar gold price for 2009, at $970.94/ozt (Table 2), was 11.3 percent higher than in 2008. The gold price reached a new record high of $1 218.25/ozt in December 2009, due to a surge in investment demand, which was fuelled by factors such as dollar weakness, record oil prices and signs of global financial instability.

TABLE 2 – LONDON GOLD PRICE[+], 2009

MONTH	AVERAGE[#]	HIGH*	LOW*	AVERAGE[#]
	$/ozt	$/ozt	$/ozt	R/ozt
January	858.21	919.50	810.00	8469.55
February	941.46	989.75	895.00	9380.23
March	925.13	957.00	893.25	9150.94
April	891.28	924.50	870.00	7953.07
May	907.01	975.50	881.50	7758.46
June	946.74	987.00	919.25	7574.89
July	934.25	956.00	908.50	7406.21
August	949.61	964.50	932.75	7517.59
September	996.06	1020.50	949.75	7449.17
October	1043.34	1066.00	998.00	7772.73
November	1126.58	1183.00	1052.00	8421.10
December	1131.66	1218.25	1080.50	8429.32
2009 average	970.94	1218.25	810.00	8106.93

Sources: [#] *South African Reserve Bank, 2009, 2010*
* *London Bullion Market Association, 2010*
Note: [+] *London AM and PM fixings*

SOUTH AFRICAN DEVELOPMENTS

During February 2009, Harmony announced that it had completed its acquisition of Pamodzi's Free State assets. Production at these three shafts for the first 12 months were estimated at 100 000 ozt at an estimated average recovery grade of 5.5 g/t and at a cash cost of about R160 000/kg. Harmony has announced that it will close three uneconomic shafts at its Virginia operations and cut 3 700 staff. The affected shafts included Harmony 2, Merriespruit 1 and the Merriespruit 3 shaft at the Virginia mine. This action is in line with Harmony's stated strategy to restructure for quality ounces.

Gold One reported on March 31 2010, that its quarterly gold production increased by 21 percent and that it had an operating cash flow of $7.3 million. The company's independent scoping study on its Ventersburg project was undertaken by Turgis Consulting and has forecast the 11 years life-of-mine potential. It also reported the potential of a steady production of eight years peaking at 157 000 ozt per annum. In May 2010, the company announced that a dore gold bar of approximately 20 kg of fine gold was poured at its Modder East mine, thereby completing the production of its first tonne (32 105 oz) of gold. Gold One is set to produce between 85 000 and 100 000 oz of gold in 2010.

Production from ErgoGold Phase 1 has begun and will rise to a planned 1.2 Mt per month at an average head grade of 0.32g/t. Work on the extraction plant was completed in April 2009. Ergo Phase 2, which is at feasibility study stage, anticipates increased gold production and, possibly, also the production of uranium and sulphuric acid. The Ergo joint venture between DRDGOLD and Mintails was established in 2007 to exploit up to 1.7 billion tonnes of surface tailings for gold, uranium and sulphuric acid. The gold portion of the joint venture was initially known as the Elsburg Gold Mining Joint Venture and was renamed ErgoGold following DRDGOLD's acquisition of Mintails' share.

Mintails' newly built Gold Plant 2 at the West Rand produced its first gold bar on 5 February 2010. This new plant produced 10.3 kg of gold from its Mogale operation situated in Randfontein.

Simmer and Jack's gold production decreased in the fourth quarter of 2009 by 13 percent to 29 000 ozt owing mainly to a shaft rationalisation process at the Buffelsfontein gold mine in the North West Province and the company's shift in focus to profitable ounces rather than ounces at any cost.
By June 2009, Pan African Resources' share exchange with Shanduka Gold had been declared unconditional. Pan African Resources would earn an extra 26 percent shareholding in the Barberton Mines in exchange for new ordinary shares.

In August 2009, Aurora Empowerment Systems had bid R215 million for the provisionally liquidated assets of Pamodzi Gold Orkney and undertook to preserve all jobs.

In October 2009, Wits Gold completed the pre-feasibility study on its Bloemhoek project which will be a smaller mine than originally planned but will take half the time frame to reach full production.

Superior Mining International Corporation announced on 18 December 2009, that it has signed a memorandum of agreement with Mine Mineral Holdings (Pty) Limited (TMT), which holds exploration rights to the Mangalisa Property, located in the eastern part of the Free State Gold Field.

In June 2009, First Uranium's Ezulwini underground mine began commercial production while Mine Waste Solutions continued with its capacity build programme.

During February 2009, Rand Uranium incorporated three operating mines and a tailings dump with the richest source of surface uranium on South Africa's West Rand gold field. It plans to take 30 months to build a plant starting in the second half of 2009.

The US investment fund, Paulson & Company, acquired Anglo American's remaining 11.3 percent stake in AngloGold Ashanti. This was Paulson's largest single transaction of 2009.

The South African Reserve Bank held gold reserves of 124.9t valued at R32.7 billion at the end of 2009 (Table 3)

South Africa's gold production decreased by 7.1 percent from 212.6t in 2008 to 197.6t in 2009, (Table 3), resulting in the country dropping in production ranking from fourth to fifth. The country's total sales revenue increased by 5.9 percent to R48.7 billion, due to a 13.6 percent rise in the average rand price for the year, despite lower sales volumes. The decrease in production was a result of the mining of lower-grade ore made economic by higher rand gold prices and the temporary closure of shafts to maintain infrastructure of shafts.

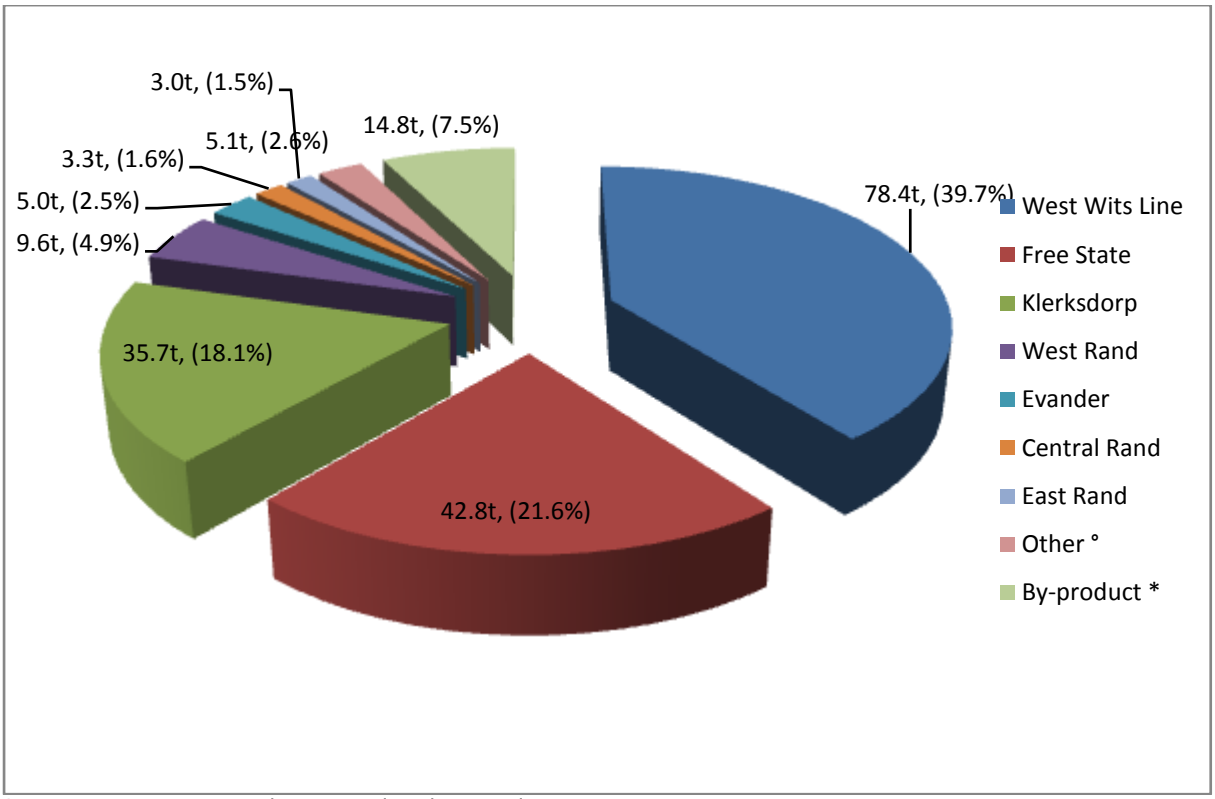
TABLE 3 – SOUTH AFRICA'S GOLD PRODUCTION, TOTAL SALES VALUE AND RESERVE BANK HOLDINGS, 2000 – 2009

YEAR	PRODUCTION	TOTAL SALES VALUE	RESERVE BANK HOLDINGS*	
	t	R ' 000	t	R ' 000
2000	430.8	25 272 141	183.5	10 981 926
2001	394.8	29 011 598	177.9	17 302 131
2002	398.5	41 222 165	173.6	14 989 624
2003	373.3	33 052 899	123.6	9 798 741
2004	337.2	29 329 871	123.9	8 886 591
2005	294.7	24 601 241	124.0	12 970 035
2006	272.1	37 443 092	124.1	17 634 409
2007	252.6	38 035 724	124.3	22 843 006
2008	212.6	45 992 243	124.7	32 426 081
2009	197.6	48 695 502	124.9	32 752 733

Sources: *South African Reserve Bank, 2000 - 2010*
DMR, Directorate Mineral Economics
Note: * *Gold holdings at year-end*

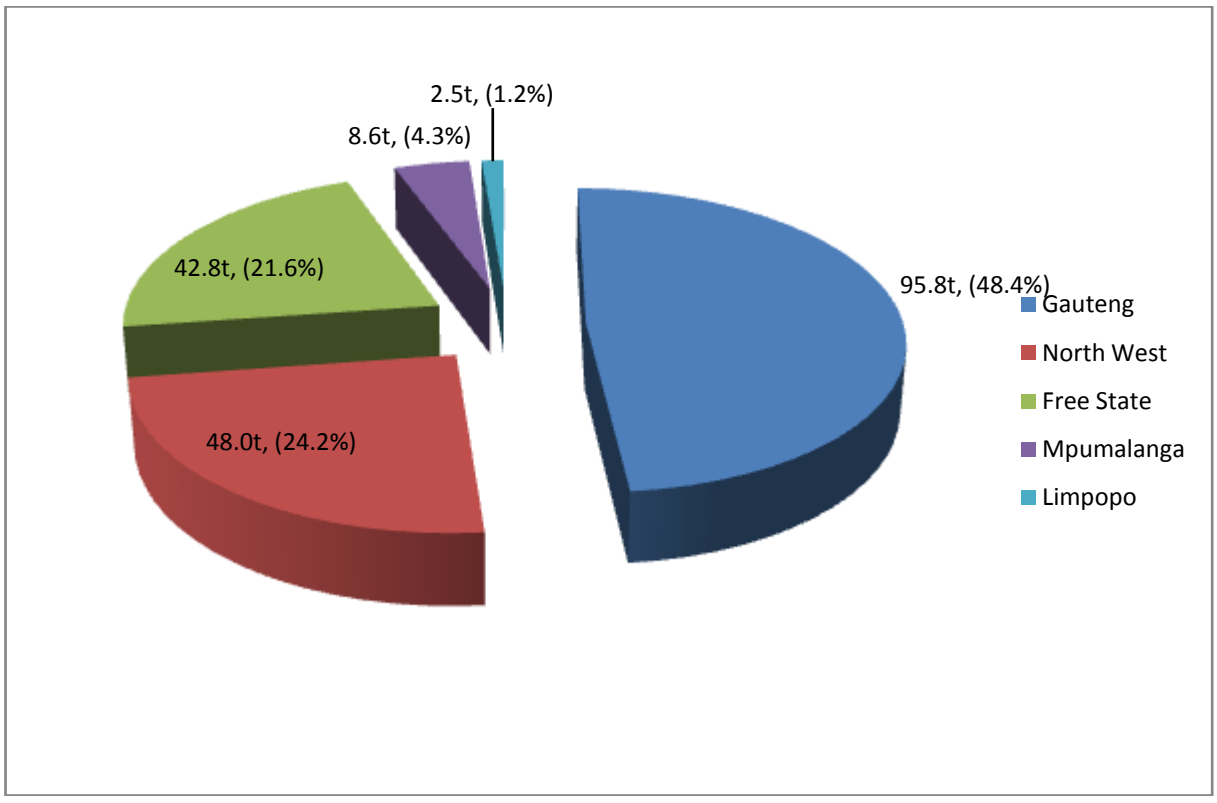
Figures 1 and 2 depict the breakdown of production by gold field and province, respectively. The latter illustrates that Gauteng was the largest gold producer at 95.8t, while the former illustrates that the West Wits Line yielded the largest gold production at 78.4t.

FIGURE 1: SOUTH AFRICA: BREAKDOWN OF PRIMARY GOLD PRODUCTION BY GOLD FIELD, 2009 (t, %)



Source: *DMR, Directorate Mineral Economics*
Note: ° *Gold mines outside the Witwatersrand Basin*
* *Platinum and base metal mines*

FIGURE 2: SOUTH AFRICA: BREAKDOWN OF PRIMARY GOLD PRODUCTION BY PROVINCE, 2009 (t, %)



Source: *DMR, Directorate Mineral Economics*

Employment in the gold mining sector fell from 166 424 in 2008 to 159 925 in 2009, with total remuneration increasing by 8.9 percent in the same period (Table 4)

TABLE 4 – SOUTH AFRICA'S GOLD MINES, EMPLOYMENT AND REMUNERATION, 2005 - 2009

YEAR	NUMBER OF EMPLOYEES*			REMUNERATION		
	Total	Male	Female	Total R ' 000	Male R ' 000	Female R ' 000
2005	160 634	156 956	3 678	12 153 245	11 786 592	366 653
2006	159 782	155 489	4 293	12 865 125	12 434 636	430 489
2007	166 063	159 827	6 236	14 506 400	13 957 747	548 653
2008	166 424	158 011	7 513	15 960 051	15 248 317	711 734
2009	159 925	150 562	9 363	17 375 439	16 343107	1032 332

Source: DMR, Directorate Mineral Economics

*Note: * Average number of employees in service, including contractors*

DEVELOPMENTS OUTSIDE SOUTH AFRICA

On 18 February 2010, Barrick Gold announced that it would spin off its African assets, comprising four operating gold mines collectively producing over 25 t/a, into a separate company, African Barrick Gold, 75 percent retained by Barrick, 25 percent sold and listed in London.

During February 2009, Canadian major IAMGOLD bought Orezone Resources for the Essakane project, in Burkina Faso, leaving the company to spin out its other assets into Orezone Gold.

Newmont tidied up ownership of the Boddington project, in Western Australia, by acquiring the outstanding 33.33 percent interest from Anglogold Ashanti for US$982 million plus a maximum $100 million in royalties. Boddington has some 650 tonnes of gold in reserves.

During March 2009, former Teck Cominco sold off its non-core gold assets to relieve some of its financial problems. The company sold its 60 percent interest in the Agi Dagi and Kirazli gold projects in Turkey to Alamos Gold; its 79 percent interest in the Morelos gold project in Mexico to Gleichen Resources; its 40 percent interest in the Pogo mine to its partners Sumitomo; 50 percent interest in the Hemlo mines (Williams and David Bell) to Barrick Gold; and its 60 percent interest in the Lobo-Marte gold project in Chile to Kinross Gold.

During August 2009, Eldorado Gold entrenched its place as the largest foreign gold producer in China by acquiring established producer Sino- Gold in a deal worth around C$1.7 billion.

On 2 November 2009, AngloGold Ashanti and Randgold Resources jointly purchased Moto Goldmines' 70 percent interest in the Moto project (renamed Kibali) in the Democratic Republic of Congo. The two producers later took their combined interest to 90 percent by acquiring an additional 20 percent for US$ 114 million. The move was significant as it marked the largest investment yet into the DRC by a major gold producer.

OUTLOOK

Total world gold supply is expected to increase in 2010 as scrap supply is forecasted to rise compared to 2009. Mine production is expected to be slightly higher. Central bank lending is expected to decrease largely due to low gold sales volumes.

Investment demand will continue to grow as the safe haven properties of gold become more relevant due to the unstable economic environment. Net producer de-hedging is expected to increase, but at much lower levels than over the last four years, while demand for jewellery fabrication is likely to drop markedly as the high price hits off -take.

Local gold production was expected to decline to some 190t during 2010 due to continued mining of lower-grade ore made economic by higher rand gold prices, as well as the enforcement of safety procedures.

The price in rand terms is forecast at an average of R288 618/kg, representing an increase of 10.7 percent over the 2009 average price of R260 644/kg.

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PLATINUM-GROUP METALS

Donald O Moumakwa

WORLD SUPPLY

Global supplies of platinum, palladium and rhodium decreased by 11.4 percent to 390.9 tonnes (t) in 2009. South Africa remained the world's leading platinum group metals (PGM) supplier in 2009, accounting for 54.8 percent of platinum, palladium and rhodium supplies (Table 1), followed by Russia and North America, comprising Canada and the USA. Zimbabwe contributed 3.1 percent to the world's total supply.

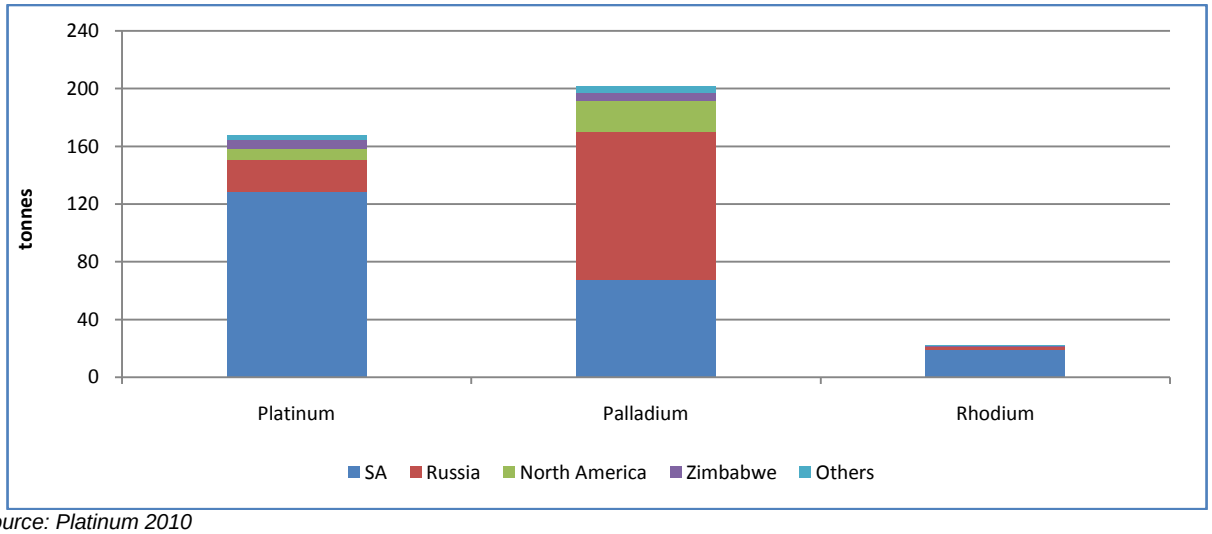
TABLE 2: WORLD PGMs RESERVES AND SUPPLY, 2009.

	RESERVES*		SUPPLY@	
COUNTRY	t	%	t	%
North America	2 390	3.0	29.2	7.5
Russia	6 600	8.3	127.3	32.6
South Africa	70 000	87.7	214.4	54.8
Zimbabwe	N/A	N/A	12.2	3.1
Others	850	1.1	7.9	2.0
TOTAL	79840	100.0	390.9	100.0

Sources: Platinum 2010
**USGS, 2010*
Note: @ refers to platinum, palladium and rhodium only.

Global palladium supplies amounted to 201.3t, while platinum and rhodium amounted to 167.8t and 21.8t, respectively (Fig 1). South African platinum supplies increased marginally to 128.4t due to increased output from new mines such as Blue Ridge, Pilanesberg and Smokey Hills, despite a 3 percent decline in refined production levels. North American and Russian supplies of platinum fell to 7.4t and 22.3t, respectively, while Zimbabwean output increased by 27.8 percent to 6.5 t.

FIGURE 1: GLOBAL SUPPLIES OF PGMs, 2009.



Source: Platinum 2010

Total supplies of palladium were boosted by sales of material from Russian state palladium stocks, which amounted to 27.2t. Production from Russian mining operations decreased marginally to 76.0t. South African supplies dropped by 24.7 percent to 67.2t, while North American production.

Supplies of palladium from Zimbabwe increased too, rising by 28.5 percent to 5.1t as expansion programmes continued at both operating mines on the Great Dyke.

Rhodium supplies increased by 10.8 percent to 21.8t in 2009, with 86.1 percent of the metal coming from South Africa. South Africa's mine output was almost constant, but supplies rose due to changes in refined metal and pipeline stocks. A slight increase in the production of both iridium and ruthenium was sufficient to supply the market in 2009 due to the weak demand for both metals. Small amounts of PGMs were also produced as by-products of mining in a number of other countries, including China and Columbia. These amounted to 3.26t of platinum and 4.5t of palladium.

WORLD DEMAND

Gross platinum demand decreased by 11.9 percent to 199.6t in 2009. Although the weight of platinum recovered from open loop recycling also decreased to 40.0t in 2009, the market was still in excess by 8.1t (Table 2). This was mainly attributed to the global economic meltdown, which resulted in a decrease in the global automotive demand for platinum by 30.0 percent to 63.2t, the lowest level since 2000. Despite strong growth in vehicle production in China, substitution of platinum by palladium in gasoline vehicles meant that platinum demand decreased. Demand from the jewellery sector improved by 46.1 percent to 85.3t, driven by strong by strong Chinese purchasing. Identifiable physical investment demand increased by 18.9 percent to 18.7t due to strong Exchange Traded Fund (ETF) investments.

TABLE 2: PGMs DEMAND BY APPLICATION, 2009.

Tonnes (t)	**Platinum**	**Palladium**	**Rhodium**
Total Supplies	167.8	201.3	21.8
Gross Demand			
Autocatalysts	63.2	114.8	17.5
Chemical	8.4	9.2	1.5
Electrical	5.4	36.0	0.1
Investment	18.7	17.7	
Jewellery	85.3	23.1	
Other	18.6	19.4	1.1
Total Gross Demand	***199.6***	***220.3***	***20.3***
Recycling			
Autocatalysts	23.50	27.4	5.3
Electrical	0.3	11.2	-
Jewellery	16.0	2.0	-
Total Recycling	***39.8***	***40.5***	***5.3***
Total Net Demand (total gross demand – total recycling)	**159.7**	**179.7**	**15.0**
Oversupply (total supply – total net demand)	***8.1***	***21.5***	***6.8***

Source: Platinum 2010.

Like platinum, palladium demand also suffered due to the vagaries of the global economy. The metal was in surplus by 21.5t in 2009 as gross demand fell by 6.3 percent to 220.3t, while recovery from recycling fell by 11,5 percent to 40.5t. Gross automotive sector demand for palladium was relatively moderate in 2009, falling by 9.2 percent to 114.8t. Gross demand from the jewellery sector declined by 17.3 percent to 23.1t, mainly due to weaker Chinese demand. The only positive sector for palladium demand was the net annual identifiable physical investment, where demand for the metal increased by 48.8 percent to 17.7 tonnes.

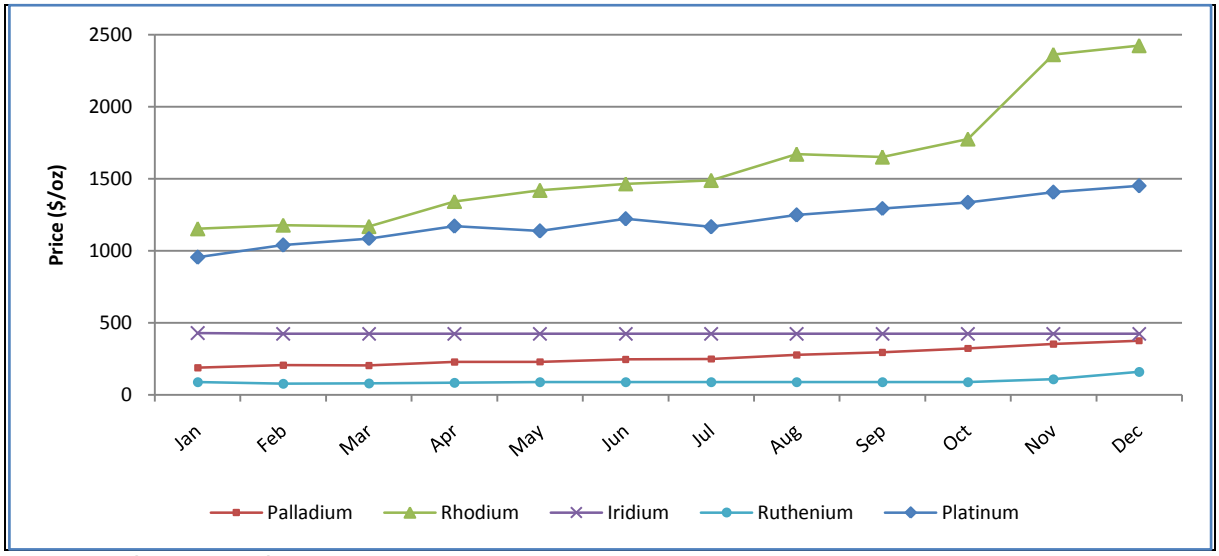
Weak demand for rhodium in 2009 resulted in the market moving from an oversupply of 0.7t in 2008 to a much larger surplus of 6.8t. This was the result of the poor performance by the metal's largest sector, the automotive market, where gross demand declined by 19.4 percent to 17.5t, the lowest level since 2004.

Demand from the glass and chemical industries also fell, to 0.5t and 1.5t respectively, due to delays in the installation of new capacity for the manufacturing process for various products. Both iridium and ruthenium demand declined for the third successive year in 2009. The former decreased by 10.8 percent to 2.6t, while the latter declined by 17.9 percent to 16.3 t.

PRICES

The platinum price recorded its sixth successive monthly increase in April 2009, attaining an average of $1 171/oz (Fig 2). It started the year at $934/oz, but broke through the $1000 barrier on the back of very strong purchasing by the Chinese jewellery industry. The price continued to firm as purchasing of the metal for investment and jewellery purposes remained at elevated levels. However, with concerns over economic conditions, coupled with the absence of strong physical demand, the price slipped down to $1 137/oz in May 2009. This was quickly followed by the prospects of potential loss of projected output, which helped the recovery of the price to an average of $1 222/oz in June 2009. The second half of the year was less volatile as increasing car sales, coupled with strong buying, propelled the price from $1 166 in July to an average of $1 450/oz in December 2009.

FIGURE 2: PGM MONTHLY AVERAGE PRICES, 2009.



Source: Johnson Matthey

Palladium started the year at $185/oz but broke through the $200 mark in February 2009, despite the uncertainty surrounding the automotive market. This was attributed to a substantial increase in the amount of palladium purchased by investors through the ETFs. As investor interest decreased, the metal could not find support from the jewellery sector and averaged $204/oz in March 2009. Like platinum, the prospect of disruptions to supply drove the price to $247/oz in June 2009. Physical demand remained fairly weak but speculations of an improvement in the automotive industry helped the metal maintain ground. The price continued to increase and eventually broke through $300/oz during October as investors showed a renewed appetite for palladium and remained convinced of the longer term potential of the metal. In response, palladium continued to rise to a new high of $402/oz in December, with a monthly average of $376 per ounce.

Rhodium suffered from low demand at the beginning of 2009 but still recorded a modest price increase due to very light trading. However, with automotive production weak around the world, the price softened to an average of $1 169/oz in March. Improved domestic sales from the Chinese automotive industry applied upward pressure on prices until August, when the price averaged $1 671/oz. The metal lost a bit of ground in September but during the last three months of the year, investor interest pushed the price higher, attaining an average of $2 423 for December. Prices for both ruthenium and iridium remained steady for most of the year. However, the ruthenium price climbed strongly in November and December, eventually averaging $160/oz, after completing six successive months at $90/oz. Iridium, on the other hand, completed the eleventh consecutive month of trading at $425/oz in December 2009.

DEVELOPMENTS IN SOUTH AFRICA

Production and Sales

South Africa's PGM production decreased by 1.6 percent to 271.3t in 2009 from 275.8t in 2008 (Table 3). Production of platinum and palladium fell by 3.7 percent to 140.7t and by 0.5 percent to 75.1t, respectively, while production of rhodium increased marginally to 20.0t. However, despite a significant increase of 12.5 percent to 250.9t in the export sales mass, revenue from such sales decreased by 31.3 percent to R53.5 billion, mainly due to the low PGM prices in 2009 resulting from the global economic crisis.

TABLE 3: SOUTH AFRICA'S PGM PRODUCTION AND SALES, 2009.

	PRODUCTION	EXPORT SALES		
PGM's	Tonnes	Tonnes	Value (R billion)	Unit Value (R million/t)
Platinum	140.8	137.5	41.2	299.6
Palladium	75.1	65.3	4.1	63.1
Rhodium	20.0	19.0	7.2	377.0
Iridium	6.4	3.4	0.4	117.6
Ruthenium	29.1	25.6	0.6	23.2
TOTAL	271.4	250.8	53.5	213.2

Source: DMR, Directorate Mineral Economics.

Downstream Value Addition

The South African government has taken one of the most important steps towards platinum downstream value addition by partnering with the private sector to establish a new company which will initially market and distribute fuel cells in South Africa, before manufacturing locally for the Sub-Saharan African market by 2013. This is in line with the National Hydrogen and Fuel Cells Research, Development and Innovation Strategy, which is aimed at enabling South Africa to extract more value from its platinum resources, ultimately supplying 25% of the world fuel cell demand by 2020.

Fuel cell technology is a pollution-free electricity generation technology that is expected to compete with traditional fossil fuels and hydrocarbon combustion. It uses a variety of feed streams such as hydrogen, ammonia and liquid petroleum gas to generate electricity, and uses platinum as a catalyst for the conversion of hydrogen into electricity. Because fuel cells have no moving parts and do not involve combustion, they can achieve up to 99.99 percent reliability. Fuel cells are therefore seen as energy solutions for the 21st century, providing alternative energy at a time when energy-intensive industries, such as mining, are faced with challenges relating to security of energy supply.

Employment

Employment in South Africa's platinum mining sector fell by 7.8 percent to 184 163 in 2009 (Table 4), while total remuneration increased by 6.5 percent, resulting in a 15.7 percent increase in the average remuneration per employee.

TABLE 4: EMPLOYMENT (INCLUDING CONTRACTORS) AND REMUNERATION IN SOUTH AFRICA'S PGM MINES, 2009.

YEAR	AVERAGE NUMBER OF EMPLOYEES	TOTAL REMUNERATION (R'000)	AVERAGE REMUNERATION (R/employee)
2005	155 034	11 357 785	73 260
2006	168 530	12 585 340	74 677
2007	186 411	18 341 043	98 390
2008	199 948	23 344 341	116 752
2009	184 163	24 879 139	135 093

Source: DMR, Directorate Mineral Economics

Mining

Anglo Platinum restructured its Rustenburg and Amandelbult mines into seven separate units. The company also closed three Rustenburg shafts and delayed expenditure on a number of capital projects, including Amandelbult no. 4 shaft, the Styldrift Merensky project and the Twickenham Platinum mine. Redevelopment of these projects is expected to commence in 2012. Meanwhile, in January 2010, Royal Bafokeng Resources assumed majority ownership and operational control of the Bafokeng Rasimone Platinum mine, which was previously a 50/50 joint venture managed by Anglo Platinum.
In mid-2009, Aquarius Platinum decided to redevelop the Everest mine, which was closed in December 2008 due to subsidence in mined out levels of the mine around the decline shaft following a period of heavy rainfall. The project involves construction of two new decline shafts to access the mining areas which were unaffected by the subsidence. Aquarius Platinum also acquired the UK company, Ridge Mining, which owns a 50 percent stake in the Blue Ridge mine.

By the end of 2009, the ramp up to full production was almost complete at Two Rivers Platinum mine, a joint venture between African Rainbow Minerals (ARM) and Impala Platinum Holdings Limited (Implats). Mill throughput rose to 2.8 Mt in 2009 and recoveries also improved as a result of optimization of the concentrator plant. Output increased to 3.7 t of platinum in concentrate during the year, but is expected to reach an annual capacity of 4.3 t.

In January 2010, Eastern Platinum announced commencement of redevelopment work at Crocette, a small section adjacent to the Crocodile River operations, which had been on care and maintenance since November 2008. At full production, Crocette is expected to contribute 1.4 t of PGMs annually.

OUTLOOK

Global platinum supplies are expected to increase in 2010 as the three newest mines in South Africa; Blue Ridge, Pilanesberg and Smokey Hills, continue to approach full production. The market is expected to be closer to balance in 2010 as gross platinum demand strengthens in the automotive sector. The metal is expected to trade between $1 600 and $2 000 per ounce during the second half of 2010.

More Russian state stock sales of palladium as well as an increase in palladium production from current mining operations are expected to elevate the metal's supplies in 2010 over 2009 levels. The market is forecast to be in a smaller surplus in 2010 than in 2009 due to the anticipated increase in gross demand for palladium, brought about by stronger physical investment and some recovery in the automotive industry. As a result, the price of palladium is expected to reach a high of $700/oz in 2010.

Rhodium supplies are expected to increase in 2010 due to increased production from South Africa, leading to another large surplus as automakers continue to implement lower rhodium-loaded technology, restricting growth in rhodium demand. It is not clear whether the strong price performance of rhodium in 2009 will continue in 2010 as it was based on speculative over-the-counter interest. Ruthenium demand is expected to rise in 2010 largely due to increased demand from the hard disk industry, while increasing car production will boost iridium demand for use in high-specification spark plugs.

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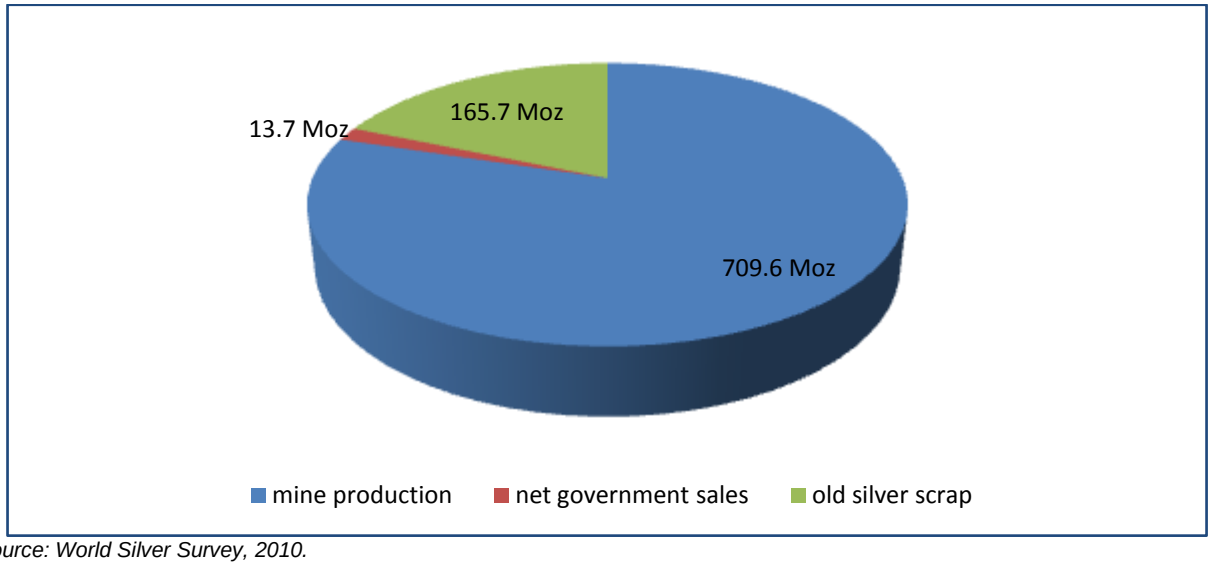
SILVER

Donald O. Moumakwa

WORLD SUPPLY

Global silver supply, including mine production and secondary supply, increased marginally in 2009 to 889 million ounces (Moz). Mine production contributed 709.6 Moz to total supply, while secondary supply, comprising net government sales and old silver scrap, accounted for the rest (Fig 1).

FIGURE 1: WORLD SILVER SUPPLY BY SOURCE, 2009.



Source: World Silver Survey, 2010.

Global silver mine production amounted to 709.6 Moz, an increase of 4.2 percent when compared to 2008. This was the seventh consecutive year of mine production growth, with gains coming from primary silver mines and as a by-product of gold mining. Peru remained the world's largest silver producing country in 2009, producing 123.9 Moz. (Table 1). In Latin America, silver output increased by 8 percent, with the most gains recorded in Argentina. Peru was followed by Mexico, China, Australia and Bolivia, all of which recorded production increases in 2009, except Australia where output from the lead/zinc sector decreased markedly. South Africa remained 20th in the world, accounting for only 0.4 percent of total world output.

TABLE 1: WORLD SILVER RESERVES AND MINE PRODUCTION, 2009.

COUNTRY	RESERVES[#]			PRODUCTION*		
	Moz	%	Rank	Moz	%	Rank
Australia	1 305	6.5	5	52.6	7.4	4
Bolivia	na	na	na	42.6	6.0	5
Chile	na	na	na	41.8	5.9	7
China	4 233	21.1	2	89.1	12.6	3
Kazakhstan	na	na	na	21.7	3.1	10
Mexico	1 411	7.0	4	104.7	14.8	2
Peru	1 305	6.5	5	123.9	17.5	1
Poland	4 939	24.6	1	39.2	5.5	9
Russia	423	2.1	7	42.2	5.9	6
South Africa	na	na	na	2.6	0.4	20
USA	2 822	14.0	3	39.8	5.6	8
SUBTOTAL	16 438			600.2		
Others	3 668	18.2		109.4	15.4	
TOTAL: 2009 2008	20106	100.0		709.6 680.9	100.0	

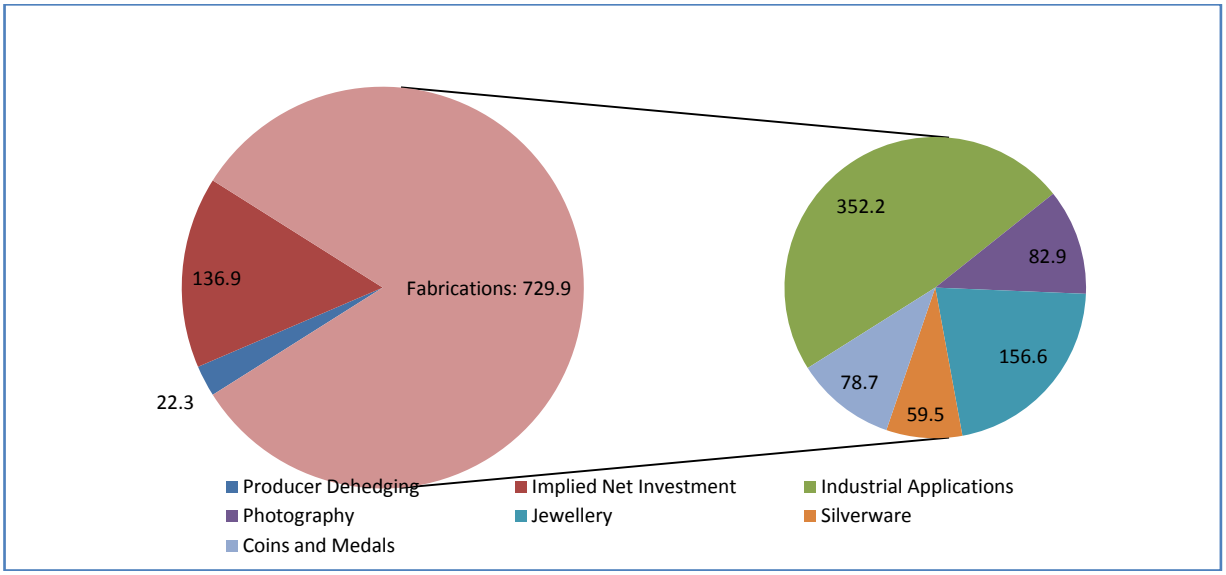
Sources: **World Silver Survey, 2010.*
[#]USGS, Mineral Commodity Summaries, 2010.

Secondary supply amounted to 179.4 Moz, a decrease of 13.5 percent, driven mostly by the drop in scrap supply, which decreased by 6 percent to a 13-year low of 165.7 Moz. This represented the third consecutive year of decline in the scrap category. Government stocks of silver are estimated to have fallen to their lowest levels in more than a decade, reaching only 13.7 Moz in 2009. Russia again accounted for the bulk of government sales, with China and India essentially absent from the market in 2009.

WORLD DEMAND

World silver demand amounted to 889 Moz, with the fabrication sector accounting for just over 80 percent. However, total fabrication demand decreased by 11.9 percent to 729.9 Moz (Fig 2), its lowest level since 2003. This was primarily due to the global financial crisis, reflected mostly in a sharp drop in industrial offtake. Implied net silver investment increased by 184 percent to 136.9 Moz in 2009, recording its highest level since 1990. Producer de-hedging of silver contracts rose substantially to 22.3 million ounces.

FIGURE 2: GLOBAL SILVER CONSUMPTION (Moz) BY SECTOR, 2009.



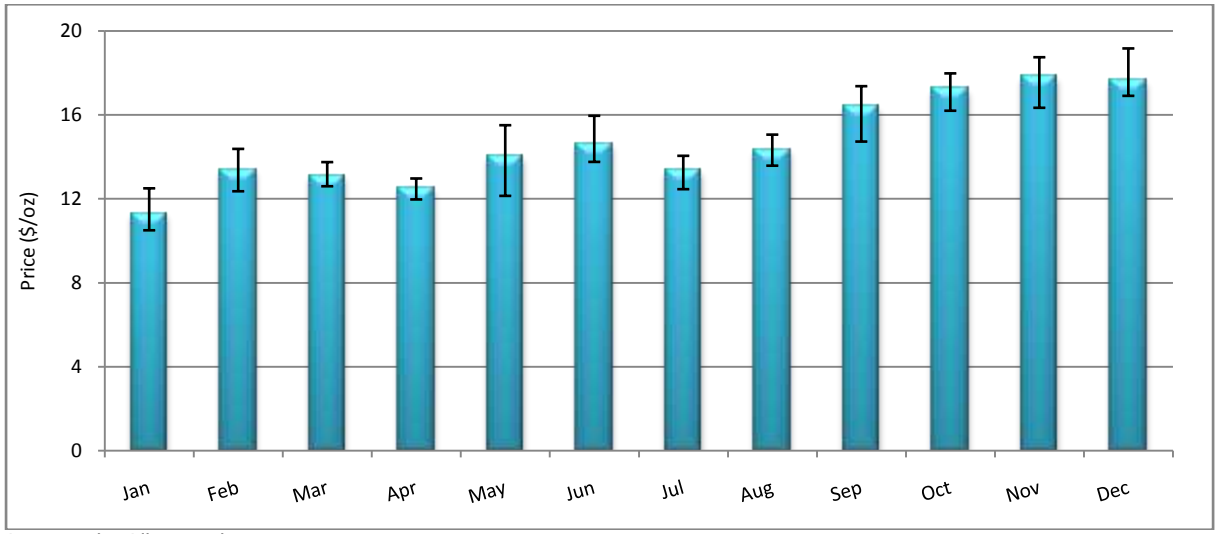
Source: World Silver Survey, 2010.

Of the total fabrication demand, industrial demand totaled 352.2 Moz in consumption. Overall jewellery demand diminished slightly by 1.1 percent in 2009 to 156.6 Moz but India and China recorded increases in jewellery, offsetting losses in most other markets. Silverware demand reversed the trend of the decade, rising by 4.6 percent to 59.5 Moz, largely due to a surge in Indian fabrication. Photographic demand was not immune to the global recession, as consumers took fewer pictures and digital photography made continued inroads, pushing silver photographic demand down to 82.9 Moz. Coins and medals fabrication rose by 21 percent to post a new record of 78.7 Moz, driven by a jump in retail demand.

PRICES

Figure 3 depicts monthly average silver prices for 2009. Strong gains in investment demand and a recovery in demand later in 2009 resulted in silver posting an average price of $14.67 per ounce for the year, the second highest annual average since the high reached in 1980. The 2009 average price was 2.1 percent lower than the previous year's average.

FIGURE 3: MONTHLY AVERAGE SILVER PRICES, 2009. THE MARKERS INDICATE THE HIGHS AND LOWS FOR EACH MONTH.



Source: The Silver Institute.

Much of the strength in investment gains in 2009 can be attributed to soaring demand for silver exchange traded funds (ETFs) as well as physical retail investment. This occurred on the heels of 2008's previous record ETF inflow of 265.3 Moz of silver. Total ETF holdings rose by 132.5 Moz over the course of 2009, ending the year at 397.8 Moz as new funds entered the marketplace from Australia and the United States.

DEVELOPMENTS IN SOUTH AFRICA

South Africa does not have a primary silver mine and the metal is only produced as a by-product of other minerals, most notably gold. Most of the gold operations in the country mined lower grade ore with relatively smaller amounts of silver. As a result, South Africa's silver production decreased by 3.7 percent to 2.6 Moz in 2009. Local sales stood at 0.28 Moz, while export sales decreased by 18.5 percent to 2.5 Moz. However, revenue from local sales improved by 10.4 percent to R30.9 million driven by investment demand, whereas export sales revenue fell by 19.5 percent to R256 million.

OUTLOOK

Total world silver supply is expected to increase marginally in 2010 as mine production increases further. Another successive record high of mine production is expected, with the bulk of the growth coming from the gold and base metals mining sectors. Scrap supply will continue to fall in 2010, although the scale of the decline is likely to be relatively modest. Government sales are set to remain at very low levels. In South Africa, silver output is expected to increase marginally as a result of the expected increase in production from platinum operations, spurred on by improving economic conditions.

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ENERGY MINERALS OVERVIEW

Mathabo Ikaneng

INTRODUCTION

South Africa is well endowed with both coal and uranium reserves and is ranked amongst the top ten in the world, but has relatively small known reserves of oil and gas. South Africa is the 7th and 11th largest world producer of coal and uranium, respectively. The country's coal reserves, located mainly in Mpumalanga, northern KwaZulu-Natal and Limpopo, are estimated at 30 billion tons while uranium is produced as a by-product of gold and copper and has resources estimated at 300 kt. More than 60 percent of South Africa's consumption of liquid fuels is derived from imported crude oil, while the balance is derived from synthetic fuels which are produced domestically from coal and natural gas.

PRODUCTION AND SALES

Global primary energy consumption, including oil, natural gas, coal, nuclear and renewable energy, fell by 1.1 percent in 2009. Energy consumption declined in all regions, led by OECD countries where consumption fell by 5 percent. The only regions that recorded consumption growth were Asia Pacific, led by the Chinese consumption growth of 8.7 percent and the Middle East.

Global oil production fell by 2.6 percent in 2009, driven by decreases in production from oil producing and exporting countries (OPEC). The Middle East was the major oil producing region, contributing over 75 percent of the world's total output. Global oil consumption fell by 1.7 percent in 2009, mainly as a result of the 4.8 percent decline in OECD consumption. In contrast, non-OECD consumption grew by 2.1 percent, driven by China, India and the Middle East.

Oil prices started recovering in 2009 as most economies seemed to emerge from the recession, after falling drastically in 2008 following the global economic slowdown. Prices rose from $40/bbl in January to $72/bbl in December and have been increasing throughout 2010. However, the average Richards Bay FOB price of South African coal was $60.99/t in 2009, 49 percent lower than in 2008. Uranium spot prices were 27 percent lower in 2009, averaging $46/lb, due to the continued effects of the global economic downturn.

Global gas production fell by 2.1 percent in 2009 due to declining consumption. For the third consecutive year, the US was the largest producer. Turkmenistan recorded the sharpest decline followed by Nigeria, Germany and Russia. Globally, natural gas consumption experienced a decline of 2.1 percent. Consumption declined in all regions except the Middle East and Asia. The OECD recorded a 3.1 percent decline.

The effects of the global economic downturn that began in 2008 were fully felt in 2009, resulting in a modest 2.1 percent growth in coal production to 6 902 Mt, following six years of strong growth that averaged 6 percent per annum. Global coal production was dominated by China, followed by the US, India and Australia. Global coal consumption increased by 3.2 percent to 6 833 Mt in 2009 led by China, the US and India.

Global uranium mine production increased by 12.4 percent to 49.4 ktU in 2009 dominated by production from Kazakhstan followed by Australia and Canada. Nuclear power generation was the main driver for global uranium demand, accounting for 15 percent of world electricity generation.

TABLE 1: SOUTH AFRICA'S PRODUCTION AND SALES OF ENERGY COMMODITIES, 2009

COMMODITY	YEAR	PRODUCTION	LOCAL SALES		EXPORT SALES		TOTAL SALES	
		kt	kt	R'000	kt	R'000	kt	R'000
Coal	2008	252 699	197 032	30 104 160	60 630	44 706 203	257 662	74 810 363
	2009	250 581	184 708	34 463 054	60 463	30 934 920	245 171	65 397 974
Uranium Oxide	2008	0.654	*	*	*	*	*	*
	2009	0.629	*	*	*	*	*	*
Subtotal	2008	252 700	197 032	30 104 160	60 630	44 706 203	257 662	74 810 363
	2009	250 582	184 708	34 463 054	60 463	30 934 920	245 171	65 397 974
Natural Gas	2008	1 154	1 154	2 326 084	-	-	1 154	2 326 084
	2009	973	973	1 456 921	-	-	973	1 456 921
Natural Gas Condensate	2008	147	147	923 099	-	-	147	923 099
	2009	131	131	619 455	-	-	131	619 455
Subtotal	2008	1 301	1 301	3 249 183	-	-	1 301	3 249 183
	2009	1 104	1 104	2 076 376	-	-	1 104	2 076 376

Source: DMR, Mineral Economics Directorate

South Africa's annual coal production fell to 250.6 Mt in 2009, a 0.4 percent decline compared to 2008 while uranium production declined by 5 percent to 623 t U_3O_8. Local coal volume sales accounted for over 75 percent of total sales, while all the uranium produced was exported. Coal export sales volumes declined by over 30 percent to 60.5 Mt. Total revenue generated from coal sales amounted to R30.9 billion. Natural gas production totaled 973 kt in 2009, a 16 percent decline resulting in lower sales and revenue generated.

EMPLOYMENT

Employment in the coal industry has been on the increase for the past five years. Employment rose by 24.3 percent to 70 792 in 2009 from 56 971 in 2005 (Table 2). Over the same period, total remuneration increased by 97.7 percent to R 12.8 billion and the average annual earning rose by 59.1 percent to R 181 028 per employee.

TABLE 2: SOUTH AFRICAN COAL MINES EMPLOYMENT AND GROSS REMUNERATION 2005 – 2009

YEAR	EMPLOYEE	REMUNERATION	
	Number	R'000	R'000/Employee
2005	56 971	6 481 823	113.77
2006	57 778	7 269 836	125.82
2007	60 439	8 692 064	143.82
2008	65 484	11 020 687	168.29
2009	70 792	12 815 328	181.03

Source: DMR, Mineral Economics Directorate

OUTLOOK

Demand from developed economies is expected to remain weak but fundamental drivers such as population growth, urbanization and growth in industrial production from developing economies will continue to support demand growth. Continuing economic growth in China and India underpinned by urbanization will result in increasing demand and consumption of energy commodities through

infrastructure development. Global consumption of oil will grow by 1.6 million bbl/d in 2010 and by the same amount in 2011. Most of this growth is expected to occur in non-OECD countries.

Oil production is expected to grow by 2 percent in 2010 and a further 2.5 percent in 2011. OPEC oil production is forecast to increase by 2.7 percent in 2010 and a further 5.1 percent in 2011. This growth is supported by an increase in natural gas liquid production in 2010 as well as new oil fields and a higher utilisation rate of existing capacity in 2011. Non-OPEC oil supply is also expected to increase to meet a projected increase in demand. Growth is expected from Brazil, Azerbaijan and Kazakhstan but this growth will be offset by declines in Mexico, the UK and Norway. Oil sands, synthetic oil (gas to liquid and coal to liquid) and shale oil are expected to contribute to non-conventional oil supply. CTL production is expected to contribute the most to the expected growth from non-conventional sources, coming mainly from South Africa, China and the US.

Global coal production is anticipated to grow by 4.1 percent in 2010 and 2011 driven by growth in Asia and South Africa. Coal demand from developed countries is expected to remain weak but demand growth from developing countries will likely bring the world market into deficit in 2010 and 2011.

Global uranium production is expected to increase by 5 percent in 2010 as a result of expected new capacity from regions such as Kazakhstan, Africa and Australia. Consumption is forecast to grow by 6 percent driven by the increase in nuclear power generation capacity.

Oil prices are expected to increase marginally in 2010 supported by demand from developing economies including India, China, the Middle East and Latin America. The upward pressure on oil prices will be limited by the build-up in OPEC spare production capacity and higher oil stocks in OECD economies.

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COAL

Mathabo Ikaneng

WORLD SUPPLY

In 2009, global coal production (both hard and brown coal) rose by 2.1 percent to 6 902.9 Mt, following six years of strong growth that averaged 6 percent per annum. China, at 2 971.4 Mt continued to dominate world coal production, followed by the US's 984.5 Mt, India's 560.8 Mt and Australia's 399.2 Mt (Table 1).

The global economic downturn which began in the 4th quarter of 2008, whose effects were fully felt in 2009, had an impact on global coal production growth rate. World hard coal production rose by 3.4 percent (compared to 6.5 percent in 2008) to reach 5 989.6 Mt, driven predominantly by China, which recorded an 8.7 percent growth in production in 2009. Production in OECD countries amounted to 1 433.4 Mt, a 6.4 percent decline compared with 2008, while non-OECD countries increased output by 6.9 percent to reach 4 556.2 Mt.

TABLE 1: WORLD COAL RESERVES, PRODUCTION AND EXPORTS, 2009

	RESERVES[1]			PRODUCTION[2]			EXPORTS[2]		
COUNTRY	**Mt**	**%**	**Rank**	**Mt**	**%**	**Rank**	**Mt**	**%**	**Rank**
Australia	36 800	8.9	5	399.2	5.8	4	261.7	27.8	1
Canada	3 471	0.8	11	50.9	0.7	12	28.2	3.1	7
China	62 200	15.1	2	2971.4	43.0	1	22.8	2.4	9
Colombia	6 434	1.6	9	73.3	1.1	10	69.8	7.4	4
India	54 000	13.1	3	560.8	8.1	3	2.2	0.2	12
Indonesia	1 721	0.4	12	301.5	4.4	5	237.2	25.2	2
Kazakhstan	28 170	6.8	7	101.5	1.5	9	23.1	2.5	8
Poland	6 012	1.5	10	135.1	2.0	8	8.4	0.9	10
Russia	49 088	11.9	4	296.8	4.3	6	116.2	12.4	3
South Africa*	30 408	7.4	6	250.6	3.6	7	60.5	6.4	5
Ukraine	15 351	3.7	8	55.0	0.8	11	5.3	0.6	11
USA	108 950	26.5	1	984.5	14.3	2	53.6	5.7	6
Other	8 716	2.1		722.1	10.5		50.5	5.4	
	411 321	**100**		**6 902.8**	**89.5**		**939.5**	**100**	

Source:[1]BP Statistical Review of World Energy, June 2010
[2]Coal Information 2010, International Energy Agency – OECD/IEA
**DMR, Mineral Economics Directorate – production and exports figures*

Brown coal production fell to 913 Mt, a 5.4 percent decline below the 2008 level as a result of the decrease in electricity demand due to the global economic downturn. Production from OECD countries declined by 4.8 percent while non-OECD production fell by 6.4 percent. Among the biggest brown coal producing countries, Germany, at 17.3 percent experienced the largest decline to 169.9 Mt followed by Turkey's 8.2 percent to 70.5 Mt and Russia's 3.1 percent to 68.2 Mt.

CONSUMPTION

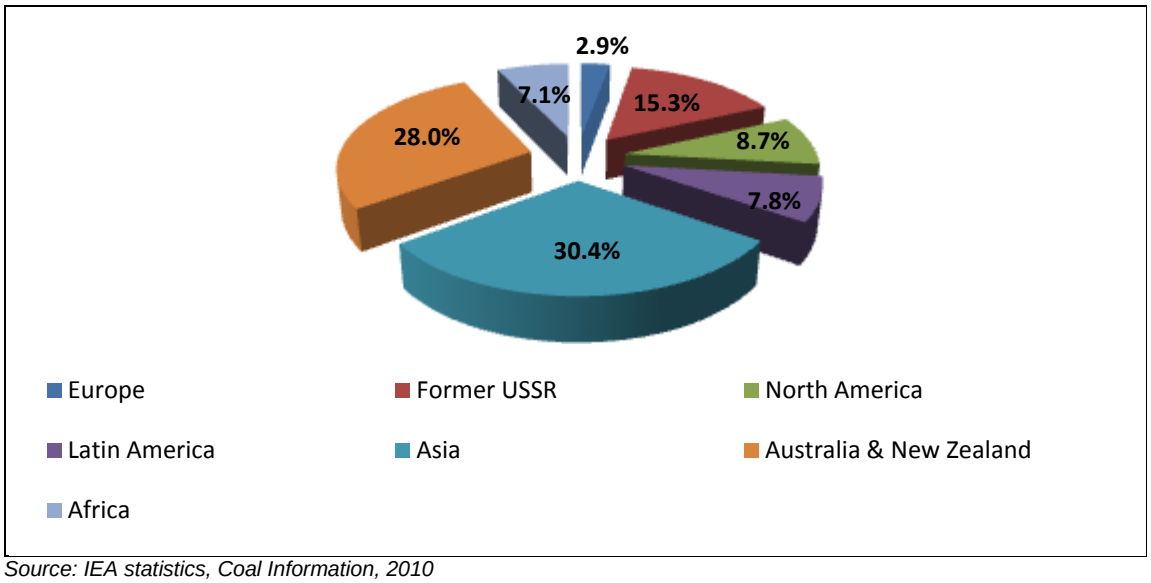
Approximately 76 percent of world consumption of coal is accounted for by five countries: China, the US, India, Russia and Japan. Total global coal consumption was up 3.2 percent to 6 833 Mt in 2009, with consumption of hard coal increasing by 4.6 percent to 5 924.3 Mt while brown coal consumption declined by 5.7 percent to 909.2 Mt.

China remained the largest consuming country in 2009, increasing consumption by 15.3 percent to 3 085.6 Mt followed by the US' 920.8 Mt and India's 626.4 Mt.

TRADE

World hard coal trade was estimated at 940.8 Mt in 2009, a 0.3 percent increase compared with 2008. Australia remained the largest coal exporter, increasing its hard coal exports by 3.8 percent to 261.7 Mt in 2009. Indonesia continued to show strong growth with a 13.4 percent increase to reach 229.7 Mt in 2009 and remains the second largest hard coal exporter, followed in third and fourth positions by Russia (116.2 Mt) and Colombia (69.5 Mt).

FIGURE 1: EXPORTS BY REGION IN 2009



Source: IEA statistics, Coal Information, 2010

South Africa is amongst the countries that recorded declines in hard coal exports. The largest decline was experienced by China where exports dropped by 98.7 percent, followed by the US with 38.0 percent and Canada with 10.2 percent.

Preliminary world hard coal import figures were estimated at 926.5 Mt in 2009, 2.1 percent lower than 2008. The top five ranking coal importing countries in 2009 were, in order: Japan (164.8 Mt), China (137.0 Mt), Korea (103.0 Mt), India (67.7 Mt) and Taipei (60.3 Mt). China's imports grew by 240 percent from 40.3 Mt to 137.0 Mt and as a consequence, China moved from sixth on the import rankings to second. India's imports increased by 14.7 percent to pass Taipei in import rankings.

SOUTH AFRICA

Total Run-Of-Mine (ROM) production in South Africa increased marginally by 0.4 percent to 317.3 Mt in 2009 compared with 2008. Saleable coal production fell by 0.8 percent, to reach 250.6 Mt (Table 2), as a result of poor demand emanating from depressed global markets. Of the total ROM production, 55.4 percent was provided by opencast mining, while the balance was produced by bord and pillar (37.0 percent), stoping (4.6 percent) and longwall (3.1 percent). Coal mines discarded 66.7 Mt of waste product, 3 Mt more than in 2008. The increase in coal discards has created other opportunities in energy generation and liquid fuel production.

TABLE 2: SOUTH AFRICA'S PRODUCTION AND SALES OF SALEABLE COAL, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		MASS	VALUE (FOR)		MASS	VALUE (FOB)	
	Mt	Mt	R'000	R/t	Mt	R'000	R/t
2000	224.1	154.6	8 772 310	57	69.9	9 234 328	160
2001	223.5	152.2	9 564 521	63	69.2	11 185 460	245
2002	220.2	157.6	11 773 123	75	69.2	16 956 659	280
2003	239.3	168	13 212 837	79	71.5	19 366 998	189
2004	242.8	178.3	13 606 151	76	67.9	13 490 623	213
2005	245.0	173.4	14 878 140	86	71.4	14 472 904	296
2006	244.8	177	16 245 861	92	68.7	21 155 176	316
2007	247.7	182.8	19 718 642	108	67.7	21 745 322	361
2008	252.7	197	30 104 161	153	60.6	44 706 204	737
2009	250.6	184.7	34 463 054	187	60.5	30 934 920	512

Source: Mineral Economics Directorate, DMR

Local sales mass accounted for 75.3 percent of total saleable coal production while the remaining 24.7 percent was exported. Local sales value increased by 14.5 percent, while export sales value decreased by 30.8 percent resulting in a 12.6 percent decline in total sales value.

TABLE 3: SOUTH AFRICA'S PRODUCTION AND SALES OF ANTHRACITE, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		MASS	VALUE (FOR)		MASS	VALUE (FOB)	
	kt	kt	R'000	R/t	kt	R'000	R/t
2000	1 618	515	130 438	253	1 125	224 747	200
2001	1 607	470	150 797	320	970	283 805	292
2002	1 305	392	148 953	379	759	286 970	378
2003	1 206	181	181 265	394	584	172 202	295
2004	1 247	545	224 882	412	917	235 667	257
2005	1 640	715	294 454	412	524	193 634	369
2006	1 584	821	374 113	455	672	258 063	384
2007	2 348	975	473 998	486	910	405 109	445
2008	2 207	961	581 207	604	1 265	762 064	602
2009	1 658	786	549 620	699	598	517 126	863

Source: Mineral Economics Directorate, DMR

South Africa's anthracite production amounted to 1 658 kt in 2009, a 24.9 percent drop compared with 2008 (Table 3). Local and export sales mass declined by 18.3 and 52.7 percent to 786 kt and 598 kt, respectively, while revenue from local and export sales dropped by 5.4 percent and 32.1 percent respectively, due to lower sales volume. The local average unit value increased by 15.7 percent while the export average unit value increased by 43.4 percent.

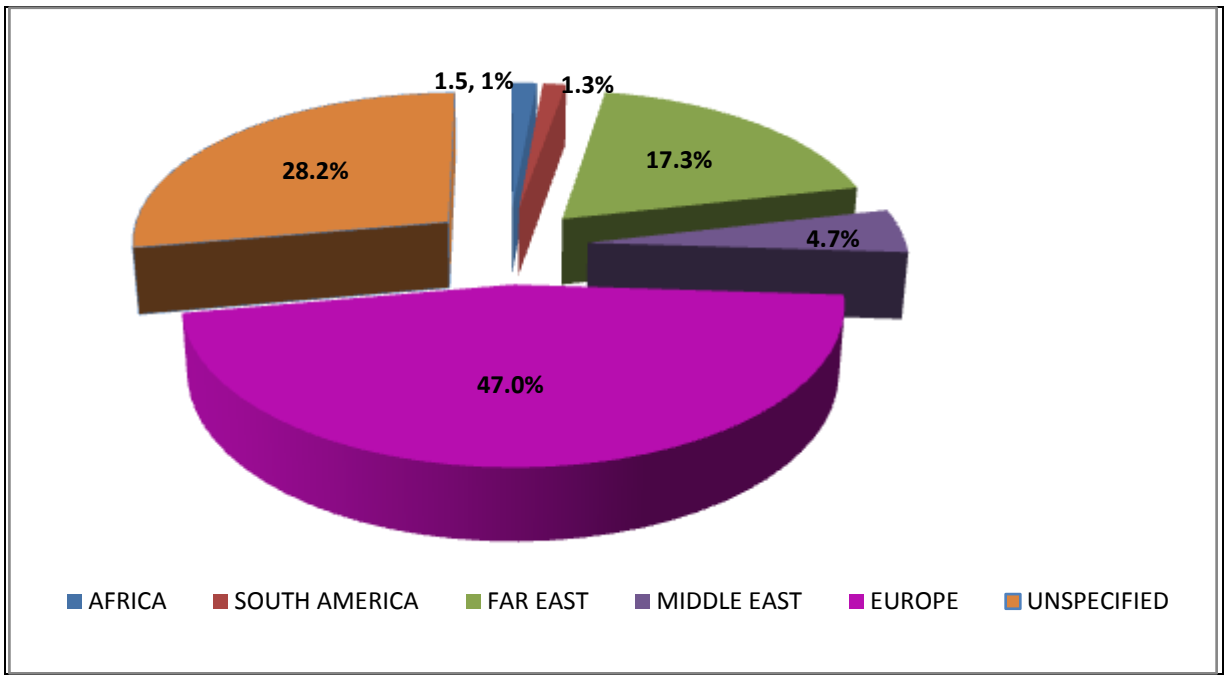
TABLE 4: SOUTH AFRICA'S BITUMINOUS COAL PRODUCTION AND SALES, 2000 – 2009

		LOCAL SALES			EXPORT SALES		
YEAR	PRODUCTION	MASS	VALUE (FOR)		MASS	VALUE (FOB)	
	Mt	Mt	R'000	R/t	Mt	R'000	R/t
2000	222.5	154.1	8 319 975	56	68.8	10 960 713	160
2001	222.1	152.1	9 413 724	62	69.2	16 956 659	244
2002	218.9	157.2	11 624 170	74	69.2	19 080 028	279
2003	238.1	167.6	13 031 572	78	71	13 318 421	188
2004	241.5	177.8	13 381 268	75	67.9	14 237 236	212
2005	243.3	172.7	14 583 685	84	70.9	20 961 542	296
2006	244.8	176.2	15 871 748	90	68.1	21 477 286	315
2007	245.3	181.8	19 244 643	106	66.7	24 042 564	360
2008	250.5	196.1	29 522 953	151	59.4	43 944 138	740
2009	248.9	183.9	33 913 433	184	59.9	30 417 794	508

Source: Mineral Economics Directorate, DMR

South Africa's bituminous coal production fell by 0.6 percent to 248.9 Mt compared with 2008 (Table 4). Local sales mass declined by 6.2 percent while revenue from local sales increased by 14.9 percent to R33.9 billion as a result of higher average local unit values, which increased by 21.9 percent to R184/t. Export sales mass increased by 0.8 percent to 59.9 Mt while the export sales value declined by 30.8 percent to R30.4 billion, resulting from a 31.4 percent drop in the export average unit value to R508/t.

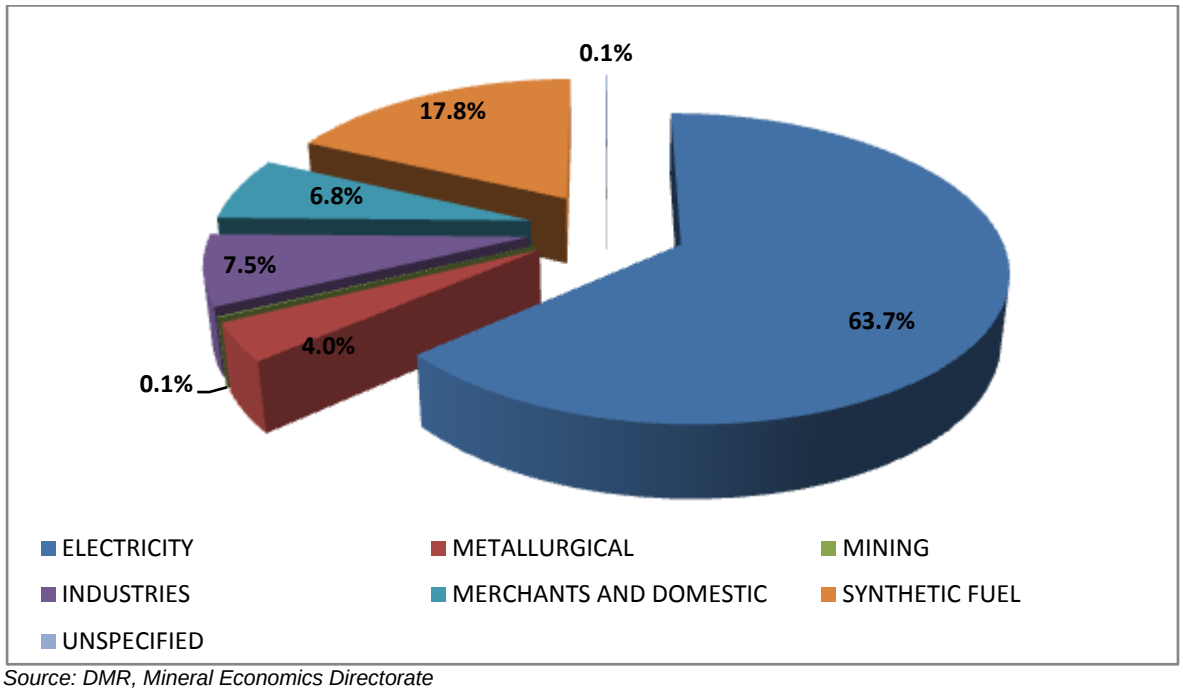
FIGURE 2: SOUTH AFRICA'S EXPORT VOLUMES BY REGIONAL DESTINATION, 2009



Source: DMR, Mineral Economics Directorate

Total exports decreased by 0.2 percent to 60.5 Mt owing to lower sales to Europe, South America and Africa, while exports to the Far East and Middle East increased (Fig. 2). South African coal exports to Europe decreased by 28.4 percent while South America and Africa recorded 47.8 percent and 22.6 percent decreases, respectively. The Far East recorded a 171 percent increase in exports while exports to the Middle East increased by 15.4 percent.

FIGURE 3: CONSUMPTION BY SECTOR, 2009



Source: DMR, Mineral Economics Directorate

Most of the coal sold locally was consumed by the electricity sector, which accounted for over 63 percent of the domestic sales while the synthetic fuel sector consumption dropped to 17.8 percent. The industrial sector, including mining, consumed 7.6 percent, the metallurgical sector used 4.0 percent and merchants bought 6.8 percent of locally sold coal (Fig. 3). The increase in global demand for coal could result in a shift in this scenario with more of the coal that would have been destined for electricity generation being exported to Asian countries, threatening the country's security of coal supply.

DEVELOPMENTS IN 2009/2010

The development of Keaton Energy's Vanggatfontein coal project which was due to start in 2009 was delayed by a year, mainly due to market conditions and compliance with the regulation requirements. The first metallurgical coal from the No 5 seam operation, which is being developed as Phase One, was delivered to the market on the 3rd of December 2010. A larger operation would be set up during the second phase development to produce domestic power station coal from the No.2 and No.4 seams. Approximately R158 million is committed to the first phase of the Vanggatfontein project which will produce 30 kt per month of high quality metallurgical coal.

Keaton Mining, a subsidiary of Keaton Energy, concluded negotiations with Eskom, South Africa's power utility, to supply 16.5 Mt of steam coal from the Phase 2 Vanggatfontein project over a period of seven years. The No.2 and No.4 seam coal will be mined from an open pit operation from April 2011 and will supply various Eskom power stations. Production will start at 50 kt/month and ramp up to 200 kt/month by July 2011. The development of Phase 2 will cost R180 million and production is expected to reach the targeted 2 Mt per annum production in 2012.

The board of Petmin has approved capital expenditure of R120 million for the construction of the second coal processing plant at the Somkhele anthracite mine in KwaZulu-Natal. The construction of the second plant will double production capacity to approximately 1.1 Mt per annum. The plant will be commissioned by 31 December 2011. The additional capacity of approximately 535 kt/a will position Somkhele mine as the largest producer of metallurgical anthracite in the country.

Coal of Africa was granted a new order mining right for the Vele coking coal project located in the Limpopo Province and a conditional new order mining right for the Holfontein Coal project near Secunda. The Vele project will be developed in two phases, with Phase 1 commenced in the first quarter of 2010 including the establishment of a coal treatment plant, having the capacity to deliver 1 Mt/a of saleable coking coal. Phase 2 will produce 5 Mt/a of coking coal depending on prevailing market conditions. Capital expenditure on the Vele project to produce 5 Mt/a will be approximately R3 billion.

In September 2009, Coal of Africa (CoAL) finalized a Black Economic Empowerment (BEE) deal. CoAL issued 50 million shares, representing approximately 10.85 percent of its issued share capital, to Firefly Investment. The options are exercisable at 60 Australian pence each, expiring five years from the date of issue, and subject to a 12 month "lock-in-period". Firefly also has the right to nominate two persons to the CoAL board. Firefly is wholly owned and controlled by historically disadvantaged South Africans (HDSAs); current shareholders include Mosomo Investment Holdings and Mtungwa Resources. The agreement will be implemented immediately to ensure compliance with legislative requirements.

Continental Coal reported that it is confident that the Vlakvarkfontein operation, which started coal mining activities in May 2010, will be able to sustain production levels of 100 kt per month in 2010 and beyond. Over 5 kt of coal from the first production blast has been delivered to wash plants for treatment and further analyses to determine whether the coal can be upgraded to a higher value domestic product. The coal already falls within Eskom's coal quality specifications.

Coal miner and trader, Wescoal, will conclude a deal in 2010 that will increase the company's coal reserves by between 3 Mt and 13 Mt, which would result in the company growing its reserves from the current 4.2 Mt. Wescoal's Khanyisa mine is on track to produce 1.2 Mt of coal in 2010 from the mine's 4.2 Mt in situ reserves, which is not sustainable. The company is reportedly searching for additional reserves in the Witbank and Highveld coalfields. Wescoal plans to extend the capacity of its pilot coal briquetting plant at Khanyisa mine from 2.5 kt/m to 10 kt/m.

Optimum Coal listed on the general mining sector of the Johannesburg Stock Exchange (JSE) on March 2010. The company anticipates that around R1.6 billion will be raised through subscription for new shares and an offer for sale by certain shareholders. The net proceeds raised by Optimum will be used to fund capital requirements, repay debt incurred with the acquisition of a controlling interest in Koornfontein mine and to fund potential acquisitions.

An Australian exploration company, Firestone Energy, in a joint venture (JV) with Sekoko Coal, is planning a 360 kt/a thermal coal mine in the Waterberg coalfield. The mine is expected to produce 720 kt/a of ROM and 360 kt/a of saleable tonnage, a quarter of which will be high calorific, low ash yield and the remainder, middlings suitable for thermal coal used by Eskom. Firestone finalized a second JV agreement with Sekoko following the revision of the company's coal resources estimation methods, which resulted in a 12 percent increase in indicated and inferred coal resources to 2.9 billion tons and 1.12 billion tons of saleable coal respectively. Firestone will issue Sekoko Coal with R293 million in shares as well as a reimbursement of R19.49 million in respect of exploration and development of the mining area.

Exxaro has undertaken rail studies in a JV feasibility study with Transnet, to increase capacity of the rail link from Lephalale to Witbank. The current capacity on the line is 4 Mt/a and could increase to 10 Mt/a, at an approximate cost of R3.9 billion. The study is for the proposed phase one expansion of the line in 2010.

Miranda Minerals was granted mining rights for its Burnside coal project in KwaZulu-Natal. A pre-feasibility study would be commissioned in 2010 and the company will start producing in mid 2011.

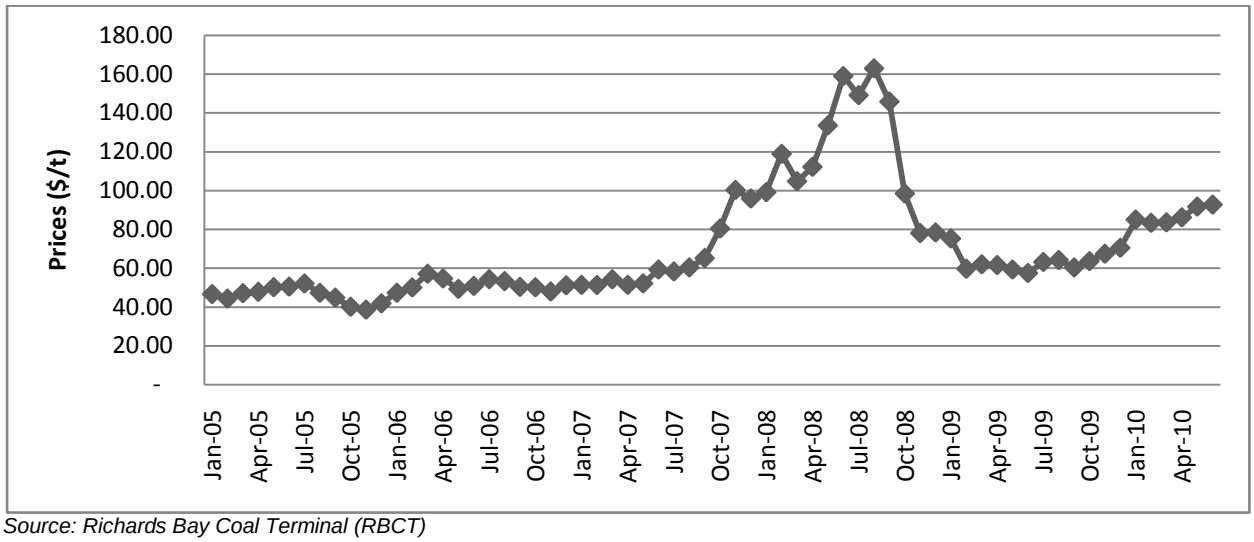
Anglo Coal has undertaken the Zibulo project (formely known as Zondagsfontein) in the Mpumalanga Province. The Zibulo project is expected to produce 6.6 Mt/a of coal for delivery to Eskom and export markets. Part of the project is Anglo's 50:50 JV with BHP Billiton Energy Coal South Africa (BECSA) to establish a coal washing plant. Investment into the Zibulo project is expected to amount to $512 million, and full production is expected in the fourth quarter of 2012. Anglo Coal Inyosi is also expected to complete its prefeasibility study on the $1.2 billion New Largo project. The project will supply Eskom's Kusile power station, which is currently under construction, with 14 Mt/a of energy coal.

The UN Climate change conference was held in Cancun in December 2010 and Africa, including South Africa called for two pronged legally binding outcome. The propositions was for the developed countries that had joined the Kyoto protocol to agree on a 2nd commitment period under the protocol and for the developed countries who did not join the Kyoto Protocol to take comparable commitments under the Convention with a collective effort for developed counties adding up to required scientific levels of 25% to 40% aggregate reduction from 1990 levels by 2020. In addition, developed nations should also contribute financially, technically (technology) and provide capacity building support. No agreement on the 2nd track of the outcomes was reached and further negotiations on this deferred to the next Climate Change Conference to be held in Durban, South Africa in December 2011.

PRICES

In 2009 global coal stocks and coal demand were slightly better than in 2008, but the declining stocks and increasing demand did not have a positive effect on coal prices.

FIGURE 4: RBCT MONTHLY COAL PRICES



Source: Richards Bay Coal Terminal (RBCT)

The average Richards Bay FOB price of South African coal was $60.99/t in 2009, 49 percent lower than in 2008. After peaking in August 2008, coal prices fell to 2007 levels. Prices started to increase from November 2009 as Asian demand gained momentum. Prices reached a peak of $70.42/t in December 2009 and in July 2010 coal was trading over $90/t.

OUTLOOK

Coal consumption fell in most regions during the global recession. Production fell in all regions before improving during the second half of 2009, with modest price increases. As a result, global production grew by only 2.1 percent in 2009, well below the trend of recent years. However, global production is expected to grow by 4.1 percent in 2010 and 2011, with most of the growth coming from Asia and South Africa.
Global coal consumption is expected to increase gradually in 2010 and 2011 driven mainly by strong demand growth in developing countries. India and China are expected to account for most of this increase. Consumption in developed counties is expected to stagnate, particularly in Europe and the US where consumption will be constrained by the increasing price competitiveness and availability of gas. Until clean coal technology becomes commercially viable, consumption growth by developed countries is expected to be minimal.

Although coal demand from developed countries is expected to remain weak, strong demand from developing countries, Asia in particular, might bring the coal market into deficit in 2010 and 2011, therefore pushing prices up. However, challenges of market access, faced by Australia and Indonesia could bring market tightness in Asia, although less traditional suppliers to Asia are likely to fill some of the shortfall.

South Africa's exports are expected to remain steady. Weak demand from the Atlantic market, where most of South Africa's coal is sold, will be offset by increased exports to Asian customers. In 2011, South Africa's coal exports are forecast to increase slightly supported by gradual demand recovery from Europe.

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HYDROCARBONS

Mathabo Ikaneng

WORLD SUPPLY

In 2009, global proven oil reserves increased by 0.5 percent from 1332.4 billion barrels (bbl) in 2008 to 1333.1 billion bbl (Table 1). The Organisation of Petroleum Exporting Countries (OPEC) accounted for 76 percent of the global oil reserves, dominated by the Middle East with an estimated 56.6 percent of the world's proven reserves.

TABLE 1: WORLD RESERVES AND PRODUCTION OF OIL AND NATURAL GAS, 2009

	PROVED RESERVES				PRODUCTION			
	OIL		GAS		OIL^{+}		GAS*	
	(bbl X 10^9)	%	(m^3 X 10^{12})	%	(1000 bbl/d)	%	(m^3 X 10^9)	%
OPEC COUNTRIES								
Algeria	12.2	0.9	4.50	2.4	1181	1.5	81.4	2.7
Indonesia	4.4	0.3	3.18	1.7	1021	1.3	71.9	2.4
Iran	137.6	10.3	29.61	15.8	4216	5.3	131.2	4.4
Iraq	115.0	8.6	3.17	1.7	2482	3.1	-	0.0
Kuwait	101.5	7.6	1.78	0.9	2481	3.1	12.5	0.4
Libya	44.3	3.3	1.54	0.8	1652	2.1	24.9	0.8
Nigeria	37.2	2.8	5.25	2.8	2061	2.6	24.9	0.8
Qatar	26.8	2.0	25.37	13.5	1345	1.7	89.3	3.0
Saudi Arabia	264.6	19.8	7.92	4.2	9713	12.1	77.5	2.6
UAE	97.8	7.3	6.43	3.4	2599	3.3	48.8	1.6
Venezuela	172.3	12.9	5.67	3.0	2437	3.0	27.9	0.9
Subtotal	**1 013.7**	**76.0**	**94.4**	**50.4**	**31 188**	**39.0**	**590.3**	**19.8**
OTHER SELECTED COUNTRIES								
Argentina	2.5	0.19	0.37	0.20	676	0.8	41.4	1.4
Australia	4.2	0.32	3.08	1.64	559	0.7	42.3	1.4
Brazil	12.9	0.97	0.36	0.19	2029	2.5	11.9	0.4
Brunei	1.1	0.08	0.35	0.19	168	0.2	11.4	0.4
Canada	33.2	2.49	1.75	0.93	3212	4.0	161.4	5.4
China	14.8	1.11	2.46	1.31	3790	4.7	85.2	2.9
Ecuador	6.5	0.49	-	0.00	495	0.6	-	0.0
EE#	136.9	10.27	63.09	33.65	17702	22.1	973.0	32.6
India	5.8	0.44	1.12	0.60	754	0.9	39.3	1.3
Malaysia	5.5	0.41	2.38	1.27	740	0.9	62.7	2.1
Mexico	11.7	0.88	0.48	0.26	2979	3.7	58.2	1.9
Oman	5.6	0.42	0.98	0.52	810	1.0	24.8	0.8
USA	28.4	2.13	6.93	3.70	7196	9.0	593.4	19.9
Other	50.3	3.77	9.72	5.18	7650	9.6	291.7	9.8
Subtotal	**319.4**	**24.0**	**93.1**	**49.6**	**48 760**	**61.0**	**2 396.7**	**80.2**
TOTAL	**1 333.1**	**100.0**	**187.49**	**100**	**79 948**	**100.0**	**2 987**	**100**

Source: BP Statistical Review of World Energy, June 2010

Notes: + includes crude oil, shale oil, oil sands and natural gas liquids and excludes liquid fuels derived from other sources such as coal

**excludes gas flared or recycled*

 # Europe and Eurasia

Global oil production declined by 2.6 percent to 80 million bbl/d in 2009, due to OPEC's production cuts intended to keep prices from OPEC countries steady. OPEC implemented production cut backs in late 2008 which were maintained throughout 2009, resulting in a 7.3 percent (2.5 million bbl/d) reduction in output. Despite the drop in output in the Middle East, it was still the major oil producing region, contributing a third of the world's total output.

World proven gas reserves increased by 1.2 percent to 187.49 trillion m^3 in 2009. The Middle East, Europe and Eurasia accounted for 74.3 percent of the total reserves. Global gas production fell by 2.1 percent in 2009 to 2 987 billion m^3. Turkmenistan recorded the sharpest decline of 44.8 percent, followed by Nigeria (28.7 percent), Germany (16.3 percent) and Russia (12 percent) driven by declining consumption. The US was the largest producer (593.4 billion m^3) for the 3rd consecutive year, surpassing Russia as the world's largest producer. Production in the Middle East and Asia Pacific also increased, driven by production growth in Qatar (16.3 percent), Iran (13.1 percent), India (28.9 percent) and China (6.4 percent).

CONSUMPTION

Global primary energy consumption fell by 1.1 percent in 2009. Consumption declined in all regions except Asia Pacific and the Middle East where it grew by 4.4 percent and 4.0 percent respectively. The biggest contributor to the decline was the OECD countries, where consumption dropped by 5 percent. Chinese consumption grew by 8.7 percent of world consumption.

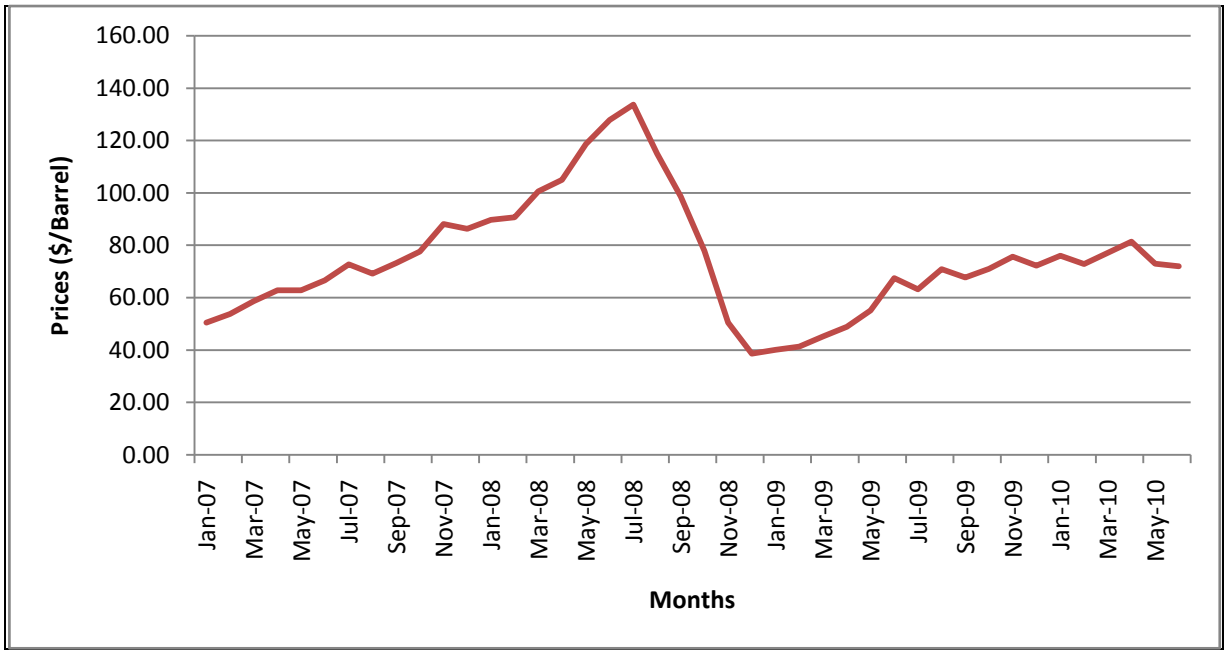
Global oil consumption fell by 1.7 percent (1.2 million bbl/d) in 2009. Consumption growth, outside the OECD, slowed to 860 000 bbl/d led by China's 6.7 percent, India's 3.7 percent and Middle Eastern countries' 3.8 percent consumption growth.

Natural gas consumption declined by 2.1 percent globally. Consumption declined in all regions except the Middle East and Asia. The OECD recorded a 3.1 percent decline. India's consumption increased by 25.9 percent while Iran, with a 10.7 percent increase, saw the highest increase in volume terms.

PRICES

In 2008, monthly average crude oil prices fell from a high of $133/ bbl in July to a low of $38/bbl in December due to the global economic crisis and the subsequent recession in the OECD countries as well as the slowdown in economic activities in the developing countries. This resulted in stifled demand for oil. Since the beginning of 2009, prices started recovering as most economies appeared to emerge from the recession. Prices rose from $40/bbl in January to $72/bbl in December (Fig. 1). Since the beginning of 2010, prices have been trading between $ 72/ bbl and $85/bbl.

FIGURE 1: MONTHLY CRUDE OIL PRICES, 2007 – 2010



Source: IEA website

SOUTH AFRICA AND AFRICA

South Africa hosts only small deposits of oil offshore resulting in over 60 percent import of refinery feedstock requirements.

South Africa has four crude oil refineries, namely, Sapref and Enref both in Kwa-Zulu Natal, Chevref in the Western Cape and Natref in the Free State as well as two synfuel plants. The country has the second largest refining capacity in Africa after Egypt (747 000 bbl/d) with a capacity of 692 000 bbl/d and the four refineries account for 72 percent of the total capacity. The remaining 28 percent is contributed by to the country's synfuel facilities in Secunda (Sasol) and Mossel Bay (PetroSA), which converts coal and natural gas into liquid fuels.

State owned PetroSA has intensified its efforts to develop the proposed new 400 000 bbl/d crude oil refinery, Project Mthombo, to be built at Coega, in the Eastern Cape. The estimated cost of the project is $9bn. KBR, a US based engineering company, is undertaking feasibility studies and PetroSA has signed a co-operation agreement with the Coega Development Corporation to secure the site and infrastructure needed to support the development.

Sasol has proceeded with the preparatory work on Project Mafutha in Secunda, which is at the prefeasibility stage. The company has already spent R1bn on a prefeasibility study. The project is premised on a coal to liquids (CTL) facility that will produce 80 000 bbl/d. Sasol is reported to be seeking for government partnership in the project.

The board of Sasol approved the R12.1 billion first phase Secunda expansion project in March 2010. The project will increase liquid fuel and electricity capacity at the Secunda CTL complex by approximately 5 percent and includes the installation of an additional Sasol Advance Synfuel (SAS) reactor and oxygen plant for the conversion of additional gas feedstock to liquid fuels, as well as additional power generation capacity. The additional capacity will come on stream in 2013.

Petroleum Agency South Africa (PASA) has issued three companies with a 12-month technical co-operation permit to study data on shale gas in the Karoo basin. The recipients of the permits are Sasol Petroleum International, Statoil ASA, and Chesapeake Energy Corp. The permit covers 27.1 million acres, mainly in the Free State with smaller tracts in the Eastern Cape and KwaZulu-Natal. The permit grants the exclusive right to study shale prospectivity without surface activity or drilling. The companies will study existing geological information and analyze cores obtained by Soekor in its search for shale oil in the 1970s-80s. The US based, Falcon Oil & Gas, has a similar permit to study 7.5 million acres, and Royal Dutch Shell PLC has a permit for 185 000 acres covering much of the southern half of the country.

OUTLOOK

As the global economy continues to recover and demand for oil begins to strengthen, global oil markets should tighten in 2010 and 2011, according to the Energy Information Administration (EIA). Global hydrocarbons consumption is forecast to grow by 1.6 million bbl/d in 2010 and by the same amount in 2011. The transport sector will be the main driver for future oil demand growth, according to OPEC, accounting for over 60 percent of the total long-term demand increase to 2030, with the bulk of this increase expected to come from developing countries. The remaining 40 percent is expected to come from industrial activities that make up the backbone of the global economy.

The OPEC capacity is expected to recover in 2010 and 2011, increasing by an average 400 000 bbl/d as demand improves, pushing prices higher. Non-OPEC oil supply is expected to increase by 600 000 bbl/d in 2010 to meet a projected increase in demand, particularly for natural gas liquids and fuels ethanol production in the US. Growth is also expected from Brazil, Azerbaijan and Kazakhstan but this growth will be offset by declines in Mexico, the UK and Norway.

The world's non-conventional oil supply is expected to come from oil sands, synthetic oil (gas to liquid and coal to liquid) and shale oil. Oil sands, shale oil and GTL production are expected to grow to 1.6 million bbl/d, 10 000 bbl/d and 50 000 bbl/d respectively by 2013. The largest increase is expected from CTL production, with output doubling to 300 000 bbl/d by 2013, mainly from South Africa, China and the US.

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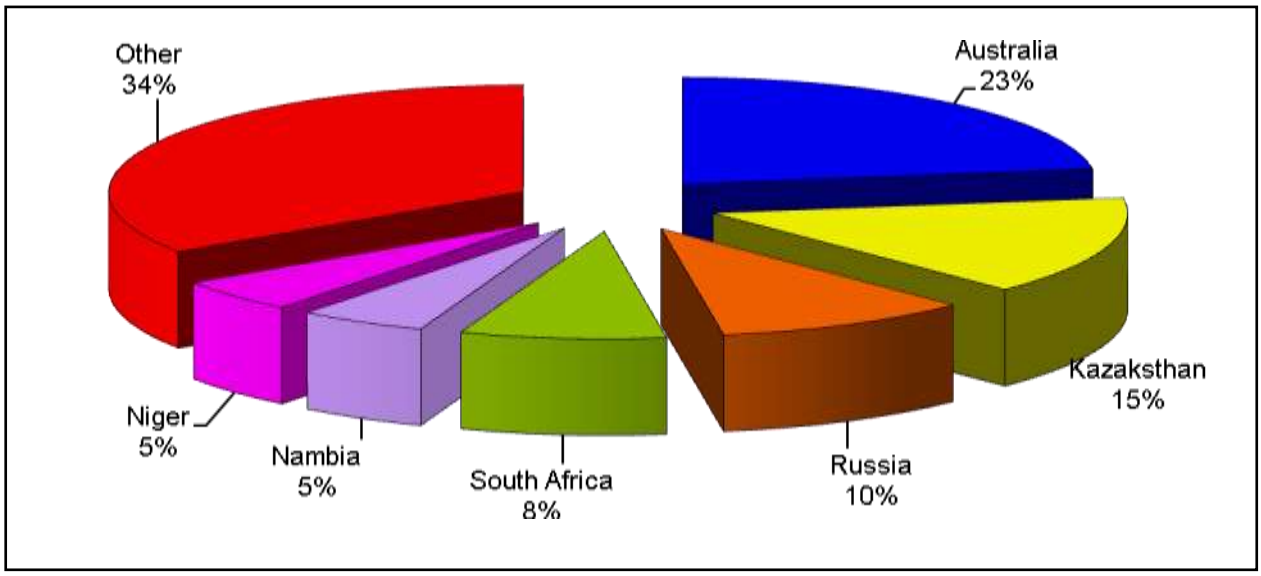
URANIUM

Thomas Chili

WORLD URANIUM RESOURCES

According to the World Nuclear Association (WNA), global uranium resources were estimated at 5 469 ktU (6 449 kt U_3O_8) in 2009. Investment in uranium exploration was driven by energy demand and a need for diversification of energy sources to curb the environmental impact of fossil energy use in power generation. Australia, at 23 percent (1 243 ktU) has the largest, known uranium resources followed by Kazakhstan's 15 percent (817 ktU) and Russia's 10 percent (546 ktU)(Fig.1). Africa collectively accounted for 18 percent (984 ktU) of world uranium resources. South Africa, at 435 ktU, has Africa's largest uranium resources with Namibia's 275 ktU and Niger 274 ktU, a distant second and third largest in Africa respectively.

FIGURE 1: KNOWN GLOBAL URANIUM RESOURCES DISTRIBUTION, 2010



Source: World Nuclear Association, 2010

WORLD SUPPLY

World uranium mine production increased by 12.4 percent in 2009 to 49.4 ktU (58.1 kt U_3O_8) compared with 2008 (Table1). Kazakhstan, at 23.7 percent, was the world's leading producer, closely followed by Australia's 21.7 percent and Canada's 17.6 percent. These three countries collectively accounted for 63 percent of world output. Kazakhstan's output rose by 35 percent to 11.5 ktU, while Australia's increased by 24.7 percent to 10.5 ktU. The US' and Canada's production dropped by 14.5 percent and 5 percent respectively. South Africa's and Niger's uranium mine output decreased by 5 percent and 3 percent to 623 tU and 2.9 ktU respectively. In 2009, 62 percent of uranium was sourced from underground and open pit mines, 28 percent from in-situ leach and 10 percent as by-product.

TABLE 1 - WORLD RESOURCES AND PRODUCTION OF URANIUM, 2009

	URANIUM RESOURCES*		PRODUCTION+			
	RAR#	Rank	2008	2009		
COUNTRY	**(kt U)**			**(t U)**	**%**	**Rank**
Australia	1 243	1	8 430	10 520	21.7	2
Brazil	278	7	330	330	0.7	12
Canada	423	5	9 000	8 550	17.6	3
China[e]	68	13	769	769	1.6	9
India[e]	78	12	271	271	0.6	13
Namibia	275	8	4 366	4 366	9.0	4
Niger	274	9	3 032	2 941	6.1	6
Kazakhstan	817	2	8 521	11 500	23.7	1
Russian Federation[e]	546	3	3 521	4 300	8.9	5
South Africa	435	4	655	623	1.3	11
Ukraine[e]	200	10	800	760	1.6	10
USA	342	6	1 430	1 230	2.5	8
Uzbekistan	111	11	2 338	2 338	4.8	7
	5 090			48 498		
SUBTOTAL			43 463		100.0	
Others	379		467	877		
World Total	**5 469**		**43 930**	**49 375**		

Sources: * *OECD's NEA & IAEA, Uranium 2007: Resources, Production and Demand*
+ *World Nuclear Association, Market Report data, 2009*

Notes: # *Reasonably Assured Resources (RAR) plus Inferred Resources, to $130/kg U*
e *Estimate*

WORLD DEMAND

Global uranium demand is driven by nuclear power generation, which accounted for 15 percent of world electricity generation in 2009 (Table 2). This nuclear power was generated from 436 nuclear reactors with planned reactors estimated at 143 worldwide. Uranium required for 2010 is estimated at 68 646 tU. The US, at 24 percent (104 reactors) has the highest number of reactors, followed by France's 14 percent (59 reactors) and Japan's 12 percent (53 reactors). The USA derived 19.7 percent of electricity from nuclear energy, while France and Japan's drew 76.2 percent and 25 percent respectively. Belgium, South Korea, Sweden and Ukraine collectively accounted for 13 percent of electricity generated from 52 nuclear reactors. South Africa generates 5.5 percent of its electricity from two nuclear reactors.

TABLE 2: WORLD NUCLEAR POWER REACTORS AND URANIUM REQUIREMENTS 2009-10

COUNTRY	NUCLEAR ELECTRICITY GENERATION 2009		REACTORS OPERABLE 2009		URANIUM REQUIRED 2009	REACTORS OPERABLE 2010		URANIUM REQUIRED 2010
	billion kWh	% of elec	No	MWe	(t U)	No	MWe	(t U)
USA	809.0	19.7	104	101 119	18 867	104	101 119	19 538
France	418.3	76.2	59	63 473	10 569	58	63 236	10 153
Japan	240.5	24.9	53	46 236	8 388	54	47 102	8 003
Germany	140.9	28.3	17	20 339	3 398	17	20 339	3 453
Korea (South)	144.3	35.6	20	17 716	3 444	20	17 716	3 804
Russia	152.1	16.9	31	21 743	3 537	32	22 811	4 135
UK	52.5	13.5	19	11 035	2 029	19	11 035	2 235
China	65.3	2.2	11	8 587	2 010	11	8 587	2 875
Spain	56.7	17.4	8	7 448	1 383	8	7 448	1 458
Canada*	88.6	14.8	18	12 652	1 670	18	12 679	1 675
Sweden	61.3	42	10	9 016	1 395	10	9 399	1 537
Ukraine	84.3	47.4	15	13 168	1 977	15	13 168	2 031
Belgium	43.4	54	7	5 728	1 002	7	5 943	1 052
South Africa	12.6	5.5	2	1 842	303	2	1 842	321
SUBTOTAL	369.9		374	340 102	59 972	375	342 424	62 270
Others	231.1		62	32 118	5 433	63	31 703	6 376
World	**2 601**	**15**	**436**	**372 220**	**65 405**	**438**	**374 127**	**68 646**

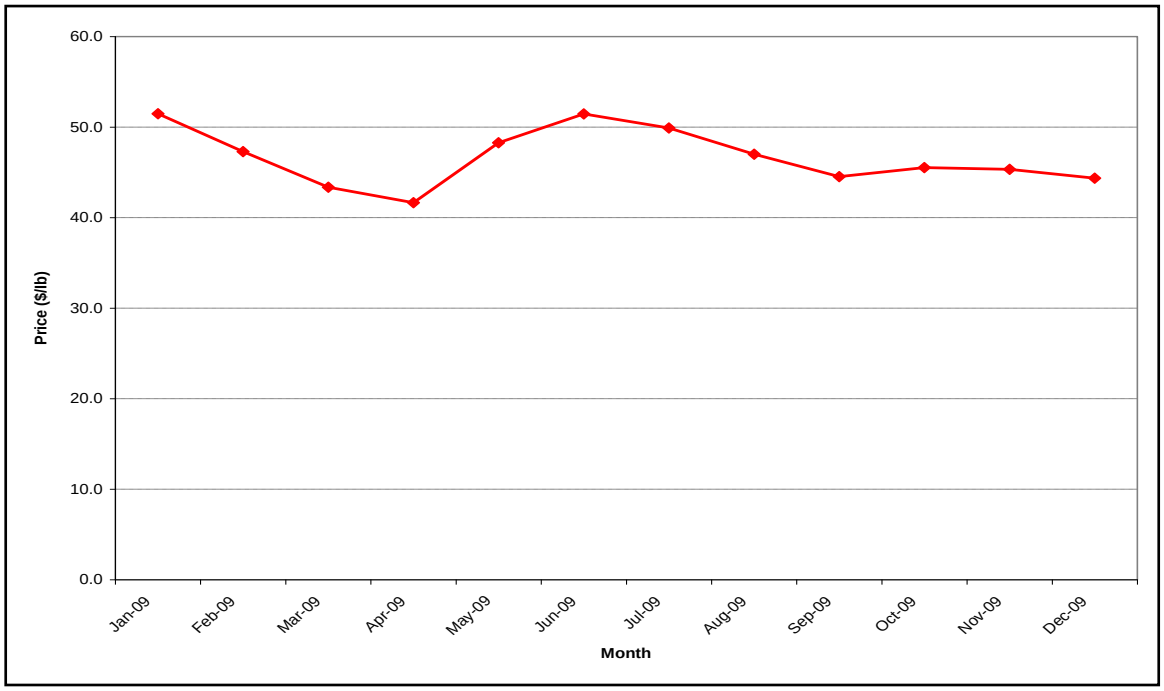
Notes: *% of elec:* *percent contribution to national electricity production*
MWe: *Megawatt net (electrical as distinct from thermal)*
kWh: *kilowatt-hour*
*** *estimate*
Sources: *World Nuclear Association, 2009-10*

As the search for less environmentally harmful sources of energy intensified global uranium consumption increased by 5.6 percent to 65.4 ktU in 2009. The market was still in deficit with demand exceeding supply by 32.5 percent (16.0 ktU) without any end in sight unless new projects come on stream and mothballed mines are recommissioned. Also, secondary uranium sources are insufficient to sustain rapid growth in uranium demand.

PRICES

The average uranium spot price for 2009, at $46/lb (Fig. 2) was 27 percent lower than 2008 owing to the continued effects of the global economic downturn, which suppressed prices to an average of $43.6/lb during the first quarter of 2009. However, prices recovered slightly, subsequently reverted back to $45.1/lb during the second half of the year.

FIGURE 2: NUEXCO SPOT URANIUM PRICES, 2009 (MONTHLY AVERAGES)



Source: Metal Bulletin, 2009

DEVELOPMENTS IN AFRICA

Canadian company Denison Mines is planning to develop the Mutanga uranium project in southern Zambia. Mine construction is expected to start in 2011 at a cost of $118 million, while production is anticipated in 2012. Measured resources were estimated at 1.7 ktU at a grade of 0.048 percent uranium, while indicated and inferred resources were estimated at 21.6 ktU and 11.1 ktU respectively.

In 2009, an Australian-based company, Mantra Resources, reached an agreement with the Tanzanian government to undertake a feasibility study on the Mkuju River project. Inferred resources amount to 13.8 kt and production will commence in 2013 at the capacity of 1.4 ktU/a.

Paladin Energy of Australia, developed the Kayelekera uranium mine in northern Malawi. Production commenced in 2009 at the capacity of 90.6 tU/a.

DEVELOPMENTS IN SOUTH AFRICA

The AngloGold Ashanti mine is the major producer of uranium as a by-product of gold in South Africa from three mines, namely, Great Noligwa, Moab Khotsong and Kopanang. Nuclear Fuel Corporation (Nufcor) exports all uranium oxide (U_3O_8), which is processed through calcination of uranium slurry. In 2009, South Africa's uranium production dropped by 5 percent to 623 tU_3O_8.

Rand Uranium, a joint venture between Harmony Gold and Pamodzi Resources Fund (PRF), which owns some parts of Randfontein Mining Area, plans to re-open some shafts of the Randfontein Mine. Identified uranium resources from underground and tailings are estimated at 41 ktU. In 2009, a feasibility study was completed and the investment of R3.5 billion is expected to be committed for the construction of a new uranium processing plant to be located near its Cooke operations. The plant is expected to treat 5 400 kt/a of uranium-bearing feed material and will have a lifespan of 17 years.

Vaal River Operations plans to upgrade and expand the existing uranium recovery plant to process ore from all three Anglo Gold Ashanti mines in a single plant instead of the previously planned construction of a new processing plant for Kopanang. This upgrade and expansion is expected to raise production by 28.6 percent to 816 ktU.

In 2009, First Uranium, a subsidiary of Simmer and Jack, obtained approval from regulatory authorities to construct the Mine Waste Solutions (MWS) metallurgical plant for uranium extraction from Buffelsfontein mine dumps, which contain 25 ktU. The investment is estimated at $260 million. Also, the company has built a uranium processing plant at Ezulwini mine, which has a measured and indicated resource of 3.2 ktU as well as

an 85 ktU inferred resource. The company has commenced with the commissioning of the Ezulwini plant and produced its first yellow cake during the first quarter of 2009. Production is expected to be at 80 tU in 2011 and plans to nearly double capacity to 150 tU in 2013.

OUTLOOK

In 2010, global uranium production is expected to grow by 5 percent to 58 750 t U_3O_8 as a result of recovery output, particularly in Kazakhstan, Africa and Australia. World uranium consumption is expected to increase by 6 percent to 82 160 t U_3O_8 as eight nuclear reactors are expected to be commissioned in Argentina, China, India, Iran, the Republic of Korea and the Russian Federation. Canada is expected to restart Unit 1 and 2 of the Bruce Reactor, driven by a rise in energy demand that had induced high electricity prices in the country. A combination of start-up units and an increase in electrical power generation capacity in Japan, the United States, Mexico and Finland is expected to raise demand consumption by 4 400 t U_3O_8 in 2010. The uranium market is thus expected to remain in supply deficit until 2014 which could exert an upward pressure on prices while declining secondary uranium supplies could exacerbate the situation further.

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NON-FERROUS METALS AND MINERALS OVERVIEW

Linda Maphango

INTRODUCTION

South Africa's non-ferrous minerals resources are rated amongst the top 10 countries in the world. The country is well endowed with titanium and zirconium resources, which is economically mineralised in heavy mineral sands in Kwa-Zulu Natal as well as the Eastern and Western Cape. Cobalt, copper and nickel are produced as by-products of platinum mining in the Bushveld Complex. Copper occurs in the Palabora Complex in the Limpopo Province with nickel and zirconium being produced as by-products of copper mining. Lead and zinc deposits are found in Aggeneys, North West Province. Nickel deposits occur in the Barberton Greenstone Belt in the Mpumalanga Province. Antimony deposits are found in the Limpopo Province in the mineral stibnite.

PRODUCTION AND SALES

South Africa's production of primary non-ferrous metals and minerals, excluding titanium and zircon, decreased slightly by 0.41 percent to 207.7 kt in 2009 compared with 2008 (Table 1). Total sales of primary non-ferrous metals and minerals, excluding titanium and zircon, declined by 26.2 percent to R8.8 billion. Local sales volume decreased by 2.5 percent to 99.6 kt, while export sales volume declined by 5.9 percent to 105.5 kt. Total local sales revenue of non-ferrous primary metals and minerals declined by 27.9 percent to R4.0 billion while export revenue decreased by 24.8 percent to R4.9 billion.

Lower prices for base metals during 2009 were the result of the weak global economy that was still recovering sluggishly from one of the greatest economic recessions since the Great Depression of 1930s. Aluminium prices declined by 35 percent to an average of $1 664.58/t in 2009 compared with 2008 while copper prices decreased by 26 percent to $5 112.76/t.

In 2009, South Africa's total sales of non-ferrous metals and minerals (primary and processed), excluding titanium minerals, zirconium minerals and aluminium declined by 25.5 percent to R10.2 billion. Total local sales of non-ferrous metals and minerals (primary and processed) decreased by 26.1 percent to R5.3 billion, while export sales declined by 24.9 percent to R4.9 billion. South Africa consumes all the refined zinc that is produced locally and the demand is derived from the construction sector for galvanising steel. The country consumes about 73 percent of the total local copper output with the demand coming from electrical, construction, transport and industrial machinery sectors.

TABLE 1: SOUTH AFRICAN PRODUCTION OF NON-FERROUS METALS AND MINERALS, 2008 AND 2009

	PRODUCTION		LOCAL SALES (FOR)		EXPORT SALES (FOB)		TOTAL SALES	
COMMODITY	Year	(t)	(t)	R'000	(t)	R'000	(t)	R'000
Antimony (mic)	2009	2 673	10	403	2 568	62 638	2 578	63 042
	2008	3 983	5	192	3 052	118 382	3 057	118 574
Cobalt	2009	238	75	20 435	183	53 528	258	73 964
	2008	244	43	26 231	261	167 774	305	194 005
Copper	2009	92 852	68 011	2 835 737	26 808	1 022 781	94 820	3 858 519
	2008	97 185	68 485	4 120 564	32 868	1 507 355	101 353	5 627 920
Lead	2009	49 149	Nil	Nil	43 892	482 903	43 892	482 903
	2008	46 440	Nil	Nil	50 250	612 042	50 250	612 042
Nickel	2009	34 605	9 007	949 855	27 300	3 251 353	36 308	4 201 208
	2008	31 675	6 744	1 151 894	23 519	4 103 710	30 262	5 255 604
Titanium minerals	2009	***	***	***	***	***	***	***
	2008	***	***	***	***	***	***	***
Zinc (mic)	2009	28 159	22 481	170 924	4 707	33 038	27 188	203 962
	2008	29 002	26 831	216 738	2 124	11 349	28 955	228 087
Zirconium minerals	2009	***	***	***	***	***	***	***
	2008	***	***	***	***	***	***	***
Primary subtotals	2009	207 676	99 584	3 977 354	105 458	4 906 241	205 044	8 883 598
	2008	208 529	102 108	5 515 619	112 074	6 520 612	214 182	12 036 232
Antimony trioxide	2009	206	***	***	441	1 862	441	1 862
	2008	3 541	***	***	3 581	12 138	3 581	12 138
Aluminium metal	2009	1 024 768	***	***	***	***	***	***
	2008	857 524	***	***	***	***	***	***
Titanium slag	2009	***	***	***	***	***	***	***
	2008	***	***	***	***	***	***	***
Zinc metal	2009	86 373	93 133	1 317 995	0	0	93 133	1 317 995
	2008	82 011	97 854	1 651 370	0	0	97 854	1 651 370
Processed subtotals	2009	1 111 347	93 133	1 317 995	441	1 862	93 574	1 319 857
	2008	943 076	97 854	1 651 370	3 581	12 138	101 435	1 663 508
Non-Ferrous Totals	**2009**	**1 319 023**	**192 717**	**5 295 349**	**105 899**	**4 908 103**	**298 618**	**10 203 455**
	2008	**1 151 605**	**199 962**	**7 166 989**	**115 655**	**6 532 750**	**315 617**	**13 699 740**

Source: DMR, Directorate Mineral Economics

*** Withheld

EMPLOYMENT

Employment in South Africa's primary non-ferrous metals and minerals sector dropped by 18 percent to 7 780 employees and remuneration declined by 0.2 percent to R1.63 billion per annum in 2009 compared with 2008 (Table 2). This is mainly attributed to the global recession, which had a negative impact on commodity prices, and the consequent trimming of employment by some of the mines. However, average remuneration per employee rose by 21.5 percent to R210 394 when compared with 2008. The increase in average revenue is attributable to the small decrease in total revenue and also that lower earning employees are usually the most affected by job-shedding.

TABLE 2: SOUTH AFRICAN NON-FERROUS METALS MINERALS: EMPLOYMENT AND GROSS REMUNERATION, 2005-2009

YEAR	EMPLOYEES	REMUNERATION	
	Number	R'000	R/employee
2005	7 793	1 011 971	129 856
2006	8 834	1 011 971	129 856
2007	10 090	1 385 598	137 324
2008	9 476	1 640 713	173 144
2009	7 780	1 636 869	210 394

Source: DMR, Directorate Minerals Economics

OUTLOOK

According to the International Monetary Fund (IMF), the world economy is projected to grow at about 4.5 percent in 2010 and 4.25 percent in 2011. However, downside risks cannot be discounted due to sovereign debt crises in some of the European Union member states. Hence, the growth forecasts will depend heavily on implementation of policies to restore confidence and stability, particularly in the areas most affected by the recent financial turbulence. China, which is currently consuming about 40 percent of the total global base metal production, and India to a lesser extent, will continue to be the main drivers of the base metals bull market that the world is experiencing.

As the world is steadily emerging out of the recession, albeit at different rates and despite the potential risks, non-ferrous metals are forging ahead with copper taking the lead. According to Metal Bulletin Research, copper prices are forecast to average $7 375/t in 2010 and $7 900/t in 2011 due to the global supply deficit which is expected to continue until 2012. Lead inventories were sitting at two weeks of global consumption by October 2010, and are expected to decline further. The demand outlook for the lead market is supported by the current market tightness and prices are forecast to average $2 100/t in 2010 and $2 560/t in 2011.

Aluminium overproduction, excess capacity, and relatively high inventories are expected to keep the aluminium market in supply excess between 2010 and 2012. Aluminium prices are projected to average $2 220/t in 2010 and increase to $2 300/t in 2011 as market demand improves. The zinc market is also oversupplied, with zinc mine production at record highs in 2010. Oversupply and idle capacity are the main reasons why prices are expected to be sluggish. Zinc prices are forecast to average $2 160/t in 2010 and $2 750/t in 2011. Nickel prices which have largely been supported by sustained lower inventories in LME, and restocking by the stainless steel sector, are forecast to average $21 550/t in 2010 and $22 350/t in 2011.

Rising prices for most base metals is likely to continue for the foreseeable future as supply is struggling to keep up with future consumption growth. This is mainly attributed to a lack of capital investment and also, in the case of copper, to decreasing mine productivity as a result of technological and geological constraints. Sustained decline in base metal inventories will continue to squeeze supply and prices will continue to rise until 2012.

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ALUMINIUM

Thomas Chili

WORLD SUPPLY

World refined aluminium production declined by 4.8 percent to 37.1 Mt in 2009 compared with 2008 (Table 1). The major producers were China (13.0 Mt), Russia (3.3 Mt) and Canada (3.0 Mt), which collectively accounted for 52.3 percent. South Africa's primary aluminium production improved by 19.4 percent to 1 024.8 kt after two smelters ramped up to full production.

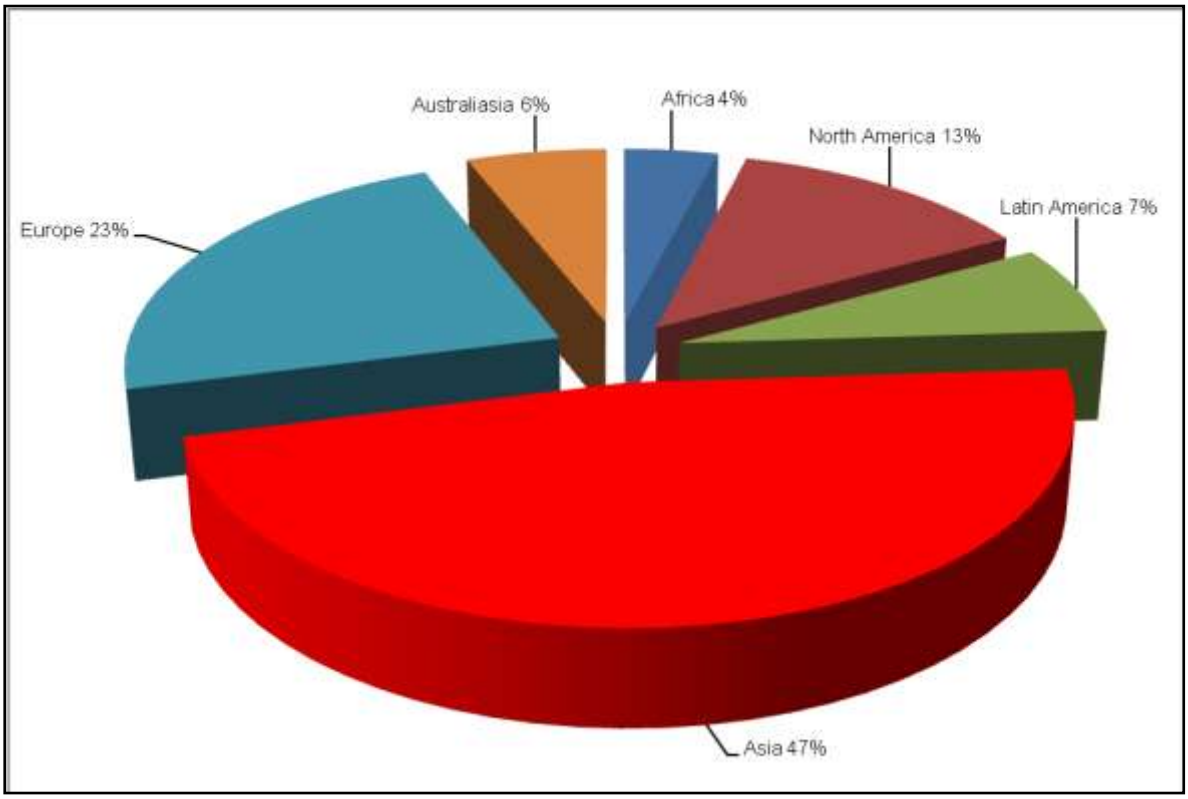
TABLE 1: WORLD ALUMINIUM SMELTER CAPACITY, PRODUCTION AND EXPORTS, 2009

COUNTRY	SMELTER CAPACITY[+]	PRODUCTION[+]			EXPORTS[e]		
	kt	kt	%	Rank	kt	%	Rank
Australia	1 970	1 970	5.3	4	1 699	9.7	3
Bahrain	880	870	2.3	10	na	0	na
Brazil	1 700	1 550	4.2	7	838	4.8	5
Canada	3 090	3 000	8.1	3	2 581	14.7	2
China	19 000	13 000	35.0	1	648	3.7	6
India	2 000	1 600	4.3	6	118	0.7	9
Norway	1 230	1 200	3.2	8	1 710	9.7	4
Russia	5 150	3 300	8.9	2	4 024	22.9	1
South Africa*	1 025	1 025	2.8	9	538	3.3	7
USA	3 500	1 710	4.6	5	394	3.1	8
Other	20 479	7 910	21.3	-	5 015	27.5	-
TOTAL 2009	51 150	37 135	100	-		100	-
2008	44 600	39 000		-	17 565		-

Sources: [+]*United States Geological Survey, 2010, p 17*
**Department of Mineral Resources (DMR), Directorate Mineral Economics*
[e] *represents estimated data, DMR*

Production declined in all regions except Asia, where it rose by 6.5 percent to 17.9 Mt, nearly half of world primary aluminium production, followed by Europe's 8.6 Mt, (23 percent contribution) and North America's 4.8 Mt (13 percent contribution). North America's production declined by 19.2 percent, followed by Europe's 17.4 percent and Latin America's 6.1 percent. Africa's production dropped by one percent due to power supply challenges, which forced smelters to operate below full capacity. The sharp decline in primary aluminium output was mainly driven by lower demand for aluminium which suppressed prices and led to production cutbacks.

FIGURE 1: WORLD PRIMARY ALUMINIUM PRODUCTION BY REGION, 2009

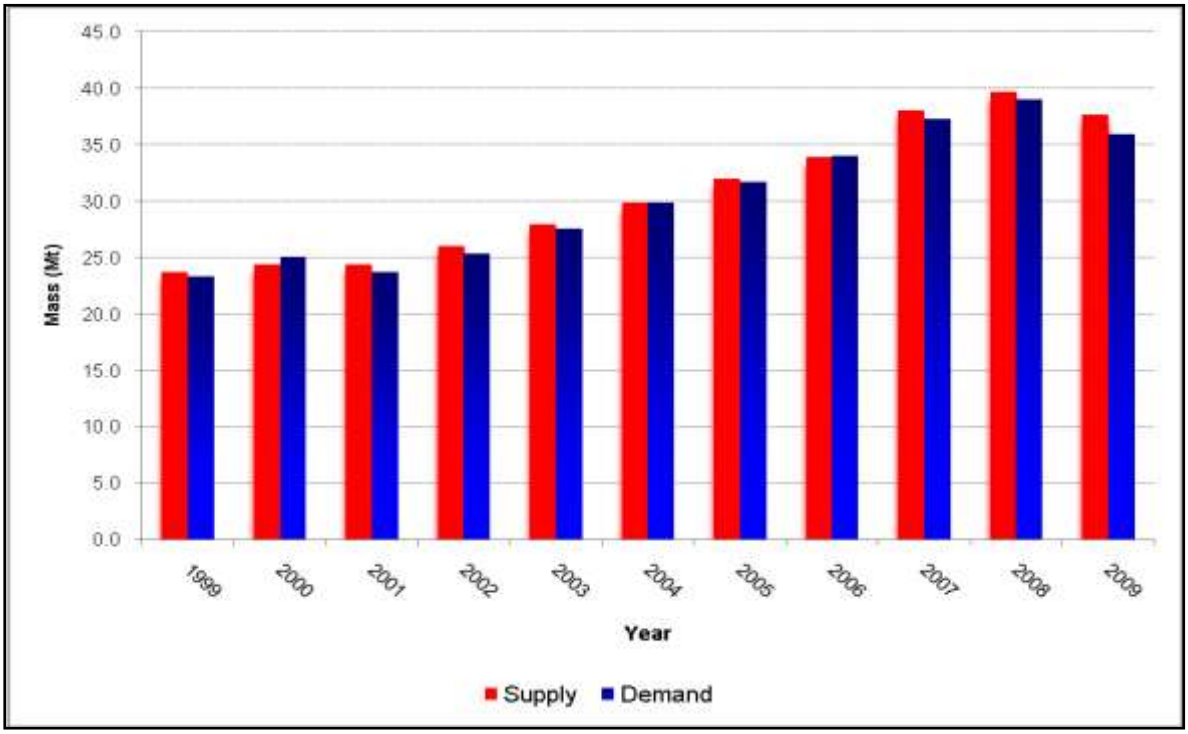


Source: Standard Bank, Commodity Research, Base Metals 2010

CONSUMPTION

World consumption of refined aluminium dropped by 6.9 percent to 35.9 Mt in 2009 due to poor industrial activities, particular the automobile sector (Fig. 2). The primary aluminium market was oversupplied, with an estimated 587 kt market surplus as a result of weaker consumption, owing to the global recession.

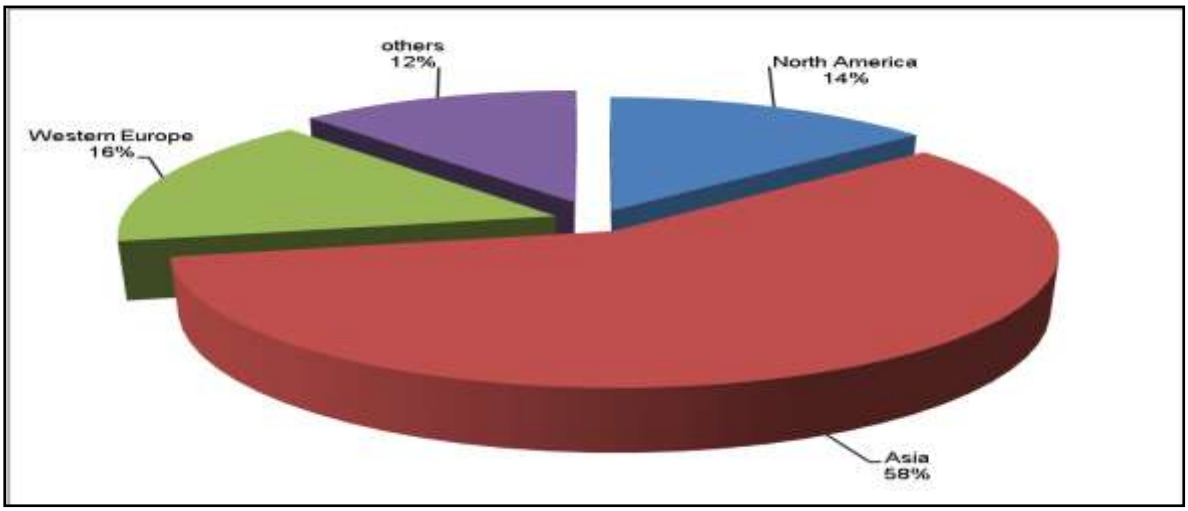
FIGURE 2: WORLD ALUMINIUM SUPPLY AND DEMAND 1999-2009



Source: World Bureau of Metal Statistics, 2009

Aluminium consumption contracted in all regions except Asia, which accounted for 58 percent, followed by Western Europe at 16 percent and North America at 14 percent (Fig. 3). The balance of aluminium consumption was from Africa and Oceania, which collectively accounted for 12 percent.

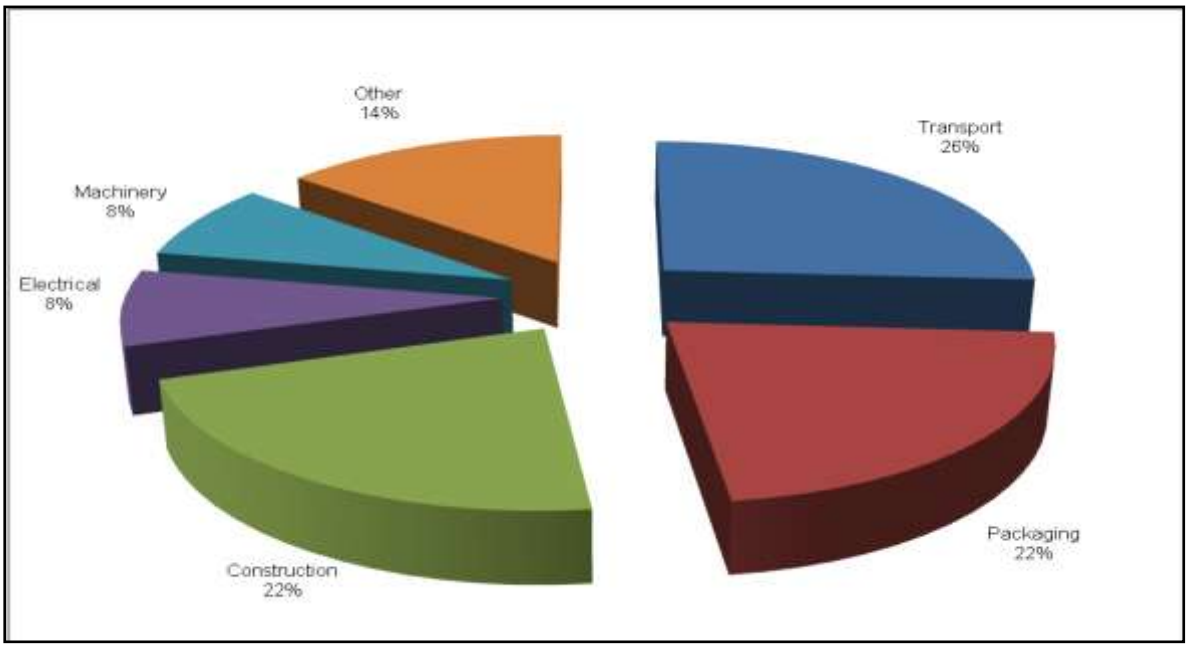
FIGURE 3: WORLD PRIMARY ALUMINIUM CONSUMPTION BY REGION, 2009



Source: Standard Bank, Commodity Research, Base Metals 2010

Demand for refined aluminium was driven by the transport sector, which accounted for 26 percent followed by the packaging sector (22 percent) and construction (22 percent). The machinery and electrical industrial sectors each contributed 8 percent and consumer durables 14 percent (Fig. 4).

FIGURE 4: INDUSTRIAL DEMAND FOR HIGH GRADE PRIMARY ALUMINIUM, 2009

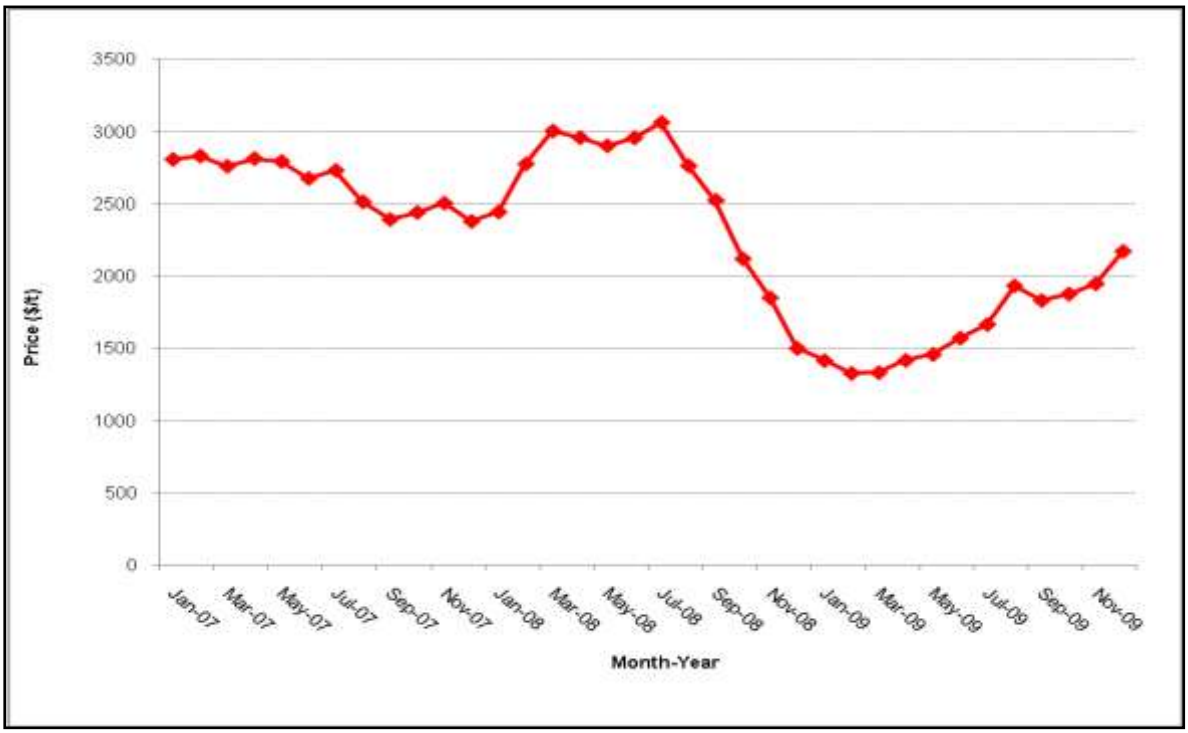


Sources: London Metal Exchange, 2010

PRICES

Bearish sentiment on the back of Eurozone's debt crisis exerted downward pressure on LME cash settlement aluminium prices, resulting in a 35 percent decline to an average of $1 664.58/t in 2009. However, growth in industrial use, particularly in the automobile industry, led to sustained upward price movement in monthly LME cash settlement aluminium prices since the beginning of 2009. In the first half of 2009, LME prices averaged $1 423/t and rose to an average of $1 906/t in the second half.

FIGURE 5: LONDON METAL EXCHANGE CASH SETTLEMENT PRICE (MONTHLY AVERAGES), 2007 TO 2009



Sources: Metal Bulletin, 2010

DEVELOPMENTS IN AFRICA

In Guinea, the Koba Bauxite Project, managed by RSG Global Consulting of Perth, Australia announced the completion of Phase I and II exploration for bauxite in 2009. The indicated resources were estimated at 343 Mt. Also in Guinea, Anglo Aluminium Corp has completed exploration drilling for the Koumbia Bauxite Project and plans to commence the Mamou-Dalaba Bauxite Exploration Project in 2010.

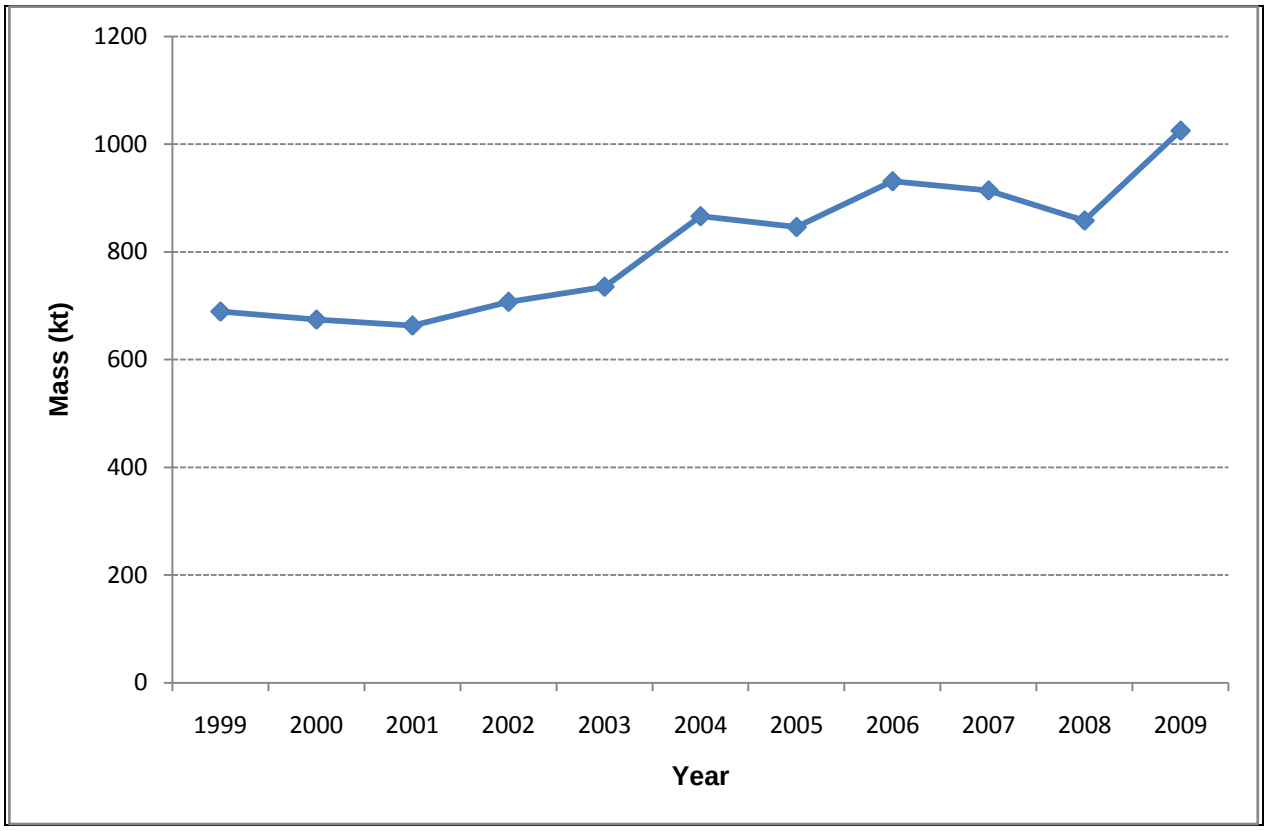
GLOBAL DEVELOPMENTS

The upward movement of primary aluminium prices is likely to encourage producers in China, Middle East, United Arab Emirates and Canada to restart idle capacity and commission new smelter capacity in 2010. In China, an estimated 5 Mt/a idled smelter capacity is expected to be restarted due to strong growth in the construction and automobile industries in that country. Hydro-Aluminium and Qatar Petroleum smelters in Qatar are expected to reach full capacity of 4.1 Mt in 2010, while a joint venture between Dubai Aluminium and Mubadala is expected to commence with the first phase commissioning of smelters to reach the capacity of 700 kt/a in 2011. In Canada, Alcan, plans to expand Kitimar smelter capacity by 63 percent to 400 kt/a as well as expanding the Alma aluminium plant capacity to 190 kt in 2011.

SOUTH AFRICA

South Africa's primary aluminium production rose by 19.4 percent to 1 024.8 kt in 2009 compared with 2008 as a result of improved smelter output (Fig.6)

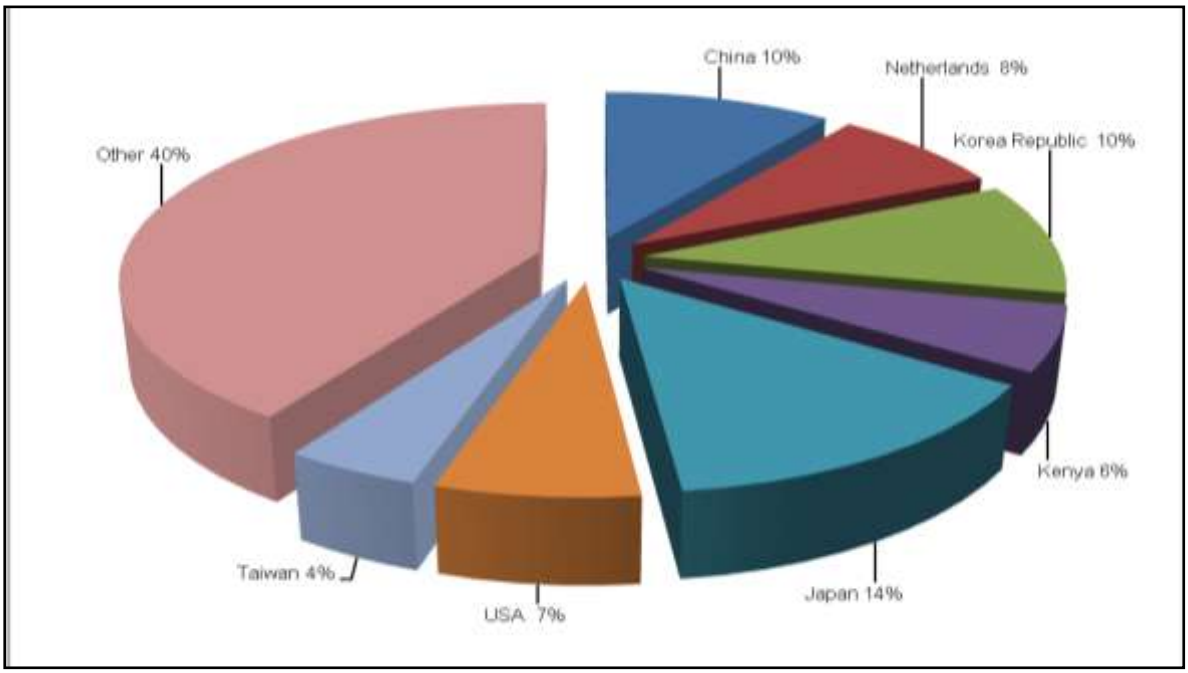
FIGURE 6: SOUTH AFRICA'S PRIMARY ALUMINIUM PRODUCTION, 1999- 2009



Source: DMR, Directorate Mineral Economics, 2009

In 2009, 14 percent (118 kt) of South Africa's aluminium output was exported to Japan followed by China and Korea Republic each importing 10 percent of total output (Fig.6).

FIGURE 7: SOUTH AFRICA'S PRIMARY ALUMINIUM EXPORTS BY DESTINATION, 2009



Source: DMR, Directorate Mineral Economics, 2009

OUTLOOK

World primary aluminium production is anticipated to increase by 8 percent to 39.5 Mt in 2010 and a further 7 percent to 41.7 Mt in 2011 as the world economy recovers. World aluminium production is expected to be driven by smelter's development plans in the Middle East and Canada which are expected to increase their production capacity by 4.1 Mt and 1 Mt respectively in 2011.

World consumption is forecast to grow by 9 percent annually to 38.4 Mt in 2010 and 41.9 Mt in 2011, spurred by growth in end use industries viz. construction, packaging and transportation.

South Africa's production is expected to climb by 6.4 percent to 1 090.6 kt in 2011 driven by increased demand as global markets recover. Local consumption and exports are expected to increase by 2 percent and 4.2 percent respectively.

In the second half of 2010 world aluminium prices are anticipated to average $1 985/t, 5 percent lower compared with the second half of 2009 as a result of the market surplus. However, with the strengthening of the world economy in 2011, prices are expected to rise by 6 percent to $2 150/t as the market swings into deficit.

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ANTIMONY

PR MOTSIE and KL REVOMBO

WORLD SUPPLY

World antimony reserves were estimated at 2.1 Mt in 2009, of which China held a 37.6 percent share followed by Thailand's 20 percent and Russia's 16.7 percent (Table 1). South Africa hosts the sixth largest reserves of antimony which amount to 2.1 percent of total world reserves.

TABLE 1: WORLD RESERVES AND PRODUCTION OF ANTIMONY CONCENTRATES, 2009

COUNTRY		RESERVE			PRODUCTION		
		kt	%	Rank	kt	%	Rank
Bolivia		310	14.8	4	5	2.7	2
China		790	37.6	1	170	91.4	1
Russia		350	16.7	3	3	1.6	3
South Africa		44	2.1	6	2.6*	1.4	4
Tajikistan		50	2.4	5	2	1.1	5
Thailand		420	20.0	2	-	-	-
Other		136	6.5	-	5	2.7	-
Total	2009	2 100	100		186		
	2008				197		

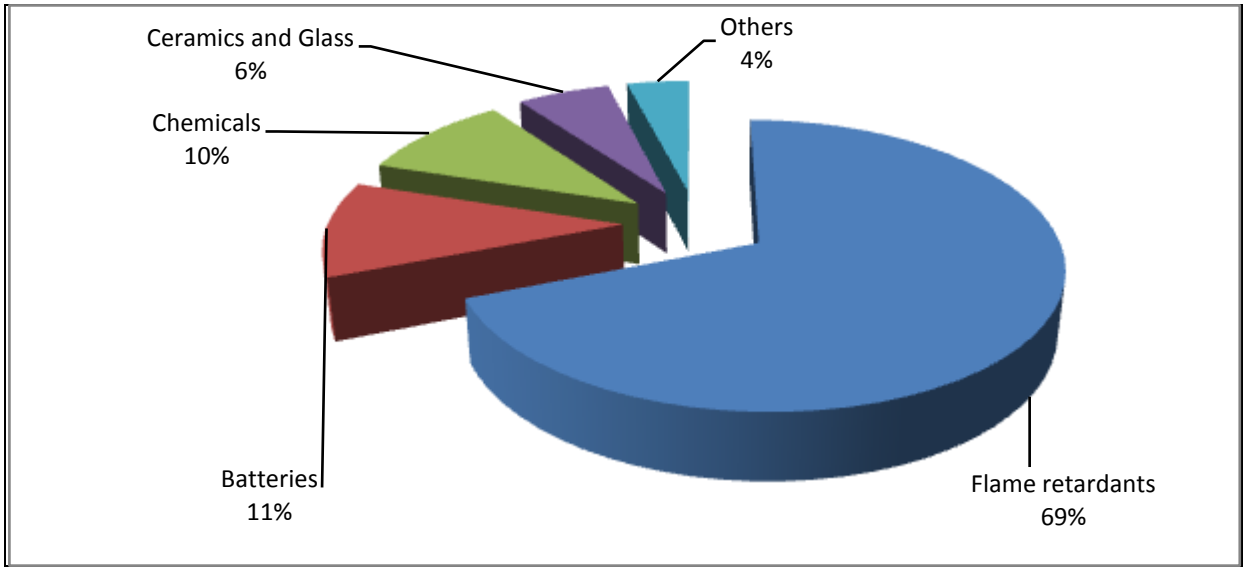
Source: *USGS, Mineral Commodity Summaries, January 2010*
**DMR Mineral Economics Directorate*

World mine production of antimony decreased by 5.6 percent to 186 kt in 2009 compared with 197 kt in 2008, owing to the permanent closure of illegal mines in China, which resulted in a decline in China's contribution to world total production. Furthermore, one of China's major producers of antimony ore, Twinkling Star Antimony Co Ltd, suspended production in October 2009 following an accident that resulted in the death of 26 people. Even so, China's output of 170 kt accounted for 90.9 percent of world output, followed by Bolivia (2.4 percent), Russia (1.6 percent) and South Africa (1.6 percent).

WORLD DEMAND

Antimony is a relatively rare mineral and its economic importance is enhanced by lack of substitutes and low recycling rates. Antimony is used as a fire retardant in the form of antimony trioxide, which consumes 70 percent of primary antimony (Fig 1). Other applications include micro-electronics and bottles, specifically polyethylene terephtalate (PET).China accounts for more than half of global antimony consumption is estimated at between 110kt and 120kt per annum.

FIGURE 1: GLOBAL ANTIMONY CONSUMPTION BY SECTOR, 2009



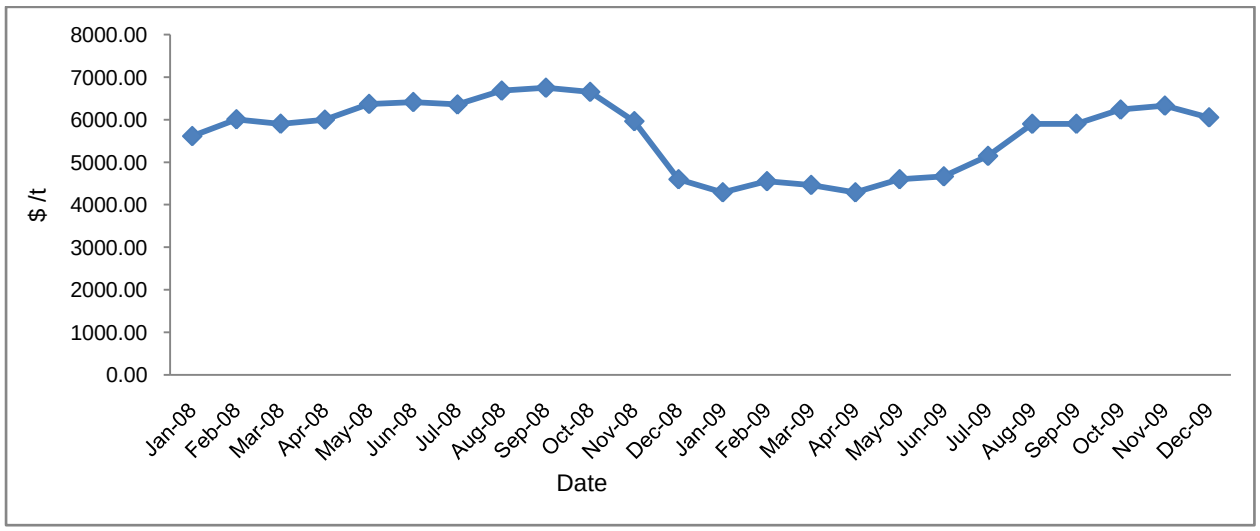
Estimates from various sources

PRICES

The price of antimony fell sharply in the last quarter of 2008 due to the global financial crisis, but rebounded slightly in the first quarter of 2009, (Fig 2). However, prices soon levelled off in March as most plants came back online after the holiday.

The antimony price started at $4 288/t in January 2009 and gradually increased throughout 2009 on the back of increasing demand. The annual average price of antimony decreased by 14.9 percent to $5 200 /t in 2009 compared with 2008. In the fourth quarter, prices averaged $6 000/t as shortages of antimony ore started affecting the market. The shortages resulted from suspended production at Hsikwangshan Twinkling Star Antimony Co's underground mine after a major accident that killed 26 people in late October. Twinkling Star represents around 30 percent of antimony ore output in China.

FIGURE 2: ANTIMONY METAL BULLETIN, FREE MARKET PRICES, 2008 – 2009



Source: Metal Bulletin

SOUTH AFRICA

South Africa's antimony concentrate production decreased by 20.7 percent to 2.7 kt in 2009 compared with 2008 mainly due to the scaling back of operations, reduced output from the Beta shaft and poor recoveries at Consolidated Murchison. The poor recoveries for the first quarter of 2009, which were primarily the result of a breakdown of one of the primary mills in the circuit as well as the high level of plant stoppages,

compounded the decrease in production at Consolidated Murchison, which is South Africa's sole antimony producer. Local sales volumes increased by 100 percent to 10 kt, with a corresponding 109 percent increase in revenue to R403 685. Export sales volumes decreased by 15.9 percent to 2.6 kt, and this together with a stronger rand/dollar exchange rate led to a 47.1 percent decrease in export revenues to R62.6 million. Another reason which caused the decrease in export revenue is that Consolidated Murchison's only antimony customer, US-based GLCC Laurel, experienced severe financial difficulties and was consequently unable to purchase antimony from the mine after October 2008. Alternative clients were sourced, albeit at substantially lower prices.

In March, Metorex reported that the mine faced serious problems owing to poor market conditions forcing the operation to scale down and prepare for care-and-maintenance or disposal.

DEVELOPMENTS

South Africa's Consolidated Murchison production was adversely affected by lightening damage at the Beta shaft and a planned reduction in mining in response to the global economic crisis, reduced prices and bankruptcy of the company's sole antimony client. However, in the latter part of 2009, the mine managed to ramp up its production, following improved market conditions.

To The Point, is an emerging mining company, had secured an option to buy the Consolidated Murchison antimony-gold operation, which it is restructuring for Metorex. Metorex is expected to pay up to R91 million towards a deal to dispose of the mine. Should the transaction go ahead, To The Point is expected to own 74 percent of the mine with the operation's employees owning 26 percent.

In the first quarter of 2010, China suspended antimony mining license applications until June 2011 effectively halting the start of new antimony projects in the country. China's Ministry of Land and Resources aims to prevent over-exploitation of antimony, which will cap that country's antimony output at 100 kt and help producers increase bargaining power in price negotiations.

OUTLOOK

Since China is the world's dominant producer of antimony, developments in that country will determine the future of the antimony market. The capping of annual antimony output to 100 kt and the moratorium on the acceptance of applications for new antimony mines until June 2011 by China will result in supply shortages and price hikes.

The rising trend is nexpected to continue for the next three years in response to the tight market supply resulting from production restrictions coupled with the growing demand. It is forecasted that antimony prices will average just above $9 500/t in 2011.

South Africa's Consolidated Murchison anticipates improved plant recoveries in 2010 following current plant repairs and upgrades.

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COBALT

K L Revombo

SUPPLY

Although cobalt is one of the 30 most abundant elements within the earth's crust, it is usually associated with other minerals and, as a result, is usually produced as a by-product. The Cobalt Development Institute (CDI) estimates the current cobalt production split as follows; nickel industry (50 percent), copper industry (35 percent) and primary cobalt operations (15 percent)as outlined in Fig 1.

FIGURE 1: COBALT PRODUCTION SPLIT BY SOURCE.

Source: Cobalt Facts, 2010. Cobalt Supply & Demand 2009

According to the United States Geological Survey (USGS), identified world land-based cobalt resources are estimated at 15 million tonnes (Mt), representing nearly 500 years of cobalt supply at the current rates of production. Global reserves are estimated at 6.6 Mt (Table 1).

TABLE 1 – WORLD RESERVES AND MINE PRODUCTION OF COBALT, 2009

	RESERVES			MINE PRODUCTION[e]		
COUNTRY	kt	Percent	Rank	t	Percent	Rank
Australia	1 500	22.7	2	6 300	10.2	2
Brazil	29	0.4	9	1 000	1.6	10
Canada	120	1.8	7	5 000	8.1	5
China	72	1.1	8	6 200	10.0	3
Cuba	500	7.6	3	3 500	5.6	6
DR Congo	3 400	51.5	1	25 000	40.3	1
Morocco	20	0.3	10	1 600	2.6	8
New Caledonia	230	3.5	6	1 300	2.1	9
Russia	250	3.8	5	6 200	10.0	3
South Africa[±]	15	0.2	11	237.8	0.4	11
Zambia	270	4.1	4	2 500	4.0	7
Other	194	2.9		3162.2	5.1	
TOTAL	6 600	100.0		62 000	100,0	

Sources: USGS, January 2010, p47 (for Reserves and Mine Production)
[±]DMR, Mineral Economics Directorate
[e]Estimate

A majority of these reserves occur in nickel-bearing laterite deposits, with the rest associated with nickel-copper sulphide deposits hosted in mafic and ultramafic rocks as well as in sedimentary copper deposits. A further one billion tonnes of cobalt resources may exist in manganese nodules and crusts on the ocean floor.

World cobalt mine production decreased by 13.6 percent to 62 kt in 2009 (Table 1). The decline was primarily due to the closure of Chambishi Metals PLC's smelter and mining operations in Zambia in late 2008, as well as cutbacks at numerous nickel and copper-cobalt operations in the DRC. The DRC is the largest producer accounting for 25 kt followed by Australia (6.3 kt), China (6.2 kt) and Russia (6.2 kt).

Brownfield and greenfield projects that would have added to future world cobalt supply were delayed due to global economic conditions as well as low cobalt, copper and nickel prices. The biggest drops in production were experienced by Zambia (67.9 percent), Canada (39.8 percent) and the DRC (21.9 percent).

TABLE 2 - REFINED COBALT PRODUCTION BY COUNTRY, 2008 AND 2009

COUNTRY	2008	2009	RANK
	t	t	
Australia	3 618	4 050	4
Belgium	3 020	2 150	8
Brazil	994	1 012	12
Canada	5 628	4 914	3
China	18 239	23 138	1
D R of Congo	300	2 950	6
Finland	8 950	8 850	2
France	311	368	15
India	858	1 001	13
Japan	1 071	1 332	11
Morocco	1 711	1 600	9
Norway	3 719	3 510	5
Russia	2 502	2 352	7
South Africa*	244	237.8	16
Uganda	663	673	14
Zambia	3 841	1 535	10
TOTAL	55 675	59 673	

Source: *Cobalt News, April, 2010, p 3*
Cobalt Facts, 2010. Cobalt Supply & Demand 2009

In 2009, refined cobalt production was estimated at 59.7 kt, a 7.2 percent increase compared with 2008 (Table 2). Countries that recorded marked increases in production were the DRC (238.5 percent), China (26.9 percent), India (16.7 percent) and Australia (16.5 percent). Production from the DRC increased in line with the ramp up of Katanga Mining.

The non-Cobalt Development Institute (non-CDI) producers increased their refined cobalt production by 25.4 percent to 34.6 kt in 2009 (Table 3). The CDI members' production decreased by 13.2 percent to 25.1 kt in 2009 (Table 3). The decrease was largely a result of the 11 months smelter operation closure at Chambishi Metals in Zambia, resulting in a 90.9 percent decrease to 235 t, and the resignation of Norilsk from CDI membership. Other CDI members that recorded decreases were Vale Inco (45.8 percent), Umicore (28.8 percent) and Xstrata (5.6 percent). CDI members that recorded increases in production were Gécamines (38.3 percent), Sumitomo (24.4 percent) and Eramet (18.3 percent).

TABLE 3 – WORLD REFINED COBALT PRODUCTION, 2008 AND 2009
(company CDI membership)

COMPANY	COUNTRY	2008	2009	RANK
		t	t	
CDI MEMBERS				
BHPB/QNPL	Australia	1 600	1 700	5
Chambishi	Zambia	2 591	235	11
CTT	Morocco	1 711	1 600	6
CVRD / Vale Inco	Canada	2 200	1 193	8
Eramet	France	311	368	10
Gécamines	DRC	300	415	9
ICCI	Canada	3 428	3 721	2
OMG	Finland	8 950	8 850	1
Sumitomo	Japan	1 071	1 332	7
Umicore	Belgium*	3 020	2 150	4
Xstrata	Norway[+]	3 719	3 510	3
Subtotal		28 901	25 074	
NON-CDI MEMBERS				
Katanga Mining	DRC	749	2 535	2
Kasese	Uganda	663	673	8
Minara	Australia	2 018	2 350	4
Mopani Copper	Zambia	1 250	1 300	5
Norilsk[β]	Russia	2 502	2 352	3
Various	South Africa[@]	250	238	9
Various	China[#]	18 239	23 138	1
Various	India	858	1 001	7
Votorantim	Brazil	994	1 012	6
Subtotal		27 404	34 599	
Total		56 305	59 673	

Source: *Cobalt News, April, 2010, p3,*
Cobalt Supply and Demand 2009 (Cobalt Facts, 2010, CDI)
** Includes UMICORE Chinese production*
[#] Excludes UMICORE's Chinese production
β Norilsk ceased to be a CDI member in 2009
@ Directorate Mineral Economics, DMR
+ Refinery

DEMAND

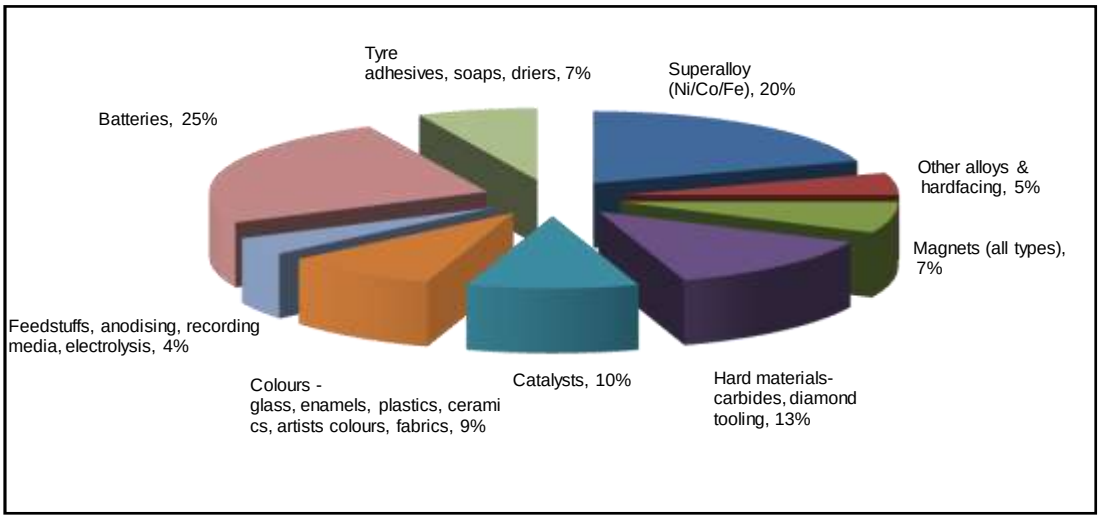
According to CDI, increases in cobalt demand resulted almost exclusively from increases in chemical applications, most notably rechargeable batteries and catalysts. In 2009, it is estimated that chemical applications accounted for more than 56 percent of world demand and the 44 percent balance was used in metallurgical applications.

Data published by the CDI suggest that world cobalt demand in 2009 was about 56 kt, a decrease of about 7 percent compared with 2008. This decline was mainly due to the financial crisis that caused declines in industrial production of some cobalt consuming countries. The dramatic slowdown in end- use demand and excessive destocking in the supply chain reduced global cobalt demand by as much as 20 – 25 percent year-on-year in the first quarter of 2009 resulting in lower cobalt prices in the first quarter of the year

Superalloys: This end-use sector, historically the major user of cobalt, has now been overtaken by rechargeable batteries as the main end-use sector (Figure 2). Superalloys accounted for 20 percent (11.2 kt) of the total cobalt demand in 2009, down 2.6 percent from the 11.5 kt in 2008. In 2009, producers of high performance alloys reported lower sales volumes across the board, due to reduced demand from commercial aircraft manufacturers, defence procurement and gas turbines for electricity production.

Batteries: Demand in this sector is driven by portable devices, Hybrid Electric Vehicles (HEV) and all other Electric Vehicles (EV). In 2009, cobalt demand from the battery sector decreased by 4.8 percent to 14.1 kt compared with 2008. The drop is attributed mainly to a sharp decline in consumer electronics sales, compounded by severe destocking throughout the supply chain.

FIGURE 2: CONSUMPTION BY SECTOR, 2009



Source: Cobalt Facts, Supply and Demand, 2009 (The CDI)

Hard Metals: In 2009, cobalt demand in this end use sector decreased by about 30 percent to 4.5 kt compared with 2008, mainly due to global destocking and severe demand cuts from the automotive, construction and mining industries.

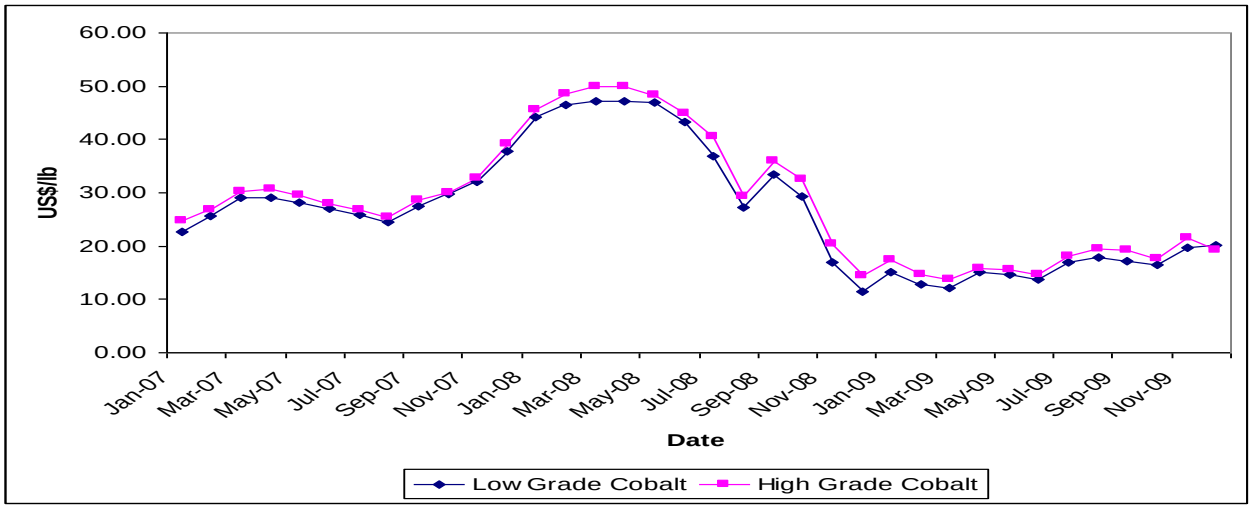
Catalysts**:** Most of the cobalt in this sector is used in the production of polymerization catalysts and hydro-desulphurization catalysts used in the oil refining industry. This sector recorded an increase of 14.3 percent to 5.6 kt in 2009, compared with 2008.

Others: The colours (pigments/ ceramics) sector accounted for 9 percent (5 kt) of total demand, declining from 5.46 kt recorded in 2008. The magnets consumed 7 percent (3.9 kt), the other alloys and hardfacing consumed 2.8 kt (5 percent), the tyre and adhesive 3.9 kt (7 percent) and the Feedstuffs 2.24 kt (4 percent) of the total cobalt demand..

PRICES

The average price of low-grade cobalt decreased from $36.01/lb in 2008 to $15.96/lb in 2009 while the average price of high-grade cobalt dropped from $38.48/lb to $17.25/lb following concerns over the global economy that kept many consumers out of the market. An unprecedented lack of consumer buying, anxious supplier selling and rapidly deteriorating market sentiment drove the cobalt metal price into freefall from mid-2008. The price of low-grade cobalt dropped by 261 percent, from $32.50/lb to $9.00/lb during the period September 2008 to January 2009 (Figure 3). Market prices stabilized during 2009 on the back of renewed consumer and trade buying, in part prompted by supply concerns resulting from numerous production cutbacks and mine closures. However, industrial buying continued to suffer as a result of poor downstream demand and further destocking throughout the supply chain.

FIGURE 3: COBALT PRICE, 2007 – 2009



Sources: Metal Bulletin

From mid-October onwards prices gained almost $5.00/lb, peaking at a year high of approximately $22.00/lb for high grade cobalt. Prices continued firming up to December and it is expected that they will continue this trend in 2010.

SOUTH AFRICA AND AFRICA

In South Africa, cobalt is produced as a by-product of platinum-group metals (PGMs) and nickel mining. Cobalt mine production decreased by 2.7 percent (following a 1.6 percent decline in PGMs production) to 238 t in 2009 compared with 2008 (Table 4). The value of local sales decreased by 22.1 percent to R20.4 million while the value of export sales plunged 62.3 percent to R63 million due to a weaker dollar and volatile cobalt prices.

TABLE 4 – SOUTH AFRICA'S LOCAL AND EXPORT SALES OF COBALT, 2000 - 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value (FOR)		Mass	Value (FOR)	
	Kg	kg	R' 000	R/kg	kg	R' 000	R/kg
2000	397 088	37 796	7 578	200	330 524	69 308	210
2001	373 259	36 928	6 437	174	316 941	63 759	201
2002	352 000	33 790	5 996	177	311 591	55 225	177
2003	271 383	19 133	3 053	161	241 054	36 238	151
2004	308 929	18 517	5 671	306	309 848	83 232	269
2005	267 962	32 702	4 439	136	241 025	51 615	214
2006	266 875	44 320	8 882	200	220 921	46 975	213
2007	306 834	30 259	10 578	350	248 575	99 539	400
2008	244 407	43 134	26 231	608	261 494	167 774	642
2009	237 812	75 109	20 435	272	182 659	63 181	346

Source: Directorate, Mineral Economics – DMR

Other African countries that produced both refined and mined cobalt include Zambia, Democratic Republic of Congo (DRC) and Morocco (Tables 1 and 2), while Uganda produced refined cobalt (Table 2). DRC's Katanga Mining recorded a 238.5 percent increase to 2.5 kt in refined cobalt production, while last year's leader, Gêcamines, followed with a 38.3 percent increase to 415 t. Zambia's Chambishi recorded a 90.9 percent decrease to 235 t in 2009 while its counterpart Mopani Copper recorded a 4 percent increase to 1.3 kt in refined cobalt production. Morocco's CTT's refined cobalt production decreased by 6.5 percent to 1.6 kt while Uganda's production increased by 1.5 percent to 673 t.

GLOBAL DEVELOPMENTS

In the fourth quarter of 2008, freezing of capital expenditure resulting from the global economic crisis led to production cutbacks as well as postponement or suspension of some cobalt projects.

Chambishi Metals PLC of Zambia, Africa's largest cobalt metal producer in 2008, suspended its smelter operations in December 2008 as a result of deteriorating cobalt and copper prices. The company will ramp its production back up to 3.5 kt in the course of 2010.

Central African Mining & Exploration Co. (CAMEC) of the United Kingdom halted its cobalt and copper operations at its Mukondo Mine and Luita plant (both in the DRC) in November 2008. However, while mining operations were suspended, production of concentrates continued using stockpiled feed. Operations resumed by late March 2009. CAMEC is also due to complete the construction of its Luita SX/EW facility in October 2010. Commissioning began in Q1 2010 and it is capable of producing 8 kt of cobalt of which 3.2 kt will be in metal form and the balance in oxide form. During the commissioning period the metal is expected to be of 99.3 percent purity and will be upgraded to 99.99 percent purity once in full production.

Production estimates for 2009 for Umicore and OMG, the world's largest cobalt refiners, suggest that overall refined output at the two companies may have fallen by as much as 10 and 20 percent respectively. A sharp drop in demand from the rechargeable battery, construction and automotive markets led to a reduction in sales volumes and ultimately refined output. OMG's production fell 58 percent in the first nine months of 2009 as a result of lower cobalt prices and end-market demand. At Umicore, refining and recycling throughput of cobalt fell by 50 percent during the first half of 2009.

BHP Billiton announced an indefinite suspension of the Ravensthorpe nickel-cobalt mine in Western Australia in January 2009 in response to lower commodity prices. In July 2009, BHP sold the Yabulu nickel and cobalt refinery to Australian mining magnate Clive Palmer and the refinery is currently operating under the name of Queensland Nickel. BHP Billiton also ended its tolling arrangement with Xstrata, under which it shipped mixed nickel / cobalt sulphides from the Kiwana refinery in Western Australia to Xstrata's Nikkelverk refinery in Norway for conversion into nickel and Falconbridge grade cobalt metal.

The London Metal Exchange (LME) launched a cobalt contract in February 2010. The global contract would trade in 1-metric-ton lots of minimum 99.3 percent cobalt with delivery warehouses in Baltimore, Rotterdam and Singapore. The LME will offer a fully regulated market and transparent daily pricing on which to trade spot and future cobalt contracts.

New projects – progress update

Several new projects are deemed to be sufficiently advanced and financed to produce significant quantities of cobalt in 2010 – 2011 mainly as a by-product.

The Tenke Fungurume project, owned by Freeport-McMoran (57.75 percent), Lundin Mining (24.75 percent) and Gecamines (17.5 percent), is believed to hold the largest undeveloped copper / cobalt ore body known today. It entails an open pit mining operation with an expected annual capacity of 8 kt of cobalt in hydroxide form. Full commercial production was achieved in the third quarter of 2009. In the fourth quarter of 2009, feasibility studies commenced on expansion, which could potentially increase production by 50 percent or more. The expansion feasibility study is expected to be completed by mid-2010.

Canadian company, First Quantum Minerals suspended construction at the Kolwezi Tailings Project in the DRC in September 2009. The company has a 65 percent stake in the project. The suspension followed the issuance of an order by the General Prosecutor of Katanga to seal the Kolwezi facilities. At the time of the suspension, construction of the project was at an advanced stage, approximately 74 percent complete, on schedule to be commissioned in May 2010. The company continues to seek a negotiated solution with the DRC government and at the same time was preparing for international arbitration in an attempt to have the cancellation annulled. Once completed, the initial production rate of the project is estimated at 7 kt per annum of cobalt in hydroxide form, with a planned ramp up to 12 kt per annum within 12 months following commissioning.

Ruashi Mining, operated by Metorex of South Africa, commissioned the Ruashi II cobalt plant in February 2010 but ramp up has been slow due to liquidity issues. The company is currently looking for a strategic partner to secure the finances to fund the $100 million above budget costs to further develop the project. Since the February start up, production has been 720 t of cobalt contained in carbonate. Upon completion, the Ruashi Phase II plant's annual output could ultimately grow to 3.5 kt of cobalt in hydroxide form.

The Ambatovy project in Madagascar, owned and operated by Sherritt International (40 percent), Sumitomo Corp., Korea Resources (both 27.5 percent) and SNC-Lavalin Group (5 percent), continued with engineering and construction, increasing project expenditures to $3.1 billion during the first 9 months of 2009. Mechanical completion of the project is on schedule for end of 2010, after which it will ramp up production to 60 kt of nickel and 5.6 kt of cobalt in powder and briquette form.

Vale Inco commenced mining at the $4.3 billion Goro project, located on the South Pacific island of New Caledonia in April 2010. The project has a nominal production capacity of 60 kt of nickel and 4.6 kt of cobalt. In 2010, cobalt production is expected to be around 1.5 kt. Vale Inco aims to ramp up to full production by 2013 but there are growing concerns that the technology employed by Vale Inco's Goro (a high-temperature, high-pressure and high-cost acid leaching technology), may lead to difficulties and delays in reaching its production targets.

OUTLOOK

The global financial crisis that started late in 2008, resulting in a plunge in metal prices forced many cobalt operations to be mothballed. This took a lot of supply out of the system resulting in a 13.6 percent drop in production in 2009.

Cobalt consumption continued to weaken in the second half of 2009 and the market is forecast to remain subdued in the first half of 2010 before it recovers in the second half of the year. The commencement of cobalt trading by the LME in February 2010 is expected to increase demand for cobalt from non-traditional market participants. The expected higher demand with the ensuing market tightness may lead to cobalt prices recovering to the 2008 levels.

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COPPER

Thomas Chili

WORLD SUPPLY

According to the International Copper Study Group (ICSG), global copper output grew by 2.3 percent to 15.8 Mt in 2009 (Table 1). With the exception of Peru, whose output grew by 4.3 percent as a result of higher copper , production in three of the four major producing countries namely, the US, Chile and China, declined-by 9.2 percent, 4.8 percent and 4.0 percent, respectively. This decline was mainly attributed to low copper grade ores, floods and deteriorating copper market fundamentals. Despite the decrease in production, Chile continued to dominate world copper output, accounting for 5.3 Mt followed by Peru (1.3 Mt), the USA (1.2 Mt) and China (0.9 Mt). Production in Africa rose by 9 percent, driven mainly by Zambia and South Africa, which together accounted for 4.7 percent of the global copper mine output.

TABLE 1: WORLD RESERVES, MINE PRODUCTION AND EXPORTS, 2009

COUNTRY		RESERVES			PRODUCTION			EXPORTS[e]		
		Mt	%	Rank	kt	%	Rank	kt	%	Rank
Australia		24	4.4	7	900	5.7	6	127	0.7	11
Canada		8	1.5	11	590	3.7	9	634	3.6	5
Chile		160	29.6	1	5 330	33.7	1	8 232	47.0	1
China		30	5.6	5	960	6.1	4	701	4.0	3
Indonesia		31	5.7	4	950	6	5	225	1.3	10
Kazakhstan		18	3.3	10	410	2.6	11	243	1.4	9
Peru		63	11.7	2	1 273	8.1	2	1 412	8.1	2
Poland		26	4.8	6	440	2.8	10	260	1.5	8
Russia		20	3.7	8	750	4.7	7	632	3.6	6
South Africa*		13	2.4	14	89	0.6	12	27	0.2	32
USA		35	6.5	3	1 190	7.5	3	644	3.7	4
Zambia		19	3.5	9	655	4.1	8	508	2.9	7
Other		93	17.2	-	376	2.4	-	3 874	22.1	-
TOTAL	2009	540	100		15 800	100		17 519	100	
	2008	1 000		-	15 400		-	14 147		

Sources USGS, January 2010, p49
ICSG

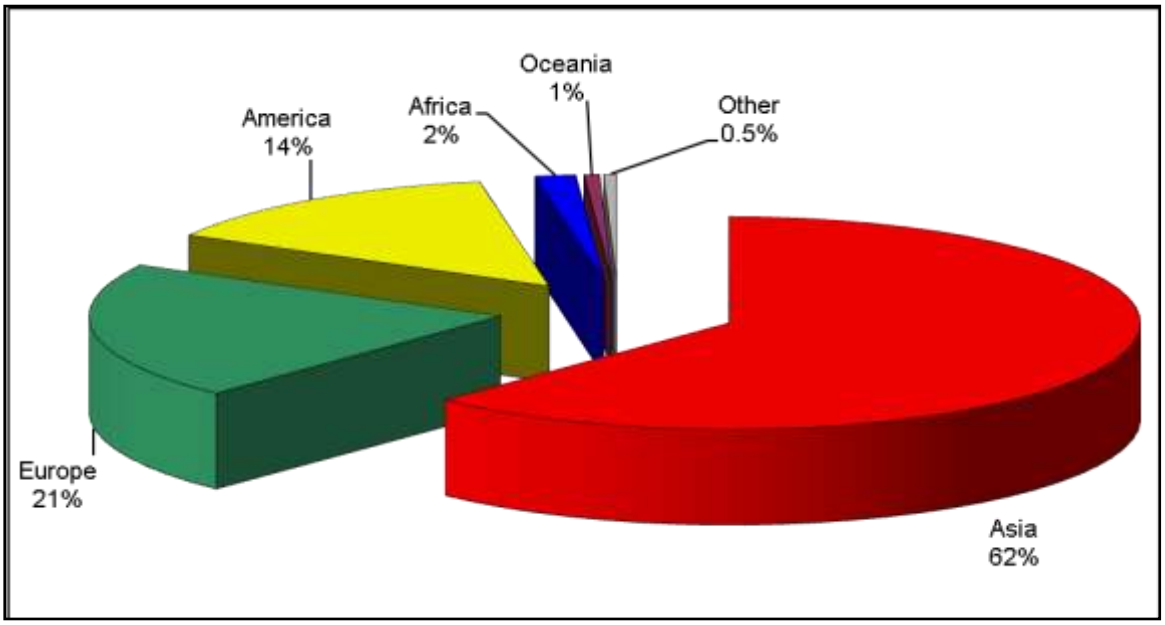
Notes: * Department of Mineral Resources (DMR), Directorate Mineral Economics: Metal content of concentrates, blister anode and refined
[e] Refers to estimates except South Africa, (DMR)

World refined copper output rose by 1.1 percent to 18.4 Mt in 2009 compared with 2008. Production declined in all the regions except Africa and Asia, where production rose by 15.5 percent (0.67 Mt) and 3.6 percent (8.06 Mt) respectively. Oceania recorded a 12.1 percent (0.6 Mt) decline followed by Europe's 4.4 percent (3.45 Mt) and America's 2 percent (5.67 Mt). This was mainly caused by constraints in copper mine output, which resulted in a reduction in refined copper production in response to the global economic slowdown.

CONSUMPTION

In 2009, world refined copper consumption rose by 1.0 percent to 18.2 Mt compared with 2008.
Consumption was dominated by Asia, which accounted for 62 percent (11.3 Mt) followed by Europe with 21 percent (3.8 Mt) and America with 14 percent (2.6 Mt)-(Fig.1). Africa and Oceania accounted for 1.6 percent and 0.5 percent respectively.

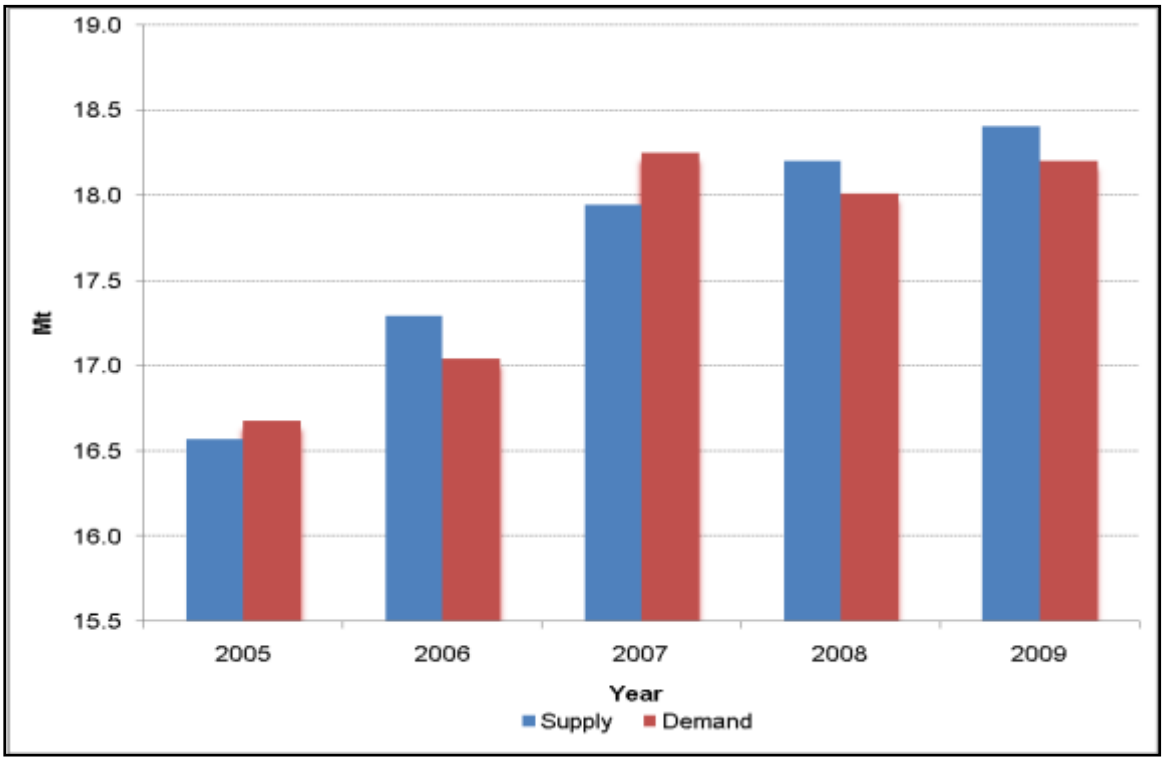
FIGURE 1: REGIONAL REFINED COPPER CONSUMPTION, 2009



Source: International Copper Study Group (ICSG), 2010

The refined copper market was oversupplied in 2009, with supply exceeding demand by 209 kt.

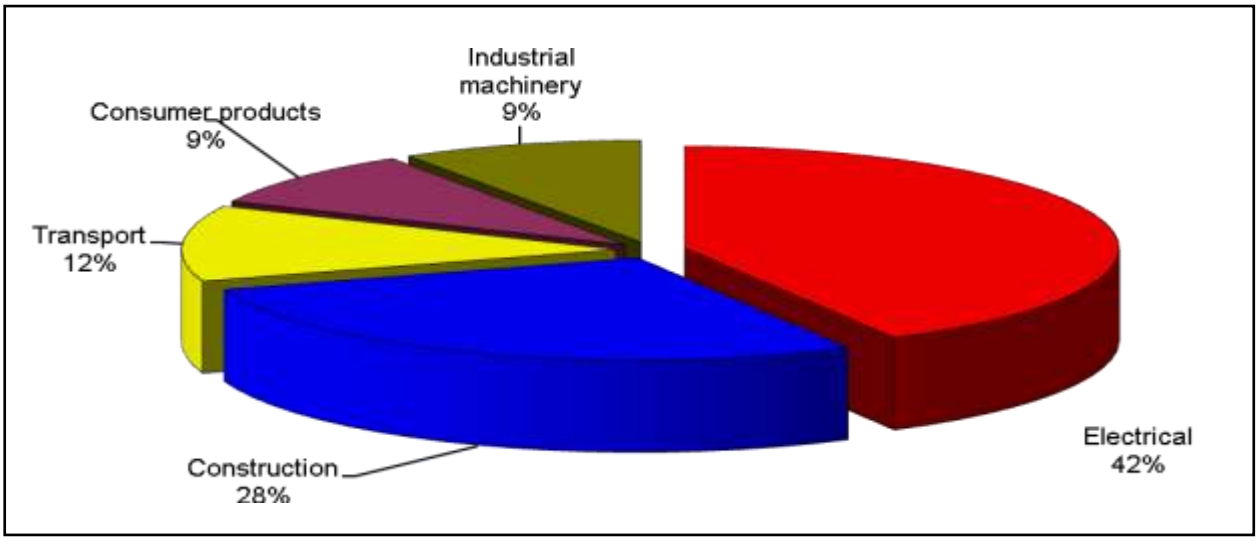
FIGURE 2: GLOBAL REFINED COPPER PRODUCTION AND CONSUMPTION, 2005-2009



Source: International Copper Study Group (ICSG), 2010

Demand for refined copper was still dominated by the electrical sector, which accounted for 42 percent of global consumption, followed by construction at 28 percent (Fig. 3). The balance of demand was from transport (12 percent) while consumer durables and industrial machinery accounted for (9 percent) each.

FIGURE 3: WORLD INDUSTRIAL REFINED COPPER DEMAND BY SECTOR, 2009

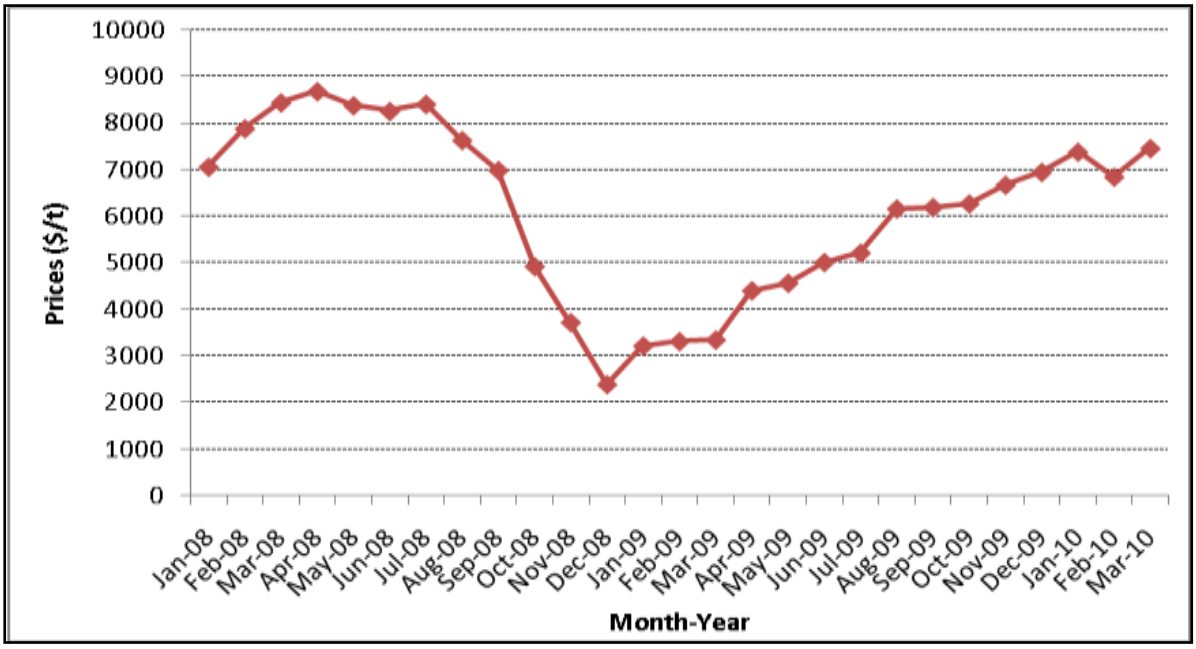


Source: London Metal Exchange (LME), 2010

PRICES

The average annual LME cash settlement copper price for 2009 was $5 112.76, 26 percent lower than 2008 (Fig. 4). However, supply constraints caused by low copper grades, floods and labour unrest coupled with eroding inventory and higher demand, particularly from China and India led to a sustained upward price movement in monthly cash copper settlement prices during 2009. Consequently, copper prices rose by an average of 57 percent from $3 949/t in the first half of 2009 to $6 247/t in the second half. The trend continued through the first quarter of 2010 with prices reaching an average of $7 232.42/t as the world economy appeared to recover from the recession.

FIGURE 4: LME CASH SETTLEMENT COPPER PRICES (MONTHLY AVERAGES), 2008-2009



Sources: Metal Bulletin, 2010

SOUTH AFRICA

South Africa's copper production (cathode, copper in concentrate) decreased by 4.4 percent to 92.9 kt in 2009 (Table. 2). This was mainly caused by low output from the major copper producer, Palabora Mining Company (PMC), following converter furnace problems. However, copper production from Platinum Group Metal (PGM) mines rose by 15.8 percent to 20.1 kt. Local consumption remained stable at 68 kt while exports fell by 0.2 percent to 27 kt. Local unit values declined by 30.7 percent to R41 695/t while export unit value went down 16.8 percent to R38 152/t, dragging their respective revenues down.

Local sales revenue dropped by 31.2 percent to R2.83 billion while revenue from export sales fell by 32.1 percent to R1.02 billion.

TABLE 2: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF COPPER, 2008–2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
	Mass	Mass	Value (FOR)		Mass	Value (FOR)	
	kt	kt	R'000	R/t	kt	R'000	R/t
2000	137	76	975 095	12 807	49	598 509	12 338
2001	141	70	966 874	13 751	63	827 874	13 043
2002	130	80	1 381 519	17 197	51	761 829	14 909
2003	121	76	1 073 734	14 114	46	567 502	12 229
2004	103	84	1 542 829	18 381	29	583 293	16 495
2005	99	82	1 926 378	23 496	30	656 721	21 882
2006	110	84	3 892 035	46 452	24	1 064 092	43 598
2007	113	77	4 025 725	52 242	36	1 772 305	49 683
2008	97	68	4 120 564	60 168	33	1 507 356	45 860
2009	93	68	2 835 737	41 695	27	1 022 782	38 152

Notes: Exports include cathode, blister and concentrates. The mass shown is that of metal and contained metal

DEVELOPMENTS IN AFRICA

A Chinese company, China Non-ferrous Mining Corporation (CNMC), has invested $400 million in the development of the Baluba Mine located near Kitwe and the Mulyashi project in Zambia. This investment will raise the company's global copper mine output to 200 kt/a in five years (2011 to 2016). Another project in Zambia, Konkola Copper Mines (KCM), a subsidiary of Vedenta Resources based in the United Kingdom, is planning to expand Konkola Mine production to 500 kt/a by 2011. Also, Mopani Copper Mines, a unit of Glencore International AG based in Switzerland, which manages the Nkana concentrator and cobalt plant, plans to construct a new shaft at Nkana Mine to extend the lifespan of the mine by 25 years. An investment of $100 million has been committed to this project.

In the Democratic Republic of Congo, Katanga Mining is planning to double copper cathode production to 82 kt/a in 2010 when the T17 and Kamoto-Virgule Oliveira (KOV) open-pit mines are commissioned. The company seeks to reach 310 kt/a copper production capacity by 2011. Also, Tenke Fungurume, managed by US based Freeport McMoran Copper and Gold, came on stream in 2009, and commenced with the second phase of a feasibility study to optimise the existing plant to produce 105 kt/a of copper. The study is expected to be completed in 2010. It appears that Southern African Development Community (SADC) could reach 3 Mt/a of copper production in 2015.

OUTLOOK

According to the ICSG, world copper production is expected to grow by 0.7 percent to 18.2 Mt in 2010 as a result of increased copper output in major copper producing regions such as Chile, the Democratic Republic of Congo and Zambia. Copper consumption is expected to decline by 1.6 percent to 17.2 Mt because of contraction in copper demand from major consuming countries, the United States, European Union and Japan- as a result of lower economic activities. However, some major consuming countries like China and India could bring the situation back to a state of equilibrium in 2011.

South Africa's production is expected to decline by 4.6 percent to 84.6 kt as a result of idle capacity at the major producer PMC. Local consumption is forecast to remain stable at 68 kt, while exports are expected to decrease by 29.9 percent to 18. 8 kt in 2010.

In Africa, mine production is expected to rise by 40 percent to 1.4 Mt when Vedenta's Konkola Deep project in Zambia ramps up to full production in 2010. Freeport's Tenke-Fungurume Mine, in the Democratic Republic of Congo, together with Equinox Minerals's Lumwana mine in Zambia are expected to raise production by 13.3 percent to 1.2 Mt in 2011.

LME copper cash settlement prices are expected to be volatile in the second half of 2010 as a result of erratic supply/demand caused by the unprecedented European debt crisis. However, copper prices are anticipated to rise by 4 percent to $7 025/t in 2011.

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LEAD

L E PITSO

WORLD SUPPLY

World mine output amounted to 4 014 kt in 2009, a 2.9 percent increase compared with 2008 (Table 1). China at 1 760 kt remained the largest producer followed by Australia (525 kt), USA (403 kt) and Peru (302 kt). South Africa at 49 kt dominated Africa's production, succeeded by Morocco (36 kt) and Namibia (13 kt) respectively.

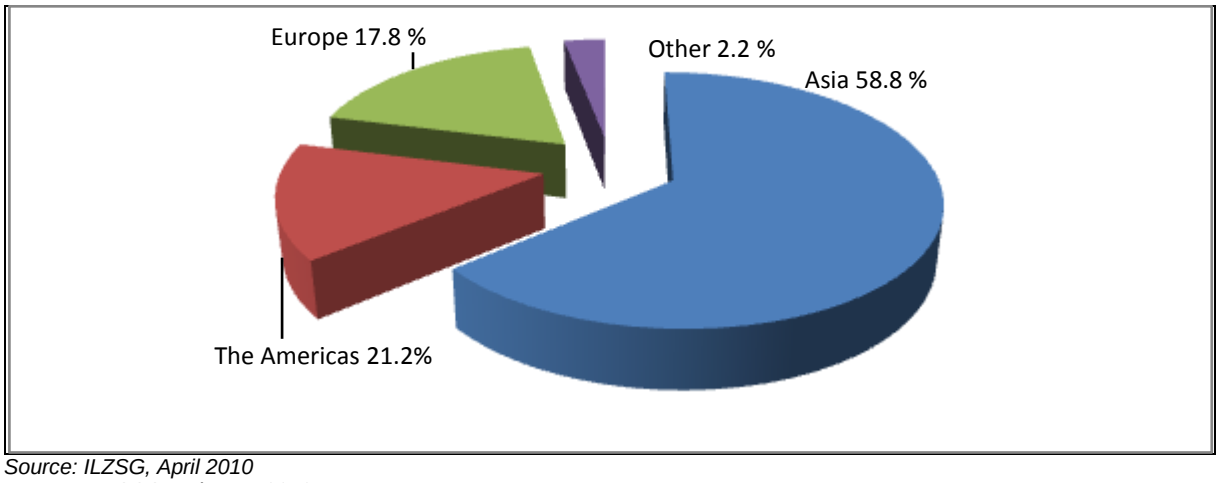
TABLE 1: WORLD RESERVES, MINE PRODUCTION AND EXPORTS OF LEAD, 2009.

	RESERVES			PRODUCTION			EXPORTS		
Country	Mt	%	Rank	Kt	%	Rank	Kt	%	Rank
Australia	23	28.9	1	525	13.1	2	513	18.8	1
Canada	0.7	0.9	8	69	1.7	8	131	4.8	5
China	12	15.1	2	1 760	43.8	1	24	0.9	25
India	2.6	3.3	6	88	2.2	6	-	-	-
Ireland	0.5	0.6	9	49	1.2	9	61	2.2	11
Mexico	4.7	5.9	5	155	3.7	5	171	6.3	24
Morocco	X	X	X	36	0.9	11	34	1.2	13
Peru	6.0	7.5	4	302	7.5	4	312	11.4	2
South Africa*	0.5	0.6	9	49	1.2	9	47	1.7	14
Sweden	1.3	1.6	7	72	1.8	7	85	3.1	12
USA	7.7	9.7	3	403	10.3	3	275	10.1	3
Other	20.7	25.9	X	506	12.6	-	1 083	39.6	-
Total	79.7	100	-	4 014	100	-	2 736	100	-

Sources: International Lead and Zinc Study Group (ILZSG), Monthly Bulletin January 2010 to May 2010
USGS, February 2010
DMR, Directorate Mineral Economics
Notes: X Not specified but estimates have been included in other countries
- No production or export sales recorded.

World refined lead production amounted to 8 815 kt in 2009, an increase of 1.9 percent compared with 2008. China and the US led world metal production with a 13.5 percent increase to 3 704 kt and 3.7 percent decrease to 1 240 kt respectively. Regionally, production was dominated by Asia, which accounted for 58.8 percent followed by the America's 21.2 percent and Europe's 17.8 percent (Figure 1). Africa's refined lead output decreased by 28.9 percent to 93 kt in 2009.

FIGURE 1: REFINED LEAD PRODUCTION BY REGION IN 2009.

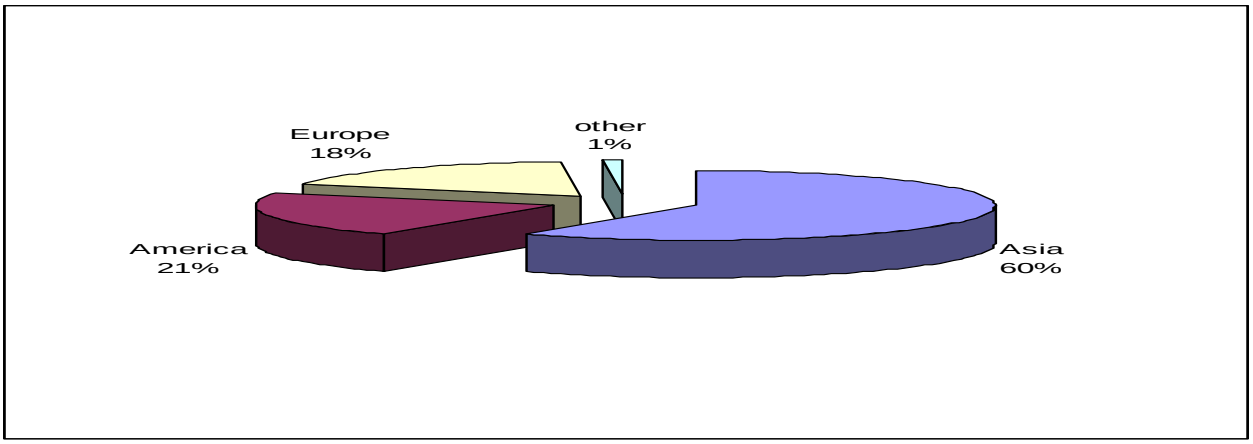


Source: ILZSG, April 2010
USGS, February 2010
DMR, Directorate Mineral Economics

WORLD DEMAND

World lead consumption grew by 1.4 percent to 8 771kt in 2009 compared with 8 648kt in 2008. China continued to dominate world consumption, increasing consumption by 19.1 percent to 3 860 kt, while the US's consumption decreased by 6.7 percent to 1 426 kt. Consumption declined in all the regions except Asia, where a 10.9 percent increase was recorded. Asia accounted for 60 percent of world consumption followed by the America's 21 percent and Europe's 18 percent (Figure 2). Africa's accounted for one percent of world consumption. South Africa dominated Africa's secondary lead consumption, accounting for 68.6 percent while Morocco accounted for 1.2 percent.

FIGURE 2: REGIONAL LEAD CONSUMPTION IN 2009



Source: ILZSG, April 2010
USGS, February 2010

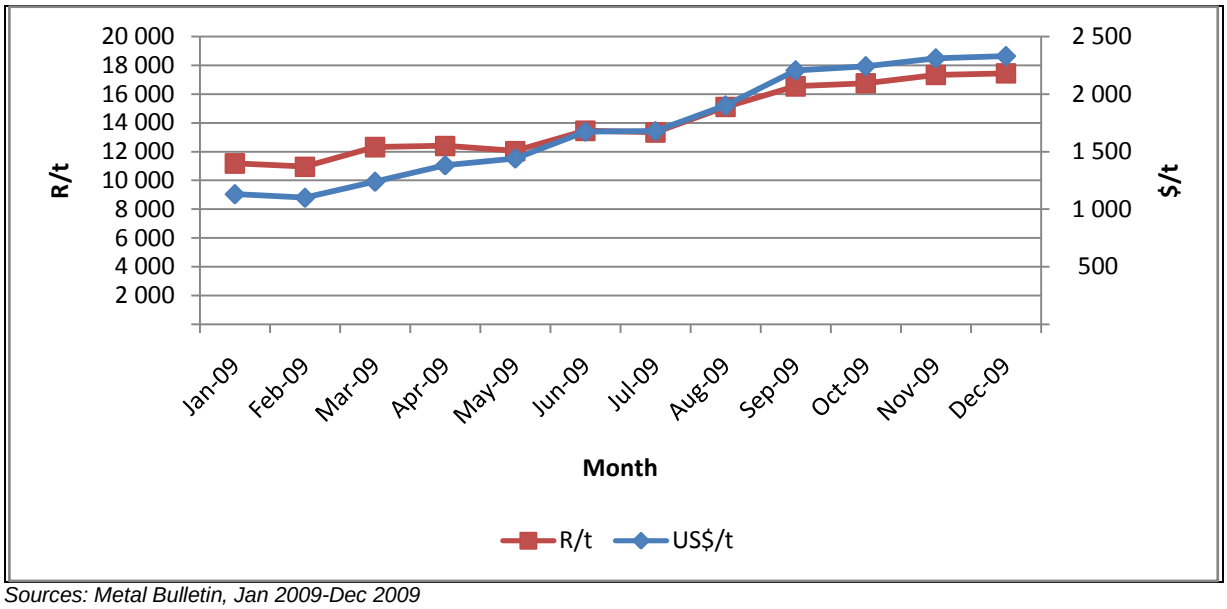
DEVELOPMENTS OUTSIDE SOUTH AFRICA

Trevali Resources Corp announced the intersection of a new zone of high-grade, silver-rich massive sulphide mineralization over mineable widths at the past-producing Santander Pipe mine project, located in Huaral, Lima. The Santander project primarily focuses on producing high-grade silver - lead - zinc. Mine production started in 1958 where some 8 Mt grading of 7 percent zinc, 1 to 4 percent lead and 60 g/t silver was mined up to 1991. After some further exploration, a new mineral body was discovered in mid-2007 and by December 2007 numerous anomalies were discovered, which were more significant than the surface expression of the mineralization.
The total indicated resources on the project amounted to 5 298 kt in 2009 with zinc and lead accounting for 3.34 and 1.27 percent respectively, while the inferred resources amounted to 2 244 kt containing 2.92 percent zinc and 0.5 percent lead. Trevali feels that very significant exploration upside remains at Santander and will follow up on the successful 2009/2010 resource expansion program with ongoing aggressive exploration in the first quarter of 2011.

PRICES

LME annual average lead prices was $1 719.32/t in 2009, 17.3 percent lower than $2 078.83/t in 2008. The lowest lead price was recorded in February, at an average of $1 100.53/t and had risen to reach a maximum of $2 328.52/t in December (Figure 3). Analysts believe that lead pricing strength over the months was driven by speculative buying. However, a significant occurred in August, influenced by concerns over Chinese production. In August, although Chinese demand was strong, supply was also growing, and just over 10 kt were added to LME inventories.

FIGURE 3: LEAD CASH SETTLEMENT PRICES (MONTHLY AVERAGE) IN 2009



Sources: Metal Bulletin, Jan 2009-Dec 2009
Fry's Metals, 2009
International Lead and Zinc Study Group

SOUTH AFRICA

South Africa's lead mine production increased by 6.1 percent to 49 kt in 2009 compared with 2008, while export sales decreased by 13.6 percent to 44 kt (Table 2). No local sales were recorded, all lead produced is exported.

TABLE 2: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF LEAD, 2000-2009

		LOCAL SALES			EXPORT SALES		
YEAR	PRODUCTION	MASS	VAUE (FOR)		MASS	VALUE (FOB)	
	kt	t	R'000	R/t	kt	R'000	R/t
2000	75	6 610	19 755	2 989	76	104 300	1 372
2001	51	5 949	22 147	3 716	50	92 825	1 862
2002	50	4 882	22 923	4 782	41	88 833	2 214
2003	40	339	1 284	3 789	44	108 600	2 470
2004	37	-	-	-	31	120 599	3 895
2005	42	-	-	-	47	211 458	4 497
2006	48	-	-	-	46	313 232	6 809
2007	42	-	-	-	37	492 678	13 315
2008	46	-	-	-	50	612 042	12 180
2009	49	-	-	-	44	482 903	11 002

Sources: DMR, Mineral Economics Directorate
Notes: - No local sales recorded.

OUTLOOK

According to International the Lead and Zinc Study Group (ILZSG), World lead mine output is forecast to increase by 5.1 percent in 2010, due to higher production expected in China, Australia, India and Mexico. Global refined lead production is expected to rise by 7.5 percent in 2010, because of a return to normal production levels at a number of plants that had cutbacks in 2009.
Global refined lead consumption is forecast to rise by 7.3 percent in 2010, mainly driven by an increase in China's battery industry and an expected rise in automotive and e-bikes sales.
Refined lead metal supply is expected to continue to exceed demand in 2010 with the surplus estimated at just below 100 kt.

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NICKEL

Khangele Revombo

WORLD SUPPLY

Nickel occurs in nature principally as oxides, sulphides and silicates. Primary nickel is produced and used in the form of ferro-nickel, nickel oxides and other chemicals, and as more or less pure nickel metal. Nickel is also readily recycled in many of its applications, and large tonnages of secondary or "scrap" nickel are used to supplement newly mined metal.

According to the U.S. Geological Survey, identified land-based resources averaging 1 percent nickel or greater contain at least 130 Mt of nickel. About 60 percent is in laterites and 40 percent is in sulphide deposits. In addition, extensive deep-sea resources of nickel occur in manganese crusts and nodules covering large areas of the ocean floor, particularly in the Pacific Ocean.

TABLE 1: WORLD NICKEL RESERVES AND MINE PRODUCTION, 2009

Country		Reserve			Mine Production		
		kt	%	Rank	kt	%	Rank
Australia		26 000	36.62	1	167	11.7	4
Botswana		490	0.69	14	36	2.5	11
Brazil		4 500	6.34	5	56.7	4.0	9
Canada		4 100	5.77	7	181	12.7	3
China		1 100	1.55	11	84.3	5.9	7
Colombia		1 700	2.39	10	93	6.5	6
Cuba		5 500	7.75	4	65	4.5	8
Dominican Rep		840	1.18	13	0	0.0	-
FYROM[#]		Na	0.00		10.5	0.7	15
Greece		490	0.69	14	14	1.0	13
Indonesia		3 200	4.51	9	189	13.2	2
New Caledonia		7 100	10.00	2	107	7.5	5
Philippines		940	1.32	12	85	5.9	7
Russia		6 600	9.30	3	266	18.6	1
South Africa		3 700	5.21	8	34.6[*]	2.4	12
Spain		8.1	0.01		7.8	0.5	16
Ukraine[#]		Na	0.00		0	0.0	
Venezuela		490	0.69	14	12	0.8	14
Zimbabwe[#]		Na	0.00		0.5	0.0	17
Other		4 242	5.97	6	21.2	1.5	10
TOTAL	2009	71 000	100		1 430	100.0	
	2008				1 570		

Source: *USGS, Mineral Commodity Summaries, January 2010*
 # International Nickel Study Group (Estimations)
** DMR, Mineral Economics Directorate*
FYROM: *Former Yugoslav Republic of Macedonia*
Na: *not available / not applicable*

Australia, at 36.6 percent has the world's largest nickel reserves, followed by New Caledonia (10 percent), Russia (9.3 percent) and Cuba (7.8 percent). The only African countries which feature in the top fifteen are South Africa (5.2 percent, ranked 8th) and Botswana (0.7 percent, ranked 14th).

World nickel output decreased by 8.9 percent to 1.43 Mt in 2009 compared with 2008 (Table 1). Significant decreases were recorded in Canada (30.4 percent), Greece (24.7 percent) and Australia (16.5 percent). The decline in world production was due to the 10 month strike at Canada's Vale Inco nickel mining complex, BHP Billiton's production halt and subsequent sale of the New Ravensthorpe Mine located in Western Australia as well as suspension or slowdown on mining projects in Canada, Guatemala, Vietnam and Zambia.

Production was dominated by Russia (18.6 percent), Indonesia (13.2 percent), Canada (12.7 percent) and Australia (11.7 percent). China, Colombia and South Africa recorded nickel output increases of 23.2 percent, 21.7 percent and 7.3 percent respectively.

TABLE 2: WORLD REFINED NICKEL PRODUCTION, 2009

Country		Refined production		
		kt	%	Rank
Australia		124.5	9.7	4
Brazil		29	2.3	11
Canada		110	8.6	5
China		220	17.2	2
Colombia		54	4.2	7
Cuba		32	2.5	10
Finland		54	4.2	7
Japan		143	11.2	3
New Caledonia		40	3.1	8
Norway		88	6.9	6
Russia		243	19.0	1
South Africa[#]		34.6	2.7	9
UK		18	1.4	12
Other		88.7	6.9	6
TOTAL	2009	1278.8	100.0	
	2008	1381.2		

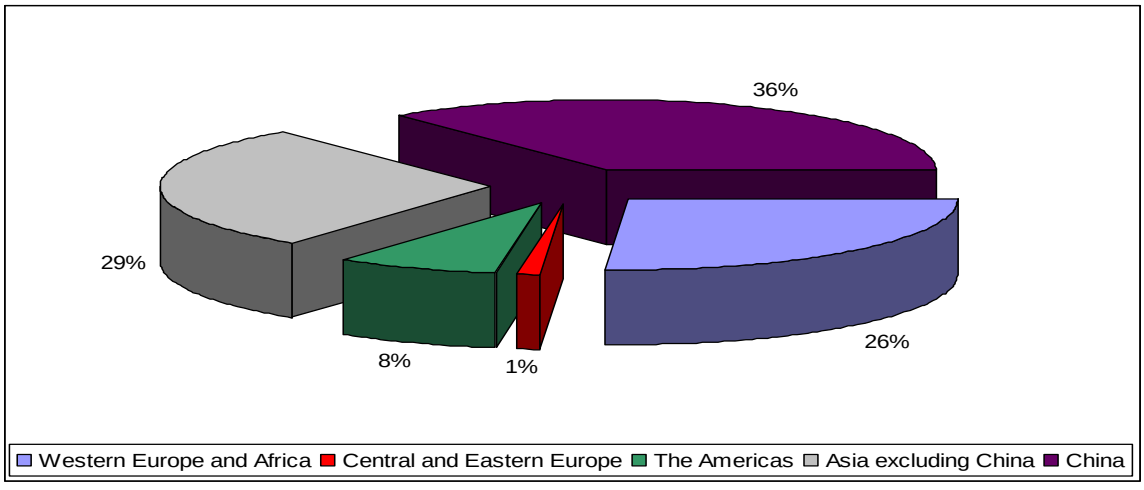
Source: International Nickel Study Group, 2009
[#] DMR, Mineral Economics Directorate

Global refined nickel production decreased by 7.41 percent to 1 278 kt in 2009 compared with 2008 (Table 2). Countries that recorded the biggest declines were: United Kingdom (56.1 percent), Canada (34.4 percent) and Cuba (11.1 percent). Colombia (29.8 percent), South Africa (14.6 percent), Australia (13.3 percent) and China (10 percent) recorded some improvement in refined nickel production. Dominating refined nickel production were Russia (19 percent), China (17.2 percent) and Japan (11.2 percent).

WORLD DEMAND

Stainless steel is the dominant nickel consuming sector, accounting for more than two thirds of the nickel consumed globally. World crude stainless steel output amounted to 24.70 Mt in 2009, a decline of 8 percent from that in 2008. Comparing 2009 quantities of crude stainless steel produced in the developed world regions with those in 2008, Europe, USA and Japan recorded 25 percent, 18 percent and 28 percent decreases respectively. These substantial decreases were offset by China's 25 percent increase in stainless steel production for 2009 compared with 2008 (Figure 1).

FIGURE 1: REGIONAL STAINLESS STEEL PRODUCTION, 2009



Source: International Stainless Steel Forum, 2010

World nickel demand decreased by 5.6 percent from 1.3 Mt in 2008 to 1.2 Mt in 2009. Regions that recorded nickel consumption decreases were the Americas (24.4 percent) and Europe (21 percent), while Africa, Asia and Oceania recorded increases of 29.8 percent, 6.7 percent and 3.3 percent respectively. Only three countries increased nickel consumption in 2009, namely; South Africa (34.6 percent), China (19.3 percent) and Australia (3.3 percent). Coincidentally, the countries with declining consumption of nickel are in fact signatories of the REACH Policy, which has recently classified nickel as a carcinogenic-1 material without any scientific basis.

GLOBAL PROJECTS / DEVELOPMENTS

Anglo American recently announced large nickel projects in Brazil, South Africa and Venezuela (The TEX Report). Anglo American planned to expand its annual capacity by 40 kt to produce 167 kt of nickel in 2011.

BHP Billiton has planned to increase the capacities of two electric furnaces by 10 percent at Cero Matoso in Colombia, producing 55 kt/a of nickel in ferro-nickel at competitive prices, in the second half of 2010. The Brazilian Baro Alto Nickel Mine project is expected to be completed by January – March 2011 at an initial capital cost of $1.8 billion. The mine will produce up to 10.1 kt/a of nickel in 2011, which will be ramped up to 26.6 kt/a by 2012. The lifetime of this project is 20 years with an estimated output of 36 kt/a of nickel.

The Onca-Puma Nickel mine project in Brazil and owned by Vale Inco was initially scheduled for commissioning in the third quarter of 2010 at the cost of $2 297 million. However the start-up of the mine was postponed to 2011. The mine production capacity will be about 58 kt/a of nickel.

Anglo-Australian mining giant Rio Tinto announced that it was investing $469 million to develop the Kennecott Eagle nickel and copper mine in the United States. The construction of this new underground mine in Michigan, which is expected to begin production by late 2013, would proceed after it received environmental approval. The company said the new mine would be the only primary nickel mine in the United States. This project is scheduled to produce 17.3 kt/a of nickel for six years.

Mincor Resources is reactivating the Western Australia-based Miitel nickel mine after it was mothballed in December 2008 due to depressed metal prices. The mine is set to return to previous annual production rates of 4.5 kt to 5 kt of nickel concentrate.

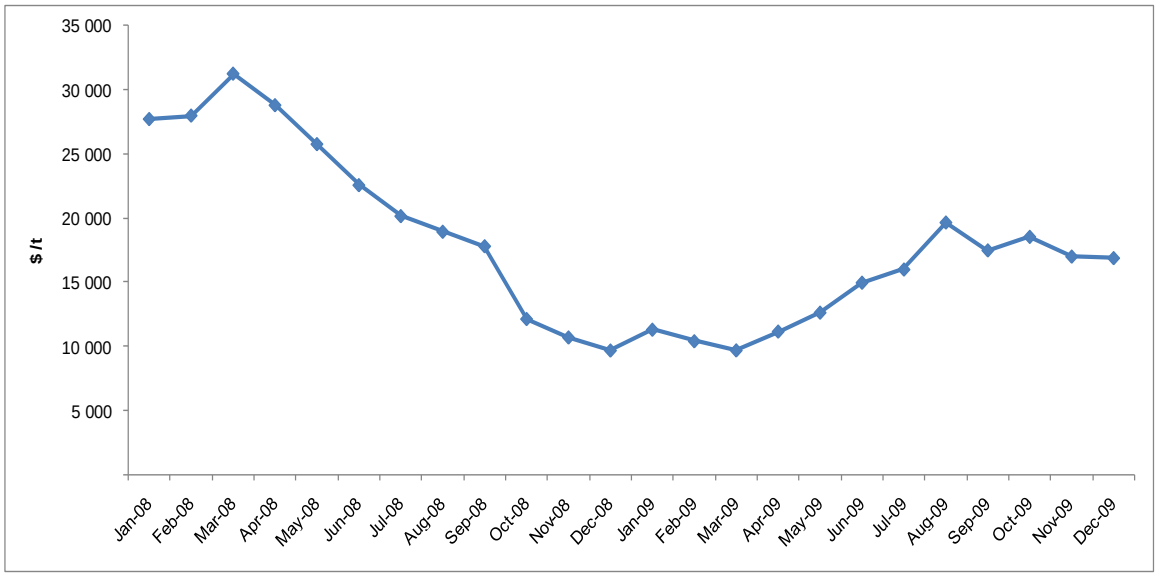
Sumitomo Metal Mining Co., Japan's largest nickel producer, has started the construction of a $1.3 billion project in the Philippines. The Taganito nickel and cobalt sulphide plant will start operation in August 2013 and continue for 30 years. Output from the project is forecast at 30 kt/a of nickel.

PRICES

The global financial crisis caused huge fluctuations in nickel prices, resulting in a drop in prices of over 80 percent to $9 846 /t by the end of 2008 due to weaker demand (Figure 2). In the first and second quarters of 2009, prices increased very slowly to reach monthly averages of $10 561 /t and $13 018 /t respectively in March and June. By the fourth quarter of 2009, nickel prices reached $18 500 per ton. Prices continued to increase in the first quarter of 2010, reaching $22 467 /t by March. Nickel prices hit a 21 month high in April 2010, reaching $26 028 /t bolstered by a steady drawdown of stocks and increased demand. This was a 34 percent increase over the first quarter of 2010.

With expectations of stronger demand from stainless steel mills, it is probable that nickel prices will continue increasing during the remainder of 2010.

FIGURE 2: MONTHLY AVERAGE NICKEL PRICES, 2008 – 2009



Source: Metal Bulletin

DEVELOPMENTS IN SOUTH AFRICA AND AFRICA

About 88 percent of South Africa's nickel production is derived as a by-product from platinum-group metals (PGMs) and copper mining. Nkomati Nickel mine in Mpumalanga is the only primary nickel producer.

In 2009, South Africa's nickel production increased by 9.1 percent to 34.6 kt compared with 2008 (Table 3). Local sales increased by 34.3 percent to 9 kt (26 percent of total production) while revenues generated from local sales dropped by 17.5 percent to R949.9 million compared with 2008. Export revenue also plunged by 20.8 percent to R3.25 billion despite export volumes increasing by 16.2 percent to 27.3 kt. Declines in both local and export revenues can be attributed mainly to a weaker dollar and lower nickel prices.

TABLE 3: SOUTH AFRICA'S PRODUCTION AND SALES OF NICKEL, 2000 – 2009

Year	Production	Local sales			Export sales			Total Sales	
	Mass	Mass	Value	Unit Value	Mass	Value	Unit value	Mass	Value
	kt	kt	R1 000	R/t	Kt	R1 000	R/t	kt	R1 000
2000	36.6	20.8	1 188 509	57 179	14.6	805 805	55 289	35.4	1 994 314
2001	36.4	22.2	1 102 557	49 648	14.3	707 130	49 466	36.5	1 809 686
2002	38.5	22.6	1 579 025	69 868	15.9	1 060 113	66 674	38.5	2 639 138
2003	40.8	24.0	1 647 992	68 666	16.1	1 081 275	67 160	40.1	2 729 197
2004	39.9	25.0	2 139 682	85 587	17.8	1 513 381	85 021	42.7	3 653 062
2005	42.4	20.3	1 909 468	94 062	22.2	2 013 553	90 701	42.5	3 923 021
2006	41.8	25.6	4 154 730	162 294	18.2	2 620 855	144 003	43.4	6 775 585
2007	37.9	15.5	3 724 689	240 303	21.4	5 599 739	261 670	36.6	9 324 428
2008	31.7	6.7	1 151 894	171 924	23.5	4 103 711	174 626	30.3	5 255 604
2009	34.6	9.0	949 855	105 539	27.3	3 251 353	119 097	36.3	4 201 208

Source: DMR, Mineral Economics Directorate

Other African countries that produced nickel in 2009 include Botswana and Zimbabwe. According to the International Nickel Study Group (INSG), Botswana, which ranked 11th globally in nickel mine production, produced 36 kt of nickel and Zimbabwe produced about 0.5 kt.

OUTLOOK

Nickel Investing News predicts that stainless steel production will reach 29 Mt in 2010, a 15 percent increase year-on-year. The increase in production of stainless steel will stimulate nickel production. The Vale Inco strike has created opportunities for other nickel producers to boost production in an attempt to grab the market share lost by Vale Inco. In 2010, primary nickel production /supply is expected to rise by

5.3 percent to 1.4 Mt. This increase however will not meet demand, which is expected to increase by 9.5 percent to 1.44 Mt resulting in a 35 kt deficit. South Africa's production is expected increase due to Nkomati's Phase 2 large-scale mining expansion that started producing in the fourth quarter of 2009.

In 2010 nickel prices will continue to increase but will not reach the $50 000 /t territory of March 2007. Prices might stabilize at an annual average of $20 000 /t. the rising prices will boost the revenue earned from South African nickel exports.

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TITANIUM

P R Motsie

WORLD SUPPLY

Recessionary conditions which characterised the first half of 2009 led to a decline in capacity utilisation in the titanium dioxide pigment (TiO_2) industry, the main consumer of titanium mineral concentrates, which had a negative impact on the titanium dioxide feedstock industry. Consequently, the feedstock industry was forced to make cutbacks and operational adjustments. Temporary closures of some titanium dioxide slag-producing furnaces followed in countries like South Africa and Canada as demand continued to diminish. Similarly, world titanium mineral concentrates production decreased by 10.5 percent to 5.7 Mt compared with 2008 (Table 1). The decline in chloride grade feedstock supply was more subdued in 2009, with the brunt being borne by sulphate grade feedstock due to growing environmental concerns in producing titanium dioxide pigment via the sulphate route process.

World titanium sponge production dropped by 29 percent to 110 kt in 2009, as a result of delays in aircraft construction triggered by the poor economic conditions.

TABLE 1 – WORLD RESERVES AND MINE PRODUCTION OF TITANIUM CONCENTRATES, 2009

		RESERVES			PRODUCTION*		
COUNTRY		Mt	%	Rank	kt	%	Rank
Australia		152.0	20.9	2	1 503	26.3	1
Canada		31.0	4.3	6	600	10.5	3
China		200.0	27.5	1	600	10.5	3
India		92.4	12.7	3	398	7.0	5
Norway		37.0	5.1	5	370	6.5	6
South Africa		71.3	9.8	4	1 100	19.2	2
Ukraine		8.4	1.1	7	320	5.6	7
USA		6.4	0.9	8	200	3.5	8
Other		129.8	17.8	-	628	11.0	-
TOTAL	2009	728.3	100.0		5 719	100	
	2008	729.7			6 390		

Sources: USGS, 2010, p 173
*Notes: *TiO_2 content of ilmenite and rutile*

WORLD DEMAND

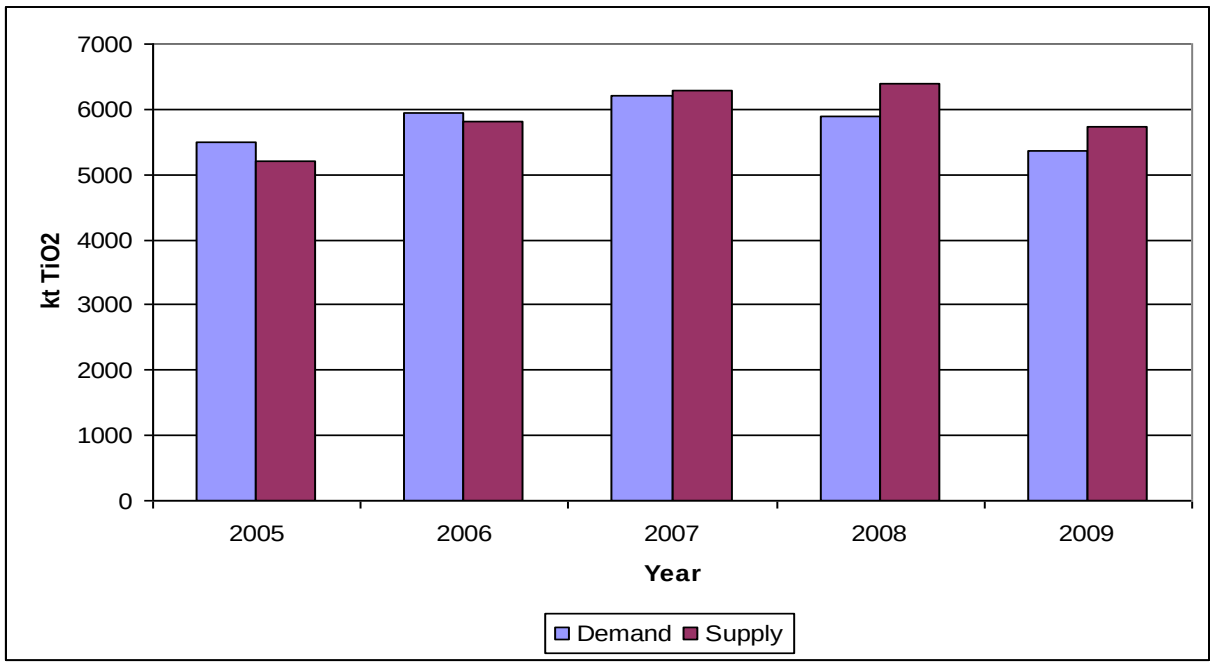
About 90 percent of titanium mineral concentrates is used in the production of TiO_2 pigment. In 2009, paint applications were the biggest end user of TiO_2 pigment accounting for 63 percent of consumption followed by plastics at 25 percent while paper and pulp applications accounted for13 percent.

During the first half of 2009, a significant decrease in demand for titanium dioxide raw materials was experienced as major pigment producers, particularly in the United States and Europe, either shut down or curtailed operations. As construction of new buildings and renovation of existing structures was put on hold, so was the need for white pigment and plastics. Signs of recovery only emerged late in the year as the construction industry started to operate at full capacity.

Global demand for all titanium dioxide products (limonite, rutile and upgraded ilmenite products) fell by approximately 10 percent to 5 340 kt in 2009, a consequence of decreased demand in the construction and durable goods industries (Fig 1). The decrease in demand was minimised by China's continued reliance on lower grade titanium dioxide feedstock for domestic use. Construction remained a key influence in the Chinese economy in 2009, driven mainly by stimulus packages offered by the government.

The titanium dioxide feedstock market was fairly balanced in 2007 with demand estimated at 6 200 kt and supply at 6 290 kt. However, the market was oversupplied between the third quarter of 2008 and the first half of 2009 owing to the recessionary market conditions. During the first half of 2009, the market experienced a supply excess of 380 kt.

FIGURE 1: GLOBAL TITANIUM DIOXIDE FEEDSTOCK SUPPLY/DEMAND: 2005 – 2009

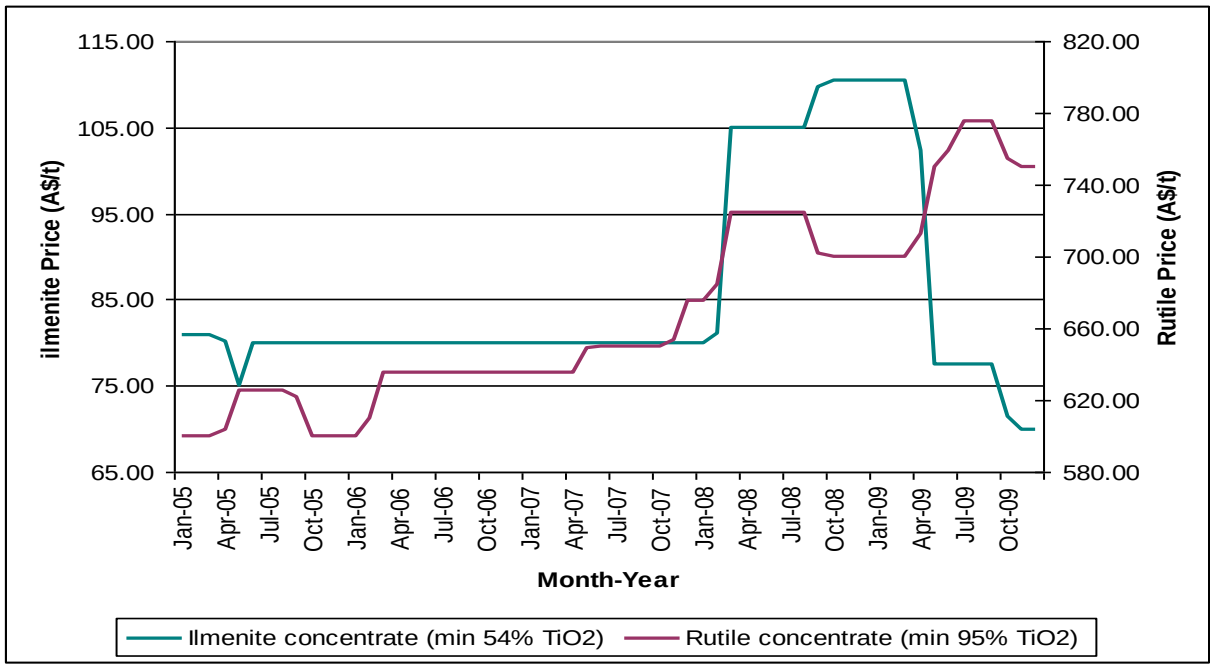


Source: Titanium and Zirconium Minerals International, estimates

PRICES

Titanium dioxide feedstock prices have been steady for five years, averaging A$80/t and A$630/t for ilmenite (min 54% TiO_2) and rutile (min 95% TiO_2) respectively (Fig 2). Until 2008, prices rose sharply averaging A$102/t for ilmenite and A$710/t for rutile. Prices maintained some level of stability until the first quarter of 2009 when rutile prices started to rise again reaching a peak of A$775/t in the third quarter owing to a rise in demand for concentrates with a high TiO_2 content. Rutile demand held up fairly well in 2009 as a result of contracts that were concluded before the onset of the recession. In contrast, ilmenite prices declined below levels of 2007, because of a lack of demand from the pigment industry.

FIGURE 2: METAL BULLETIN PRICES FOR RUTILE AND ILMENITE, 2009



Source: Metal Bulletin

DEVELOPMENTS IN SOUTH AFRICA AND AFRICA

Exxaro utilised the weak TiO_2 pigment demand as an opportunity to shutdown furnace 1 for maintenance at Namakwa Sands. KZN Sands plans to cease operations within five years, following a decision to discontinue development of the Fairbreeze mine, initially intended to replace output from the Hillendale mine after its closure, but other mining options are being evaluated.

Exxaro invested A$118 million in the Tiwest pigment expansion project in Kwinana, West of Australia. Commissioning of the 40 kt per annum capacity expansion is scheduled for late 2010.

Richards Bay Minerals (RBM) concluded a Broad Based Black Economic Empowerment transaction in December 2009, where 24 percent of the equity of RBM was sold to Blue Horizon, a consortium of historically disadvantaged groups, with a further two per cent transferred to a trust for the benefit of RBM employees. The remaining 74 per cent was split equally between BHP Billiton and Rio Tinto, which are associates in the RBM joint venture.

In Mozambique BHP Billiton ceased its Chibuto project prefeasibility study in March 2009, because of inadequate value to justify further development owing weaker demand projected in the medium term. The project was estimated to cost $500 million and capable of producing 800 kt/a of ilmenite.

OUTLOOK

Urbanisation and increasing personal consumption of titanium dioxide, are expected to continue to influence medium to long term mineral sands demand growth, together with economic development trends, particularly in the housing and construction industries. Demand for TiO_2 feedstock is expected to rise by 16 percent from an estimated 5,3 Mt in 2009 to 6,2 Mt by 2012. Although TiO_2 feedstock supply was in surplus in 2009, the market is expected to tighten in 2010 due to increasing demand and an inevitable need for restocking.

Feedstock supply shortage could be experienced as soon as 2012 because of a lack of enough new feedstock projects coming online and little exploration occurring in comparison to the anticipated rise in demand. The number of feedstock projects that were being considered or developed decreased by more than 50 percent between 2001 and 2009, from 36 to 17 projects.

Mineral sands production costs are expected to rise by 50 percent to $200/t in the next three years owing to energy cost increases in major TiO_2 feedstock producing countries. Subsequently, the rise in demand coupled with any price increase in feedstock material would result in a consequent increase in prices of TiO_2 products in the markets. Ilmenite and rutile prices are forecast to average A$87/t and A$750/t respectively by 2012.

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ZINC

L E PITSO

WORLD SUPPLY

World zinc mine production fell by 3.4 percent to 11 352 kt in 2009, compared with 2008 (Table 1). The three major producing countries were China, Peru and Australia. China at 27.2 percent continued to dominate world production followed by Peru's 13.3 percent and Australia's 11 percent. Production decreased in all three countries, with Australia recording the largest decrease of 18 percent followed by Peru's 6.2 percent and China's 3 percent. Africa's zinc mine production increased by 4.4 percent to 297 kt, led by Namibia with an output of 220 kt.

Similarly, world refined zinc production fell by 4.2 percent compared with 2008 to 11 287 kt in 2009. Despite shrinkages in zinc output from most regions, Asia's and Oceania's production increased by 4 percent and 5.1 percent, respectively. Europe's output declined by 21.3 percent while America's was 14.8 percent lower. Africa's output increased by 1.9 percent with Namibia leading at 150 kt.

TABLE 1: WORLD RESERVES, MINE PRODUCTION AND EXPORT OF ZINC, 2009.

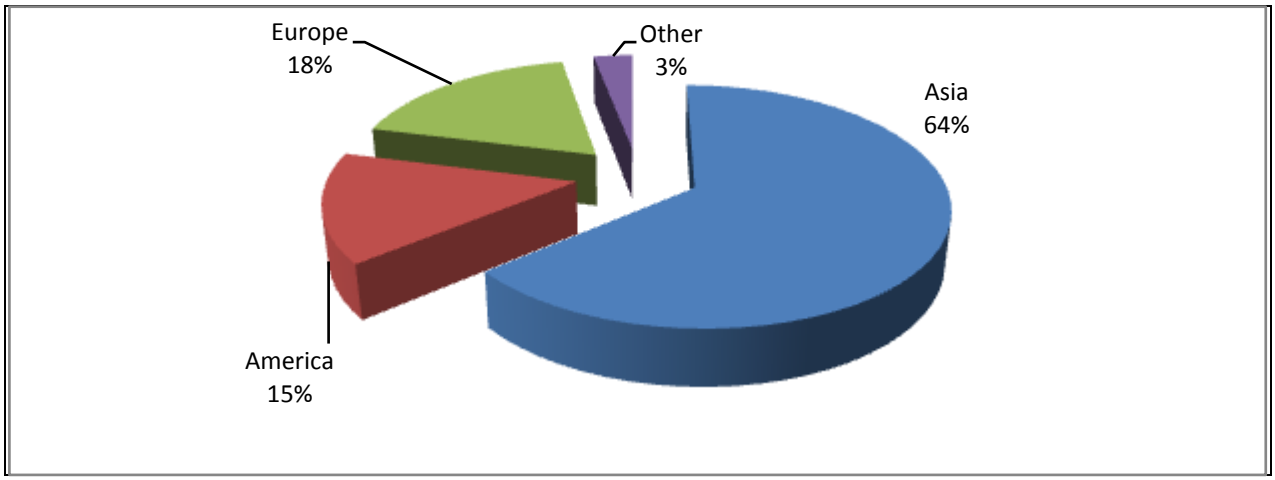
	RESERVES		PRODUCTION			EXPORTS		
Country	Mt	%	kt	%	Rank	kt	%	Rank
Australia	21	10.1	1 253	11	3	1 486	18.9	1
Canada	8	3.7	699	6.2	5	808	10.3	3
China	33	15.9	3 092	27.2	1	29	0.4	14
India	10	4.8	645	5.6	6	X	X	X
Ireland	2	1	384	3.4	9	478	6.1	5
Kazakhstan	17	8.2	476	4.2	8	X	X	X
Mexico	14	6.8	485	4.3	7	249	3.2	7
Namibia	X	X	220	1.9	10	181	2.3	21
Peru	19	9.2	1 509	13.3	2	1 289	16.4	2
South Africa*	7	3.4	25	0.2	25	10	0.1	24
USA	14	6.8	738	6.5	4	793	10.1	4
Other	62	30	1 826	16.1	x	2 540	32.3	x
TOTAL	207	100	11 352	100	x	7 863	100	x

Source: ILZSG, April 2010
USGS, February 2010
DMR, Directorate Mineral Economics
Notes: x Not specified, but estimates have been included in other countries

CONSUMPTION

World refined zinc consumption amounted to 10 836 kt in 2009, a decrease of 5.5 percent compared with 11 436 kt in 2008. Consumption declined in all regions except in Asia where a 5.6 percent rise was recorded. Asia accounted for 64.2 percent of the global consumption, followed by Europe's 18.1 percent, and America's 14.6 percent (Figure 1). Africa accounted for 1.6 percent of world zinc consumption. Although most mines cut production due to the economic slowdown, the supply was still in excess.

FIGURE 1: REGIONAL CONSUMPTION OF REFINED ZINC 2009

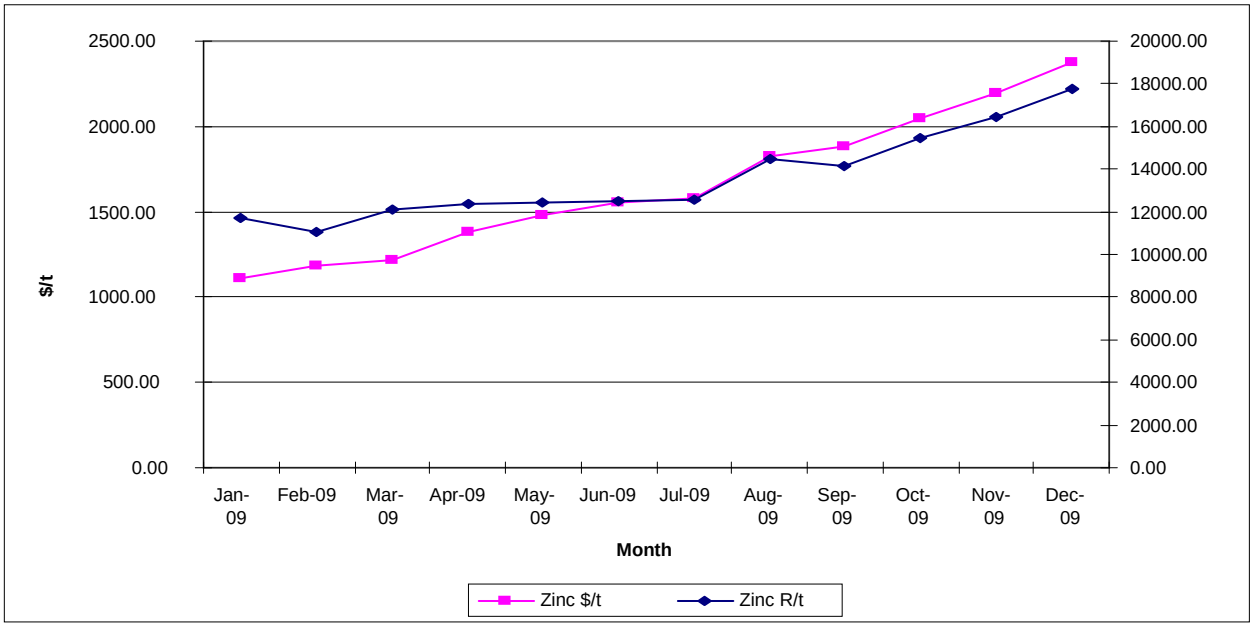


Source: ILZSG, Monthly Bulletin January 2009 to May 2010

PRICES

Although the rising trend in zinc prices continued in 2009, the world zinc stocks level remained at 286kt, a third of 2002 levels, well below the 800 kt LME stocks achieved in 2004. An average zinc cash settlement price of $1 658.62/t was recorded in 2009, a decrease of 12.4 percent compared with 2008 due to weaker zinc demand. The lowest average monthly zinc price of $1 112.95/t was recorded in February, and the prices gradually surged to an annual of $2 375.95/t in December (Figure 2). Owing to a rapid rise in demand resulting from the Chinese stimulus package that led to increased infrastructural activity, zinc prices increased further in 2010 despite the rapid response from producers.

FIGURE 2: SOUTH AFRICAN AND LME CASH SETTLEMENT PRICES (MONTHLY AVERAGES), 2009



Sources: Zincor, 2009
International Lead and Zinc Study Group metal bulletin Jan 2009- April 2010

SOUTH AFRICA

South Africa's zinc mine production decreased by 3.6 percent to 28 kt in 2009 compared with 2008 (Table 2**).** Refined zinc metal output increased by 4.7 percent to 86 kt. (Table 3).

TABLE 2: SOUTH AFRICA'S PRODUCTION AND SALES OF ZINC METAL IN CONCENTRATE 2000-2009

		LOCAL SALES		
YEAR	PRODUCTION	MASS	VAUE (FOR)	
	kt	kt	R'000	R/t
2000	63	59	309 406	5 246
2001	61	56	278 101	4 943
2002	64	58	290 799	4 985
2003	41	40	121 906	3 050
2004	32	31	107 630	3 415
2005	32	31	144 752	4 640
2006	34	33	133 500	4 444
2007	31	30	428 959	14 114
2008	29	27	216 738	8 078
2009	28	22	170 925	7 603

Sources: DMR, Directorate Mineral Economic

TABLE 3: SOUTH AFRICA'S PRODUCTION AND SALES OF REFINED ZINC 2000-2009

		LOCAL SALES			EXPORT SALES		
YEAR	PRODUCTION	MASS	VAUE (FOR)		MASS	VALUE (FOB)	
	Kt	t	R'000	R/t	Kt	R'000	R/t
2000	103	92	746 249	8 114	11.6	110 635	9 517
2001	109	89	667 062	7 495	23.0	173 627	7 517
2002	111	95	797 929	8 399	18.3	149 914	8 192
2003	113	86	596 361	6 934	27.6	164 948	5 976
2004	105	91	627 081	6 900	16.1	108 550	6 711
2005	104	103	895 122	8 643	1.7	12 506	7 485
2006	90	99	2 134 192	21 558	-	-	-
2007	101	98	2 492 122	25 430	-	-	-
2008	82	97	1 651 370	17 024	-	-	-
2009	86	93	1 317 995	14 152	-	-	-

Sources: DMR, Directorate Mineral Economic
Notes: - No export sales recorded

DEVELOPMENTS IN SOUTH AFRICA

Pering Mine
Following a positive bankable feasibility study, Metmar acquired a 20 percent stake in Pering Zinc mine for R80 million from Minero Zinc in early 2009. Pering mine, located in North West province, has estimated zinc resources of 80 Mt, but the redevelopment project was delayed by funding constraints.

Minero Zinc acquired the entire share capital of Pering Mine (Proprietary) Limited from BHP billiton in July 2009 and planned to commission a mine and construct a 5 Mt/a DMS plant and a 1.5 Mt/a concentrator.

Anglo American (Black Mountain and Gamsberg Project)
Anglo American sold zinc assets to the UK's Vedanta Resources for $1.3 Billion in May 2010.The assets included the Skorpion mine in Namibia, the Lisheen mine in Ireland, the Gamsberg project in the Northern Cape and a 74 percent interest in Black Mountain Mining. Vedanta's global zinc market share rose to 11 percent, making it the world's largest producer while the company's plans to rapidly develop the 300kt/y Gamsberg zinc project are underway.

DEVELOPMENTS OUTSIDE SOUTH AFRICA

Santander silver-lead-zinc project in Peru
Trevali and Glencore International formed a partnership to develop the Santander Project which is located 215 km from Lima in Peru's central Peruvian Polymetallic belt. The new ore body was discovered in mid-2007 and by December 2007 numerous anomalies had been discovered, which were more significant than the surface expression of the mineralization.

The total indicated resource of the project was estimated at5.298 kt in 2009 with zinc and lead grades of 3.34 and 1.27 percent respectively, while the inferred resource amounted to 2.244 kt containing 2.92 percent zinc and 0.5 percent lead. Production was anticipated to commence in late 2010.

OUTLOOK

Global zinc mine production is anticipated to increase by 6.3 percent to 12.05 Mt in 2010. This will be due to the reversal of some of the cutbacks and suspensions that were implemented in 2009 and the opening of new capacity. Most of the increase in production will come from Brazil, China, Finland, Peru, and the Russian Federation. Additional output is also expected from the Rampura Agucha mine in India and the opening of Goldcorp's Penasquito mine in Mexico.

World refined zinc metal output is expected to increase by 10.3 percent to 12.46 Mt due to the ramp up in production from plants that were closed or curtailed during 2009. The opening of Hindustan Zinc's new Rajpura Dariba refinery in India will contribute to the increase in production. Chinese output is also anticipated to rise by 11.3 percent.

Global refined usage is expected to rise by 11.3 percent to 12.05 Mt in 2010. After a sharp decline in 2009, Japan, East Asia and Europe are expected to increase consumption and demand in the US is expected to recover by 5.6 percent. Continuation of infrastructure related projects and an increase in growth in the automotive sectors in China are anticipated to bring a further 8.9 percent increase in consumption. Global refined zinc supply is expected to increase at a similar rate to consumption. However there will be a surplus of 418 kt in 2010, due to the excess in supply experienced in 2008.

Anglo American sold zinc assets to the UK's Vedanta Resources for $1.3 billion in May 2010 which includes Black Mountain Mine and Gamsberg project (both located in South Africa). Since the development of both these aforementioned projects as well as Pering Zinc (where feasibility studies have estimated zinc resources of 80 Mt) has been delayed, South Africa's mine production could decline in 2010.

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ZIRCON

P R Motsie

WORLD SUPPLY

The zircon industry experienced a period of destocking in the first half of 2009, following a stocks build up in late 2008. World production of zircon decreased by 4.3 percent from 1 282 kt in 2008 to 1 227 kt in 2009 because of the negative impact of the global financial crisis (Table 1). Australia, at 510 kt, remained the largest producer followed by South Africa's 395 kt. These two countries together accounted for more than 70 percent of world output. In response to the slowdown in demand, many producers scaled-down production. Volumes started to improve in the third quarter of 2009 as demand recovered.

Global production of zirconium metal was about 5 kt in 2009 as many producers began increasing capacity in anticipation of a resurgence of nuclear energy plants. According to the World Nuclear Association, there are currently 436 nuclear power stations around the world operating in over 30 countries and providing 15 percent of the world's electricity.

TABLE 1 – WORLD RESERVES AND MINE PRODUCTION OF ZIRCON CONCENTRATES, 2009

	RESERVES			PRODUCTION		
COUNTRY	Mt	%	Rank	kt	%	Rank
Australia	25	44.6	1	510	41.6	1
Brazil	2.2	3.9	6	27	2.2	7
China	0.5	0.9	7	140	11.4	3
India	3.4	6.1	4	30	2.4	6
Indonesia	na	na	na	42	3.4	4
South Africa	14	25.0	2	395	32.2	2
Ukraine	4	7.1	3	35	2.9	5
USA	3.4	6.1	4	na	na	na
Other	3.5	6.3		48	3.9	
TOTAL 2009	56	100.0		1 227	100.0	
2008	51			1 282		

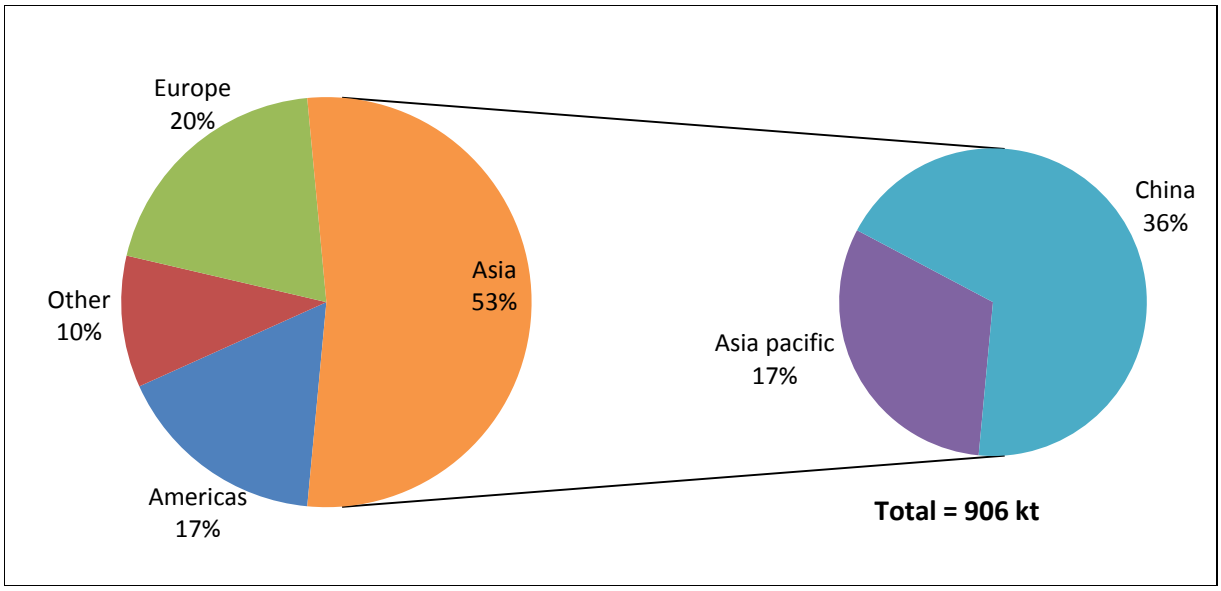
Source: USGS, 2010, p 187

WORLD DEMAND

The global zircon industry encountered a period of great uncertainty in the past two years as a result of the global economic crisis in the last quarter of 2008 and continued into 2009. However, there were signs of market improvement late in the second half of 2009 as China, the largest market for zircon, led the recovering world economy. Demand declined by 26 percent from 1 220 kt in 2008 to 906 kt in 2009. Even though demand had fallen, many customers chose to run down unusually large finished product inventories. As a result, feedstock demand from producers was estimated to have fallen by around 40 percent.

Asia was the largest consuming region for zircon in 2009 accounting for 53 percent of world total consumption, followed by Europe and the Americas with 20 percent and 17 percent respectively (Fig 1). China accounted for 69 percent of Asia's regional zircon consumption and 36 percent of global consumption. Demand in China was weak in the first half of 2009, but recovered strongly in the second half of the year. Zircon demand declined in major tile producing countries such as Italy and Spain due to the collapse in the construction sector of those countries.

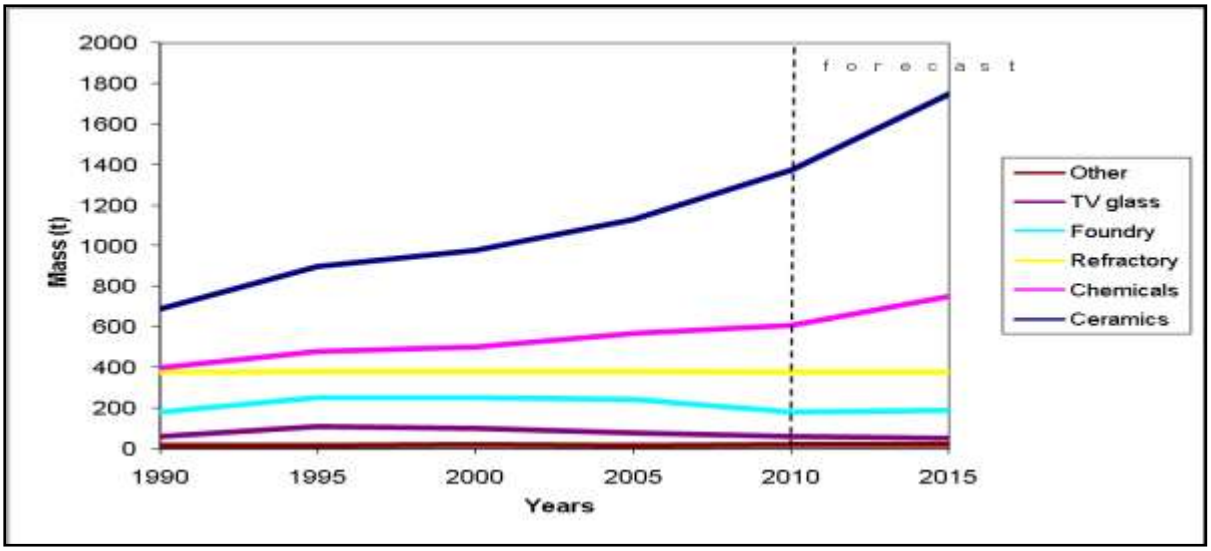
FIGURE 1: ZIRCON CONSUMPTION BY REGION, 2009



Source: Iluka and TZMI

Demand for zircon end-products continued to rise over the past few years, especially in the ceramic and chemicals sectors. Other applications included refractory, foundry and glass (Fig 2).The ceramics sector accounted for about half of global zircon consumption in 2009 owing to the exponential rise in floor space driven by massive urbanisation in China. An estimated 2.8 billion square metres of tiles are laid on an annual basis in China.

FIGURE 2: END-USE TRENDS FOR ZIRCON CONSUMPTION: 1990 – 2015



Source : TZMI, Heavy Minerals Conference, 2009

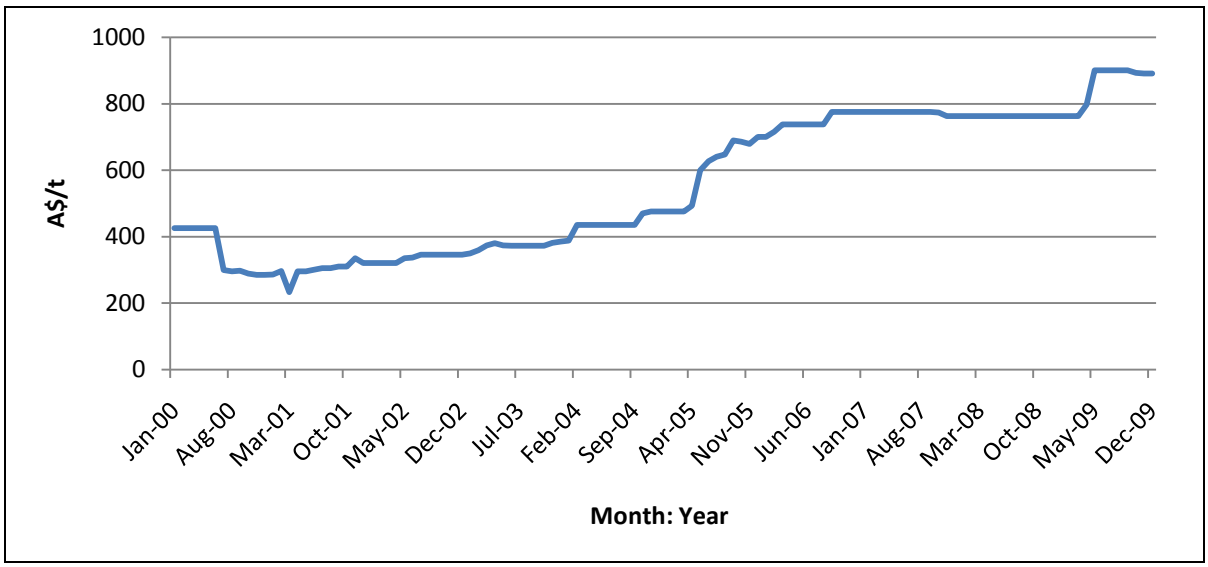
About 90 percent of metallic zirconium is used in nuclear reactors to make the hollow fuel rods that contain uranium pellets, because of its ability to withstand the extremely high temperatures and pressure experienced in a radiation environment. That puts the global market for nuclear grade metal at about $350-400 million, before conversion into semi finished forms.

PRICES

Even though demand for zircon dropped by as much as 26 percent in response to the global financial crisis in 2009, the price of feedstock material remained well above 2008 pricing levels.

Prices for all FOB Australia foundry grade zircon started 2009 at A$763-797/t, then surged to A$900/t by May 2009 (Fig 3). However, the prices started softening towards the end of the year, slipping to A$890-892/t in October after having climbed steadily for the previous 12 to 18 months. The price for zirconium metal was quoted between A$78 and A$104/kg in 2009.

FIGURE 3: PRICE FOR FOUNDRY GRADE ZIRCON, FREE ON BOARD AUSTRALIA, 2000 – 2009



Source: Metal Bulletin, 2009

PROJECTS AND RECENT DEVELOPMENTS

In South Africa, KZN Sands plans to cease operations within five years, following a decision to discontinue development of the Fairbreeze mine, initially intended to replace the Hillendale mine, but other mining options are being evaluated.

Richards Bay Minerals (RBM) concluded a Broad Based Black Economic Empowerment transaction in December 2009, where 24 percent equity in RBM was sold to Blue Horizon, a consortium of historically disadvantaged groups, with a further two per cent transferred to a trust for the benefit of RBM employees. The remaining 74 per cent was split equally between BHP Billiton and Rio Tinto, who are associates in the RBM joint venture.

In Australia, Iluka expects to double its zircon and rutile production by 2011, as it brings on line two new projects.

OUTLOOK

World zircon supply is expected to grow by 150 – 200 kt by 2012.

World consumption of zircon is forecast to grow at an average of 3 percent per annum until 2015, with China driving the demand growth. Demand will be driven largely by tile consumption strongly correlated with urbanisation. Developing countries such as China, India and Brazil are expected to underpin growth in tile consumption until 2020.

Zircon prices are not expected to fully react to the supply demand balance in the short term as a result of pricing discipline shown by some of the leading zircon producers. Prices are expected to rise moderately in the short term, averaging A$850 – 890/t, as the market swings into deficit in the short term.

The depletion of traditional resources for energy generation and a world drive to curb emissions from carbon fuels has raised demand for nuclear power. Zirconium metal producers are increasing capacity in anticipation of a resurgence of nuclear energy plants as the drive to curb emissions from carbon fuels

intensifies leading. The rising demand for nuclear power is likely to increase the demand for zirconium since there is no adequate substitute with its unique properties.

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FERROUS METALS AND MINERALS - OVERVIEW

Mpumzi Bonga

INTRODUCTION

South Africa is the world's largest producer of chromium and vanadium ores and a leading supplier of their alloys. It is also a major producer of iron and manganese ores, an important supplier of manganese alloys and a small producer of ferrosilicon and silicon metal. Sales of primary ferrous minerals contributed R35.98 billion (14.9 percent) to total South African mineral sales (primary plus processed)-Table 1. Sales of processed and primary ferrous minerals contributed R53.4 billion (30.3 percent) to total mineral exports in 2009 and the combined sales revenue of primary and processed ferrous minerals in 2009 amounted to R61.8 billion ($7.3 billion), representing 25.6 percent of the total value of all primary and processed minerals sold. The growth in contributions of both export and total ferrous mineral sales revenue in 2009 compared with 2008, highlights the growing importance of ferrous metals in South Africa's mineral industry.

Ferrous mineral ores were produced at some 32 mines and as value-added ferro-alloys at 23 metallurgical works during 2009. Over the last decade, increasing proportions of the production of chromium, manganese and vanadium ore have been processed to value-added alloys whereas the bulk of the growth in iron ore production has been exported.

PRODUCTION AND SALES

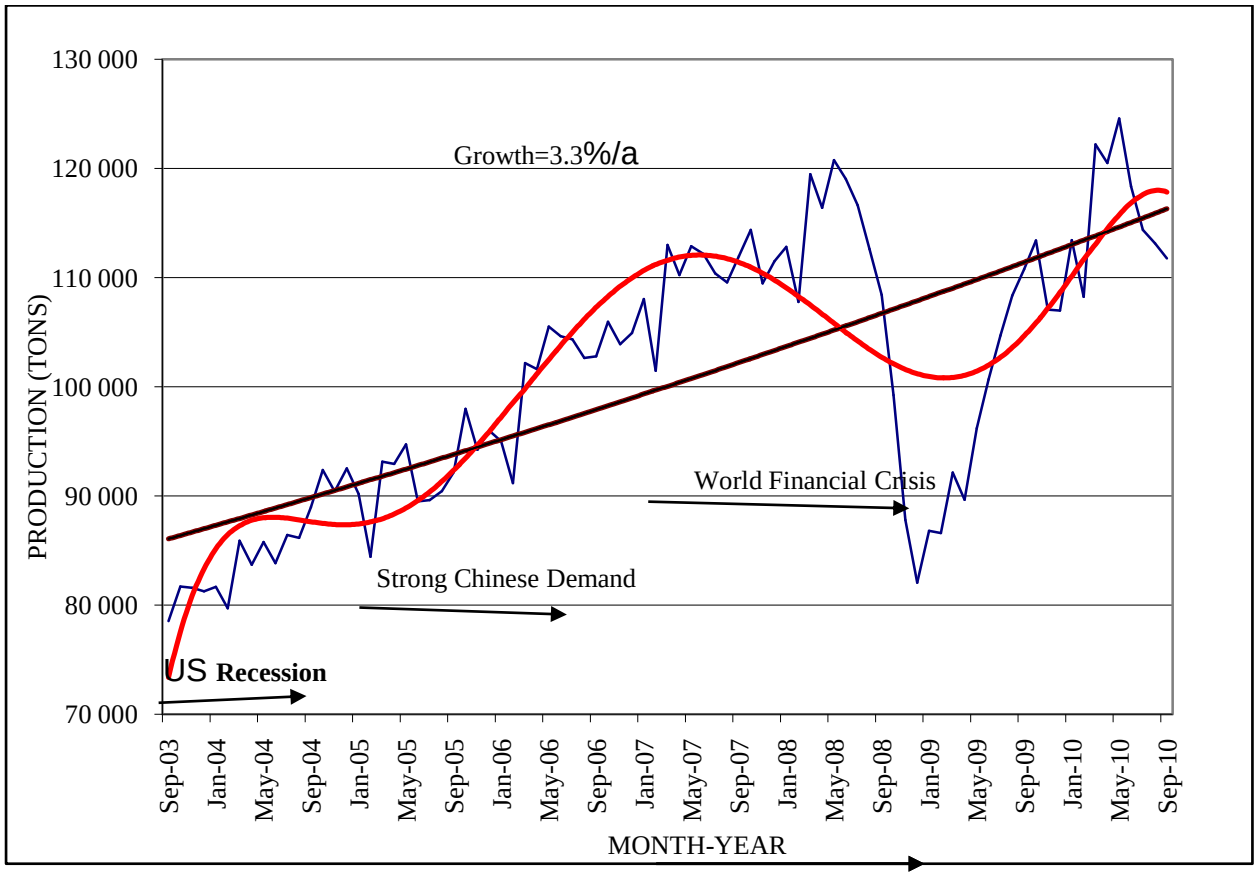
Demand for ferrous minerals depends on steel production wherein over 80 percent is consumed. According to the World Steel Association (WSA), world crude steel production amounted to 1 220 Mt in 2009, a decline of 8.4 percent compared with 2008. China continued to dominate steel output, recording a rise of 13.5 percent on its 2008 production to 566.4 Mt in 2009.

After a sharp decline in production since the last quarter of 2008, world crude steel output started to improve from April 2009 and has continued to increase since then (Fig 1). Production for the first and second quarters (Q) of 2009 declined by 23 and 21 percent respectively, when compared with the same period in 2008. However, as the world economy improved, world crude steel output followed suite, with the Q3 output only 5 percent lower compared with a similar period in 2008 while the Q4 production rose by 21 percent year-on-year (yoy), further accelerating to 29 percent during the Q1 of 2010. The main growth occurred in Asia, with China and India increasing their output by 2.7 and 13.6 percent, respectively. South Africa's annual output fell by 0.5 percent to 7.5 Mt but its Q1 2010 production rose by 30 percent yoy.

China continued to increase its imports of ferrous ores in 2008. Iron ore contract prices for 2009 declined by between 33 percent and 44 percent as steelmakers demanded a price reduction to reflect the spot market as the recession hit harder. However, prices were 86-100 percent higher in 2010 as iron ore producers abandoned the annual benchmark contract pricing system in favour of quarterly price adjustments. Manganese ore prices, which increased fourfold to $11.2/mtu in 2008 plunged to an annual average of $5/mtu in 2009, a 46 percent decline. Prices of manganese alloys, which were at record highs in 2008, declined precipitously in 2009, with the result that prices of various alloys were down by 52-58 percent. Also, chrome ore prices fell by 31 percent to $136 9/t while chrome alloy prices, at $718/t were 47 percent lower in 2009. Ferrovanadium prices declined by 60 percent to $25./kg, while vanadium pentoxide dropped by 54.7 percent o $13.7/t in 2009.

A confluence of factors such as lower prices of most ferrous ores and alloys, lower total sales volumes, and a weaker dollar collectively drove down revenues in 2009. Although local sales volumes of the processed products increased by 5 percent, revenue from local sales declined by 45 percent owing to lower prices.

FIGURE1: WORLD MONTHLY CRUDE STEEL PRODUCTION, 2003-2010



Source: World Steel Association, monthly statistics; Website, http//www.worldsteel.org

Although the improved world commodity markets provide South Africa's mining and minerals industry with an opportunity to increase its exports to pre-crisis level, the intensification of the drive for local downstream value addition is likely to increase local consumption of minerals.

In order to retain market share in the rapidly expanding market for ferrous minerals in the Far East, Kumba Iron Ore and Assmang, South Africa's two largest iron ore producers, have expanded their operations. These expansions have seen iron ore output increasing from the current 41 Mt/a to 55.3 Mt/a in 2009 to meet growing global demand. Transnet is going ahead with its plans to upgrade the Orex rail line and port infrastructure at Saldanha Bay. Capacity is expected to increase to more than 60 Mt by 2010/11. The construction of the port of Ngqura, near Port Elizabeth remains on track, while the state and industry are exploring the possibility of using the port as an alternative to accommodate the extra iron ore tonnages that may exceed the capacity of the upgraded Orex - Saldanha route. Consideration is also being given to moving manganese ore exports from the terminal at Port Elizabeth to Ngqura due to limited capacity.

TABLE 1 – SOUTH AFRICA'S PRODUCTION AND SALES OF PRIMARY AND PROCESSED FERROUS MINERALS, 2008 AND 2009

COMMODITY	PRODUCTION		LOCAL SALES		EXPORT SALES		TOTAL SALES	
	Year	kt	kt	R'000	kt	R'000	kt	R'000
Iron ore	2009	55 313	8 369	1 888 801	44 550	25 242 934	52 919	27 131 735
	2008	48 983	11 258	1 974 629	32 766	20 267 206	44 024	22 241 836
Chrome Ore	2009	6 865	4 855	2 066 278	1 035	1 196 051	5 891	3 262 329
	2008	9 683	7 116	4 131 020	762	1 267 931	7 879	5 398 385
Manganese Ore	2009	4 576	W	583 602	3 976	5 003 011	W	5 598 951
	2008	6 807	W	1 761 848	4 689	15 581 560	W	17 343 408
Ore Subtotals	2009	66 754	W	4 538 681	49 561	31 441 996	W	35 980 677
	2008	65 473	W	7 867 498	38 217	37 116 697	W	44 983 629
Chrome Alloys	2009	2 346	432	2 252 973	2 621	15 881 599	3 053	18 134 572
	2008	3 269	334	3 415 822	2 525	28 355 767	2 859	31 771 589
Manganese Alloys	2009	393	67	597 822	413	3 624 742	481	4 222 564
	2008	762	126	1 767 988	682	11 904 291	808	13 672 278
Silicon Alloys	2009	149	67	751 442	82	1 101 314	149	1 852 756
	2008	186	75	929 626	98	1 725 145	173	2 654 771
Vanadium	2009	14	2	266 968	12	1 390 352	14	1 657 320
	2008	20	2	892 766	12	3 089 547	14	3 982 313
Alloy Subtotals	2009	2 902	568	3 869 205	3 128	21 998 007	3 697	25 867 212
	2008	4 237	537	7 006 202	3 317	45 074 750	3 854	52 080 951
Ferrous Totals	2009	69 656	W	8 407 886	52 689	53 440 003	W	61 847 889
	2008	69 710	W	14 873 132	41 534	82 191 447	W	97 064 580

Source: DMR, Directorate Mineral Economics
W: Witheld

Despite the poor market conditions, the upward trend in employment on ferrous metal mines, which began in 2002 showed no signs of abating in 2009, as employment rose by 9.percent to 31 003 from 30 726 in 2008 (Table 2). Total remuneration rose by 20.9 percent to R4.5 billion and the average annual earnings rose by 19.9 percent to R153 068 per employee (Table 2) while productivity was 2.2 kt per employee per annum, 4 percent lower than 2008.

TABLE 2: SOUTH AFRICAN FERROUS MINES: EMPLOYMENT AND GROSS REMUNERATION 2005-2009

YEAR	EMPLOYEE	REMUNERATION	
	Number	R'000	R'000/ employee
2005	18 673	1 466 880	78.56
2006	22 016	1 919 137	87.17
2007	28 044	2 888 492	103.0
2008	30 726	3 923 861	127.7
2009	31 003	4 745 558	153.1

Source: DMR, Directorate Mineral Economics

OUTLOOK

The fragile recovery of the world economy resulting from the international efforts to reverse the effects of the world economic crisis appears to have saved the world economy from a possible depression. Despite the pessimistic forecasts of a long and protracted recession, the world economy appears to have emerged from the 'Great Recession' barely 9 months after its onset- a lot sooner than previously anticipated. Consequently, contrary to its previous forecasts, the IMF expects the world economy to grow by 4.3 percent in 2010. Following a similar trend, demand for commodities is expected to be stronger than in 2009 despite the anticipated anaemic demand from the major mature markets, the US, Japan and the European Union whose economies appear to be experiencing various problems. The world's two largest and fastest growing markets for raw materials, China and India, will contribute most to the increase in demand as their markets look increasingly inward for growth.

The improving market conditions are expected to lead to a 10.7 percent increase in steel use in 2010 leading to an increase in production and prices, according to the World Steel Association (WSA). The decline in steel production, driven largely by advanced economies, appears unlikely to be sustained as China, which accounted for 46.4 percent of total world output in 2009, could neutralise such contraction or even reverse it in 2010. The commodities most affected will be ores and alloys of iron and manganese for steel production and chromite ore and ferrochrome for stainless steel. However, attempts by the Chinese authorities to curb excessive production and exports of steel and ferro-alloys, through the imposition of higher export taxes and electricity prices on intensive users have a potential to limit this growth.

Production increases by global steelmakers resulting from the anticipated stronger demand in 2010 will affect the local ferrous minerals industry. China, which has dominated world steel production for the first three quarters of 2010, is likely to set the pace for the remainder of the year. Demand for vital input raw materials will improve provided that the anticipated demand materialises. This will have a positive impact on South Africa's ferrous minerals industry, particularly manganese and iron ore.

The healthier market outlook has spurred producers of ores and alloys to increase production as they utilise almost all excess capacity in an attempt to recapture market share that was lost at the height of the Great Recession.

Iron ore, at 75 percent, is expected to account for the biggest share of total ferrous ore revenues between 2010 and 2015. Total ferrous ore export revenues are forecast to rise at 3.6 percent per annum over this period. Transnet's planned expansion of its rail and port infrastructure is expected to give new producers an opportunity to participate in export markets.

According to the forecasts for processed minerals exports to 2015 exports will be dominated by chrome alloys, accounting for 70 percent of the share of the total earnings while manganese alloys are expected to contribute 20 percent with the balance coming from silicon and vanadium products. South African ferro-alloy producers with substantial installed and idled capacity are in a very strong position to exploit any upturn resultant from recovery of the world economy. Total ferrous minerals export sales are expected to exceed $7 billion by 2011.

However, the currently volatile market conditions owing to the fragile recovery of the world economy dragged down by the stuttering US economy and the persisting EU sovereign debt crisis could impact negatively on commodity markets. The impact of the multitude of factors on demand for minerals makes forecasting extremely hazardous.

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CHROMIUM

MC Mosiane

INTRODUCTION

The mineral chromite ($FeO.Cr_2O_3$) is the only commercial ore of chromium. It tends to also contain varying amounts of magnesium and aluminium which substitutes the iron and chromium in the mineral's spinel structure. South Africa's known chromite deposits occur in the provinces of North West, Limpopo and Mpumalanga, in the Bushveld Igneous Complex (BIC). Chromium is the key ingredient in stainless steel production where it imparts corrosion resistance.

SUPPLY

The world known chromium reserves amount to 7.6 Gt and South Africa's (SA's) Bushveld Igneous Complex together with Zimbabwe's Great Dyke host over 80 percent. At 4.2 percent Kazakhstan is the only country with significant chromium reserves outside of Africa (Table 1).

TABLE 1: WORLD CHROME ORE RESERVES, PRODUCTION AND EXPORTS, 2009

COUNTRY	RESERVE BASE u			PRODUCTION+			EXPORTS+		
	Mt	%	Rank	kt	%	Rank	kt	%	Rank
Australia	-	-	-	119	0.6	9	138	2.3	6
Brazil	17	0,2	7	771	4.2	7	75	1.3	7
China	-	-	-	280	1.5		1	0.0	9
Finland	120	1,6	4	247	1.3	8	-	-	-
India	67	0,9	5	3 760	20.3	3	481	8.1	4
Iran	-	-	-	255	1.4	10	257	4.3	5
Kazakhstan	320	4,2	3	3 333	18.0	2	899	15.1	2
Russia	-	-	-	416	2.2	6	1	0.0	9
South Africa*	5 500	72,4	1	6 865	37.1	1	1 035	17.4	1
Turkey	20	0,3	6	1 770	9.6	4	860	14.4	3
Zimbabwe	930	12, 2	2	279	1.5	5	37	0.6	8
Other	626	8, 2		402	2.2		2 172	36.5	
TOTAL: 2009	7 600	100		18 497	100		5 956	100	
: 2008				24 418			6 957		

Sources: u USGS Mineral Commodity Summaries
+ ICDA Statistical Bulletin, 2009 Edition
** DMR, Mineral Economics*

Notes: South African production and export data excludes chromite tailings accumulated over several years after extraction of platinum-group metals from the UG2 reef.

World chrome ore output amounted to 18.5 Mt in 2009, a 24.2 percent decrease compared with 2008, owing to lower demand from stainless steel manufacturing. South Africa contributed 6.9 Mt, which accounted for 37.1 percent of global chrome ore production, while India produced 3.7 Mt, equivalent to 20.3 percent, and Kazakhstan was in the third place with production of 3.3 Mt. A total of 6 Mt of chrome ore was traded globally in 2009. South Africa remained the leading exporter, accounting for 17.4 percent, followed by Kazakhstan's 15.1 percent. South Africa's exports increased by 35.8 percent while Kazakhstan's exports were 5 percent higher compared with 2008.

According to South African Customs statistics, exports of chrome concentrates and ore totalled 5.5 Mt in 2009, five times more than what is reported to the Department of Mineral Resources by licensed chrome miners in accordance with section 28 of the Minerals and Petroleum Resources Development Act 28 of 2002. Producers of PGMs who are transgressive of this provision have been notified and corrective action is being taken, it is expected that production statistics will be revised upwards in the near future. The

corresponding value of these exports amounted to R6 billion, of which China accounted for 95 percent at an average unit value of R1 076/t. These ore exports were derived from the recovery of chrome ore as a by-product from the Upper Group Two (UG2) reef that is typically mined and processed for the recovery of Platinum Group Metals (PGMs). This brings the global chrome ore trade to 11.5 Mt, with South Africa accounting for almost half of the export volumes.

World ferrochrome production declined to 5.98 Mt, 18,0 percent lower than 2008, on the back of weaker demand from stainless steel manufacturers. South Africa continued to dominate world ferrochrome production in 2009, despite a 28.2 percent decline to 2 346 kt (Table 2). South Africa's share of world ferrochrome output declined to 39.2 percent with China and Kazakhstan accounting for 25.2 percent (1 510 kt) and 15.7 percent (937 kt), respectively.

TABLE **2**: WORLD FERROCHROME PRODUCTION AND SALES, 2009

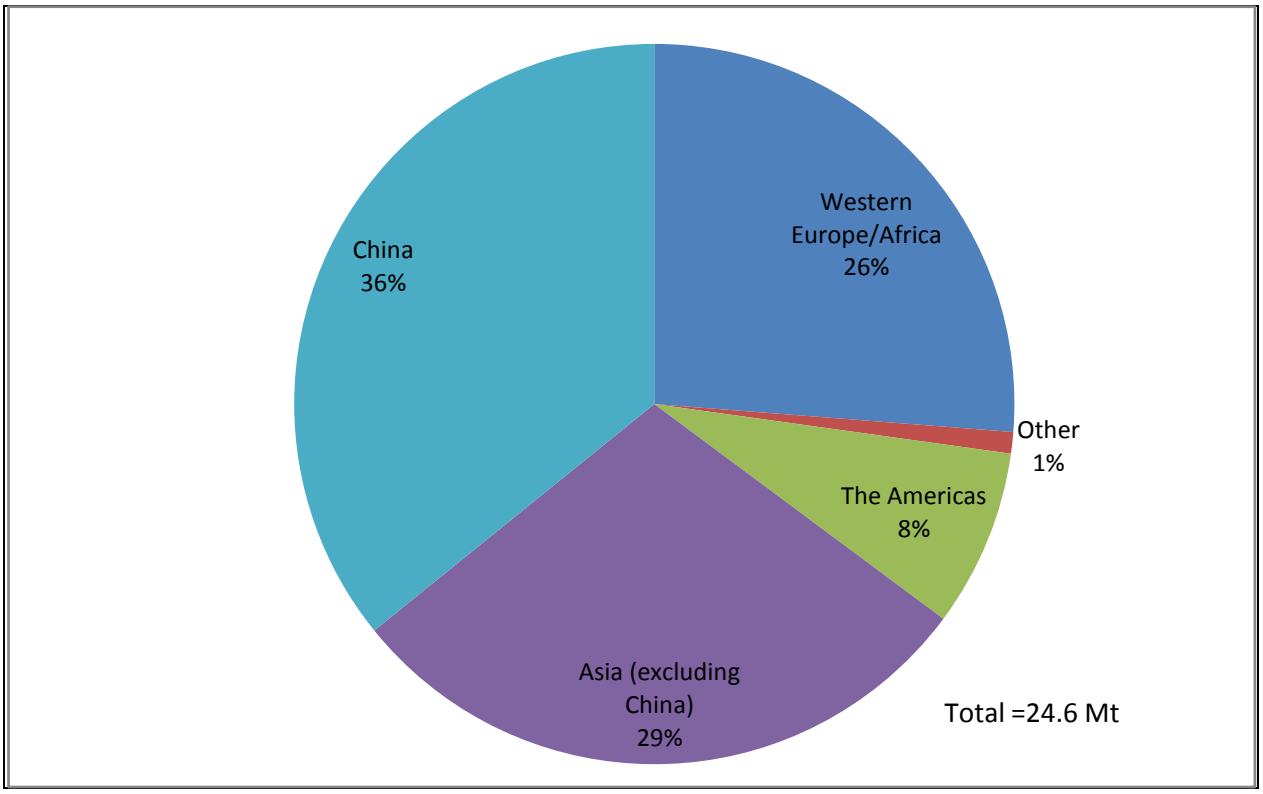
COUNTRY	PRODUCTION+			EXPORTS+		
	kt	%	Rank	kt	%	Rank
Albania	6	0.1	12	2	0	14
Brazil	102	1.7	7	6	0.1	12
China	1 510	25.2	2	13	0.3	11
Finland	123	2.1	6	43	0.9	8
Germany	-	-		15	0.3	10
India	670	11.2	4	487	10.5	3
Iran	9	0.2	11	-	-	-
Japan	-	-	-	1	0	15
Kazakhstan	937	15.7	3	976	21	2
Latvia & Lithuania	-	-	-	4	0.1	13
Netherland	-	-	-	67	1.4	6
Russia	136	2.3	5	120	2.6	4
South Africa*	2 346	39.2	1	2 621	56.5	1
Sweden	31	0.5	10	22	0.5	9
Turkey	36	0.6	9	55	1.2	7
Zimbabwe	74	1.2	8	88	1.9	5
Other	1	0		122	2.6	
TOTAL: 2009	5 981	100		4 642	100	
: 2008	7 294			4 888		

Sources: + ICDA Statistical Bulletin, 2009 Edition
** DMR, Mineral Economics*

DEMAND

Stainless steel, which accounts for more than 90 percent of chrome ore consumed in the form of ferrochrome, is the key demand driver of chrome ore and ferrochrome. Stainless steel production from 51 countries reporting to the International Stainless Steel Forum (ISSF) declined by 5.2 percent to 24.6 Mt in 2009 (Fig 1). Some areas of the world recovered more quicker from the downturn than others. Asia's stainless steel production, with the exclusion of China, declined by 11.6 percent to 7.1 Mt in 2009, while production from China increased by 26 percent to 8.8 Mt. Production in the Western Europe/Africa region fell by 22 percent in 2009 with total volume reaching 6.5 Mt. Except for South Africa, all countries in the region reported significant declines in production, some as high as 50 percent.

FIGURE **1**: REGIONAL STAINLESS STEEL PRODUCTION: 2009



Source: International Stainless Steel Forum

PRICES

The average ferrochrome price for 2009 was $0.85/lb, a 57.5 percent decline compared with $2/lb in 2008, as a result of weaker demand. The surge in ferrochrome demand that had put upward pressure on ferrochrome prices in 2008 was dampened by the economic crisis which pulled prices down to $1.85/lb by the last quarter of the year. Ferrochrome prices continued to come under pressure in the first quarter of 2009 following a marginal $0.2/lb price decrease at the end of 2008. The declining trend became stronger in the second quarter when prices fell to below $0.8/lb. Although the third quarter price slightly recovered to $0.89/lb, it was still 43 percent lower when compared with the same period in 2008 and $0.09/lb higher than the previous quarter. By the end of 2009 ferrochrome prices had recovered to $1.06/lb as demand strengthened.

DEVELOPMENTS IN 2009

Xstrata has invested R1 billion in an agglomeration plant which will optimise the use of previously uneconomic fines in ferrochrome production. This technological advance does not only slow down the rate of ore depletion but also improves energy efficiency which is essential at a time of and rising electricity prices. In addition, Xstrata-Merafe and ChromTech have sealed a deal with Lonmin for the construction of two chrome recovery plants that will treat the tailings from the UG2 concentrators at the platinum producer's Marikana operations in order to expand their security of ore supply. Xstrata-Merafe and ChromTech will build and operate the 300 kt/a chrome plant to recover an estimated 1.5 Mt of chrome ore from the PGM's tailings.

International Ferrometals (IFM) has entered into a similar deal to the Lonmin-Xstrata deal with Anglo Platinum's Rustenburg Platinum Mines (RPM), primarily for security of chrome ore supply. IFM would invest about R150 million towards the construction of a chrome retreatment plant to treat the tailings arising from the RPM UG2 concentrator. The difference is that the plant would be owned, maintained and operated by RPM rather than IFM, which would be entitled to 15 kt/m of chromite at no further cost other than transportation.

Chromex has aquired Waylox Mining in Zimbabwe from TransAfrica Resources in a deal worth $1.15 million. This follows its purchase of a 49 percent stake in Falvect Mining, also located in Zimbabwe. Chromex Mining has also taken full operational control of the Stellite opencast chrome mine and processing plant, after depending on contractors thus far. The company will focus on development of in-house skills. Chromex will also receive $5 million from China's Suzhou Kaiyuan Chemical Co to double its chrome ore output at the Stellite open-cast mine to 40 kt/month. As part of the deal, Chromex has concluded an offtake agreement to sell all lumpy chromite output to Suzhou for the next two years.

Metals trader Metmar Africa is acquiring a 40 percent stake in Zimbabwe Alloys Chrome for $51 million. The transaction will be concluded after technical reports confirm that Zimbabwe Alloys Chrome's mineral claims in Zimbabwe contain no less than 30 Mt of chromite reserves. The company will bring in the much needed technical expertise required to operate the mine.

Outokumpu is considering reviving plans to double ferrochrome production at its Tornio operation. The €420 million investment, designed to take capacity to 530 kt/a, was originally proposed in June 2008, but was postponed in December 2008 as a result of the global economic crisis. Outokumpu will now update its feasibility study and make a decision during 2010 on the viability of the project.

Kazchrome is set to become the first company to use direct current (DC) electric arc furnaces to produce 440 kt/a of ferrochrome. The first furnace is scheduled for commissioning in the fourth quarter of 2012. The plant capacity will increase to around 1.5 Mt/a of ferrochrome. The new furnaces are said to be cost efficient as they can accommodate fines without prior agglomeration and use various fine carbon reducing agents.

Indian Metals & Ferro Alloys Ltd (IMFA) is expanding production of high carbon ferrochrome at its Choudwar plant in Orissa state. The addition of a 30 MVA furnace to the existing two furnaces is expected to be completed during 2010. This expansion will bring IMFA's total production capacity to 275 kt/a, an increase of 17 percent.

CRONIMET is making its way into the superalloys industry wherein chrome is used, through its investment in Metalloy's new processing plant for metal turnings at Norderstedt. The plant started up at the end of 2009 and is designed to process the complex superalloys from the aviation, automotive, energy production and construction industries.

Finland's Ruukki Group will triple its ferrochrome production by acquiring 84.9 percent of Mogale Alloys operations in South Africa. A feasibility study exploring the prospects for installing two new 60 MVA furnaces to increase capacity from about 110 kt/a to over 400 kt/a by 2011 is being conducted. The group plans to buy South African chromium ore and platinum group metals junior miner Sylvania Resources for €268 million. The move will see Ruukki become an integrated ferrochrome and PGMs producer, which is likely to contribute towards increased local value addition.

Cliffs Natural Resources plans to purchase the "Ring of Fire" chromite deposits in Canada from Freewest Resources Canada. The company will acquire interests in three chromite deposits, Black Thor (100%), Black Label (100%) and Big Daddy (50%), located in northern Ontario province to form the basis of North America's only ferrochrome operation. The planned mine is expected to produce between one and two Mt/y of high-grade chromite ore, which will be processed into 400-800 kt/a of ferrochrome.

Registration **E**valuation **A**uthorisation and Restriction of **Ch**emical Substances (REACH) is the European Commission policy enacted to regulate the import of toxic substances in excess of one ton into the European Union (EU), which has a direct impact on minerals and metal traders. Metal traders operating within the EU have voiced their discontent with the REACH especially during the time of the economic crisis, where the effects have been summarised as "unwieldy, expensive, time-consuming and inappropriate" for the metals trade. Deferment or modification of the legislation with flexibility in deadlines is being sought with no success so far.

SOUTH AFRICA

South Africa's chrome ore production amounted to 6.9 Mt in 2009, 29.1 percent lower than 2008 due to lower demand for stainless steel resulting from the global crisis of 2008 (Table 3). Local sales mass fell by 31,8 percent to reach 4 855 kt while export sales mass increased by 35.8 percent to 1 035 kt. Higher export sales are due to the ongoing demand for ore by countries/consumers without substantial chrome ore deposits which tends to stockpile when ore prices are weaker. Average local and export unit values dropped by 26.7 and 30.6 percent compared with the 2008 values, to reach R426/t and R1 155/t of chrome ore, respectively. Consequently, total revenues declined by 39.6 percent to reach R3.3 billion in 2009, with export sales accounting for 64 percent of the total.

TABLE 3: SOUTH AFRICA'S CHROME ORE PRODUCTION AND SALES, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
	Mass	Mass	Value	Unit Value	Mass	Value	Unit value
	kt	kt	R' 000	R/t	kt	R' 000	R/t
2000	6 662	5 689	719 604	126	1 090	360 794	331
2001	5 502	4 598	625 023	136	931	377 286	405
2002	6 436	5 300	786 979	148	651	314 380	483
2003	7 405	6 334	976 690	154	502	177 808	354
2004	7 677	6 743	1 368 846	203	513	318 893	622
2005	7 552	6 128	1 468 521	240	657	442 045	673
2006	7 418	6 384	1 802 385	282	735	499 519	679
2007	9 665	7 389	2 346 982	315	904	675 901	747
2008	9 683	7 116	4 131 019	581	762	1 267 931	1 664
2009	6 865	4 855	2 066 278	426	1035	1 196 051	1 155

Source: DMR, Mineral Economics

South Africa's ferrochrome production decreased by 28.2 percent in 2009 to 2 346 kt, on the back of lower demand (Table 4). Local sales volumes increased by 29 percent to 432 kt, while export volumes increased by 3.8 percent to 2 621 kt, despite weaker demand. However, local sales revenue decreased by 34 percent to R2.3 billion and revenue from export sales fell by 44 percent to R15.9 billion, owing to lower unit values.

TABLE 4: SOUTH AFRICA'S FERROCHROME PRODUCTION AND SALES, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value	Unit Value	Mass	Value	Unit Value
	kt	kt	R' 000	R/t	kt	R' 000	R/t
2000	2 574	185	431 748	2 332	2 119	5 461 517	2 578
2001	2 141	169	396 954	2 348	1 944	4 630 104	2 381
2002	2 351	211	594 717	2 820	2 199	6 117 255	2 782
2003	2 813	301	886 219	2 945	2 640	7 658 552	2 901
2004	3 032	484	1 856 496	3 836	2 646	10 109 639	3 821
2005	2 802	358	1 421 676	3 968	2 480	9 923 290	4 001
2006	3 030	353	1 352 224	3 832	2 581	10 370 421	4 017
2007	3 561	395	1 995 161	5 047	2 972	15 534 184	5 227
2008	3 269	334	3 415 822	10 227	2 525	28 355 767	11 230
2009	2 346	432	2 252 973	5 215	2 621	15 881 599	6 059

Source: DMR, Mineral Economics

EMPLOYMENT

Employment in South Africa's chrome industry was 10.7 percent lower than in 2008 while compensation of employees was 12.3 percent higher (Table 5). At 617 tons of chrome ore per employee, productivity dropped by 22 percent compared with 2008.

TABLE 5: EMPLOYMENT IN SOUTH AFRICA'S CHROME INDUSTRY, 2005 – 2009

YEAR	EMPLOYEES	TOTAL REMUNERATION*
		R' 000
2005	7 492	623 535
2006	7 901	637 236
2007	9 757	876 699
2008	12 279	1 297 315
2009	10 966	1 457 184

Source: DMR, Mineral Economics

OUTLOOK

International Stainless Steel Forum (ISSF) expects the global stainless steel industry to return to its normal production growth between 2010 and 2011, growing by 11 to 12 percent to reach 27.3 – 27.5 Mt. Similarly, demand for high-carbon ferrochrome is expected to increase to above 7 Mt and global ferrochrome capacity is expected to reach 9 Mt in 2010. Stainless steel demand is forecast to grow by 5.5 percent a year to 2020 while ferrochrome demand will see an annual increase of 6.1 percent. At this growth rate ferrochrome prices are expected to increase significantly as demand outstrips supply in the long to medium term. Manufacturing activity in stainless steel based industries, such as the automotive sector, is increasing and this trend is expected to continue during 2010 and beyond.

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IRON ORE

Mpumzi Bonga

PRODUCTION

The resumption of world economic growth towards the end of the second term of 2009 seems to justify the argument advanced by certain commodity analysts that the 2008 recession paused but did not end the commodity super-cycle evidenced by the growing demand and therefore production of most mineral commodities. However, world iron ore production declined by 6.2 percent (the first decline in 10 years), from 1 693 Mt in 2008 to 1 587.7 Mt in 2009, (Table 1). Four countries, namely Brazil, China, Australia and India, contributed the bulk of production, collectively accounting for 74.6 percent of total world output, slightly higher than the 74 percent in 2008. China at 233.7 Mt, which was the largest producer in 2008, was pushed down to the fourth position, with Australia, at 393.4 Mt, becoming the top producer, followed by Brazil's 299.8 Mt and India's 257.4 Mt at second and third place respectively. Among the top four producers, India, at 15 percent, recorded the biggest increase, followed by Australia's 13 percent. China's production declined by 27 percent (on comparable basis) while Brazil's declined by 13 percent. Africa's production was dominated by South Africa and Mauritania, which accounted for 81.4 and 15 percent, respectively.

TABLE 1 - WORLD RESERVES, PRODUCTION AND EXPORTS OF IRON ORE, 2009

COUNTRY	RESERVE BASE*			PRODUCTION			EXPORTS		
	Mt	%	Rank	Mt	%	Rank	Mt	%	Rank
Australia	25 000	15.6	2	393.4	24.8	1	362.6	37.9	1
Brazil	11 000	6.9	5	299.8	18.9	2	265.4	27.8	2
Canada	2 500	1.6	8	33.0	2.1	7	31.2	3.3	6
China	15 000	9.4	3	233.7	14.7	4	0	-	-
CIS	63 000	39.4	1	176.4	11.2	5	64.8	6.8	4
India	4 000	2.5	7	257.4	16.2	3	115.5	12.1	3
South Africa[Ø]	1 500	0.9	9	55.3	3.5	6	44.6	4.7	5
Sweden	5 000	3.1	6	17.7	1.1	9	15.8	1.6	7
USA	14 000	8.8	4	26.5	1.7	8	4.0	0.4	8
Venezuela	1 500	0.9	9	14.9	0.9	10	4.0	0.4	8
Other	18 000	11.0		79.5	5.0		32.0	5.0	
TOTAL 2009	160	100		1 587.7	100		955.2	100	
2008	500			1 693.0			889.3		

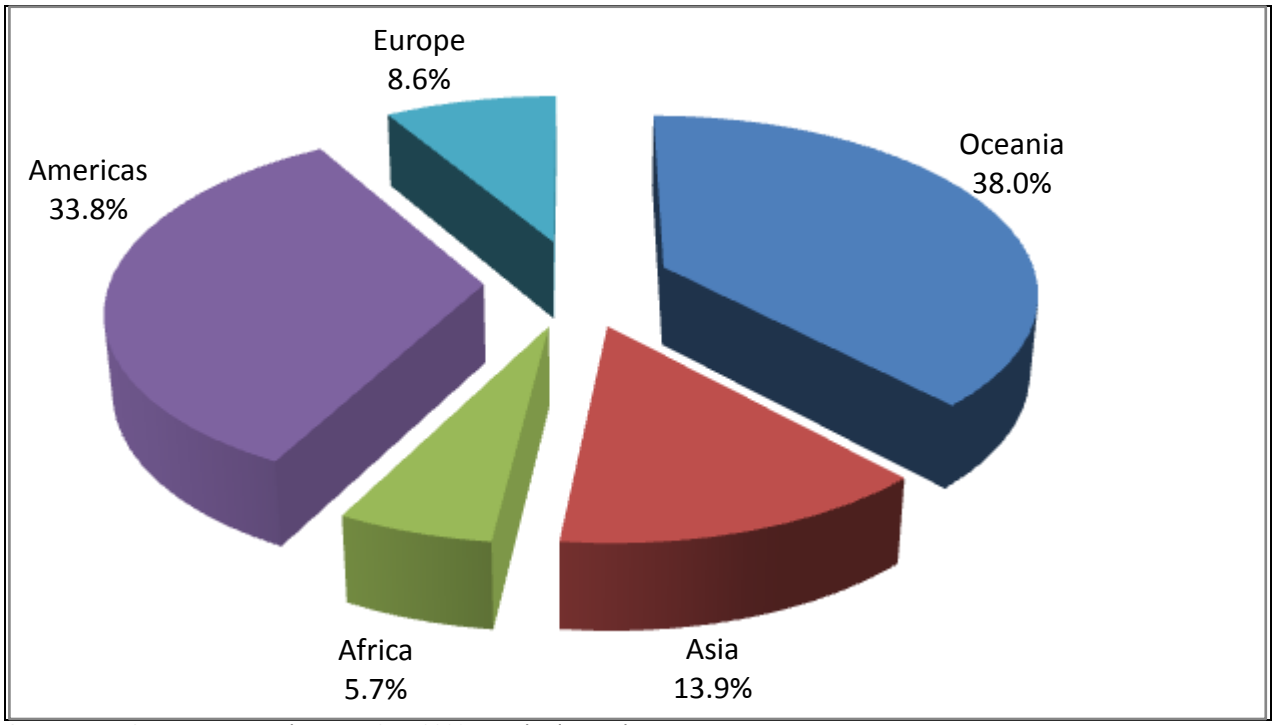
Sources: *UNCTAD Trust Fund on Iron Ore, 2009- production and exports*
USGS, 2008 (for Reserve Base)
Ø *DMR, Directorate Mineral Economics (except for Reserve Base)*
Notes: * *Iron content*

The contribution of developing countries to total global iron ore production declined to 59 percent in 2009, from 62 percent in 2008 while the Commonwealth of Independent States' (CIS) share increased to 11.2 percent, marginally up from 11 percent in 2008.

TRADE

Contrary to the general consensus among commodity analysts, who expected depressed markets, total world exports increased to an unprecedented 955 Mt in 2009, up 7.4 percent on 2008, buoyed by higher demand from China. While developed countries accounted for 44.2 percent of the world export market, developing countries accounted for 49 percent, down from 51 percent in 2008, and the CIS contributed 6.8 percent.

FIGURE 1: WORLD IRON ORE EXPORTS BY REGION, 2009



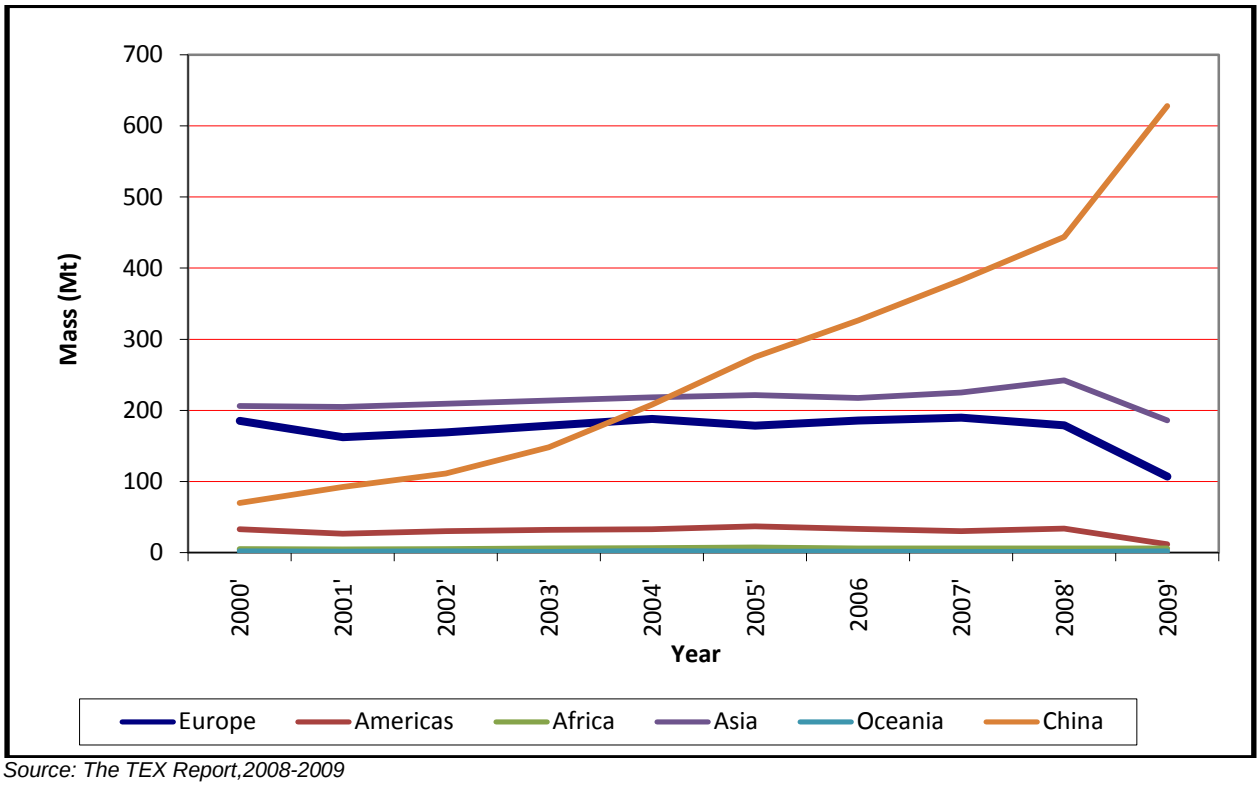
Sources: UNCTAD Trust Fund on Iron Ore, 2009 - production and exports
The TEX Report, 2008-2009

Australia continued to dominate world export markets, increasing its exports by 17 percent to 362.6 Mt while Brazil's amounted to 265.4 Mt, a 3 percent decline compared with 2008. India, which is the third biggest exporter, increased its exports by 9 percent while the CIS' and South Africa's rose by 7.1 and 36 percent, respectively. Regionally, Oceania dominated exports, accounting for 38 percent, followed by the Americas' 33.8 percent and Asia's 13.9 percent while Africa's contribution was the lowest, at 5.7 percent (Fig 1).

China, which increased its imports by 41 percent to 628 Mt, continued to be an important export destination, accounting for 67 percent of total world imports in 2009 while Japan's imports declined by 25 percent to 105 Mt. Four countries - China, Japan, Germany and the Republic of Korea – continued to dominate world iron ore imports, accounting for 86 percent of the total. Regionally, Asia has consistently dominated the iron ore import market since 1998 (Fig 2), accounting for 85 percent in 2009, followed by Europe and the Americas at 11 and 1.1 percent respectively.

Seaborne iron ore trade grew by approximately 11 percent to about 895 Mt in 2009 and is expected to continue along this trajectory in 2010, encouraged by strong demand from higher steel output. Since the dry bulk fleet grew slower than demand the reserve capacity was gradually eliminated. However, a combination of higher demand for ships and port congestions led to some market tightness and the ensuing shortages pushed freight rates higher up.

FIGURE 2: WORLD IRON ORE IMPORTS, 2009



Source: The TEX Report,2008-2009
UNCTAD Iron Ore Statistics, 2009

PRICES

Rio Tinto and Nippon Steel Corporation (the largest Japanese Steel mill) were the first to reach an agreement, which resulted in a 33-44 percent decline in prices of the various grades of ore in 2009. Three other companies- Posco of Korea, CNC and Dragon of the Taiwan province of China settled for similar prices with Rio immediately thereafter. However, the 2009 benchmark iron ore prices were never concluded as the Chinese held out for more cuts that were never to materialise. Consequently, the benchmark system, which has been under fire from certain quarters, led by BHP Billiton and a few steel mills for too long, was ultimately abandoned despite protestations from Vale and certain steel mills. When Vale announced its intention to use a quarterly pricing model, the Chinese mills were so vociferous in their opposition that they threatened to boycott the 'Big 3', frustrated by the potential price volatility that could result from this new arrangement. The new pricing system, which has introduced an element of uncertainty in the market, is a combination of the old benchmark system and the spot pricing system. Instead of being settled once annually, iron ore prices will be revised quarterly each year. Also, the intricacies resulting from the fragmented pricing mechanisms of the Big 3 as well as the secrecy surrounding each company's pricing model have meant that prices are no longer announced as they used to be- an issue which is likely to compound steel producers' headaches further. Consequently, various iron ore grade prices for the second quarter of 2010 were 86-100 percent higher compared with the 2009 benchmark and are likely to rise further for the third quarter.

SOUTH AFRICA

South Africa's iron ore production amounted to 55.3 Mt in 2009 (Table 2), 12.9 percent higher than the 49 Mt produced in 2008 owing to greater demand for fine Sishen ore from Chinese mills. Local sales declined by 25.2 percent to 8.4 Mt, driven by lower local steel production while export sales rose 36 percent. At R1.9 billion, the value of local sales was 4 percent lower while the export sales value amounted to R25.2 billion, which was 22.7 percent higher when compared with 2008.

TABLE 2 – SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF IRON ORE, 1999-2008

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value (FOR)		Mass	Value (FOB)	
	Kt	kt	R'000	R/t	kt	R'000	R/t
2000	33 707	10 745	595 643	55	21 397	2 469 106	115
2001	34 757	11 373	684 202	60	23 519	3 444 701	146
2002	36 484	11 057	1 009 107	91	24 303	4 304 611	177
2003	38 085	12 079	1 060 635	88	24 076	3 130 436	130
2004	39 322	12 430	1 145 600	92	27 745	3 439 885	139
2005	39 542	12 009	1 272 795	106	26 628	6 246 776	235
2006	41 326	11 989	1 395 219	116	27 370	8 532 277	312
2007	42 083	12 407	1 749 498	141	29 724	11 680 793	393
2008	48 983	11 258	1 974 628	175	32 766	20 267 206	619
2009	55 313	8 369	1 888 800	226	44 550	25 242 934	567

Source: DMR, Directorate Mineral Economics

While average export prices were 8.4 percent lower, local prices rose by 29.1 percent. Local prices were 24.1 percent higher, while average export prices rose 57.5 percent. However, aggressive rise in global iron ore prices at the beginning of 2010 evidenced by the 86-100 percent rise in prices is likely to lead to higher average prices for 2010. Employment in the local industry grew by 3.5 percent to 13 727 while remuneration rose by 30.5 percent to R2 178 million as the world economy slowly recovered from the recessionary market conditions that prevailed between 2008 and the first half of 2009 (Table 3).

TABLE 3 – SOUTH AFRICA'S IRON ORE MINES: EMPLOYMENT AND REMUNERATION, 2005 – 2009

YEAR	EMPLOYEES	REMUNERATION
		R'000
2005	7 492	623 535
2006	8 848	683 582
2007	13 858	1 362 392
2008	13 256	1 667 836
2009	13 727	2 178 041

Source: DMR, Directorate Mineral Economics

Failure by Arcelor Mittal South Africa (AMSA) to renew its mining licence for the 21.4 percent undevided share of Sishen Iron ore led to the issuing of prospecting rights to this portion to Imperial Crown Trading while an application by Kumba Iron Ore (KIO), which owns the rights to the remaining 78.6 percent, was rejected. KIO has lodged an application for review of the decision and a court challenge against the DMR arguing the irregularity of awarding a prospecting right to a working mine. KIO is locked in another dispute with AMSA over a 2001 agreement under which KIO agreed to supply ore at cost plus 3 percent, alleging that failure by AMSA to renew its licence invalidated the agreement. Consequently, KIO has invoiced AMSA at market prices but AMSA insisted on paying the original price prompting KIO to raise the possibility of stopping supplies. AMSA came up with a counter proposal and the two companies have agreed on an interim price while taking the issue of the validity of the contract into arbitration. The arbitration process and the court case are expected to be concluded in two years.

OUTLOOK

Although the world economy seemed to have emerged from the recessionary market condition by the second half of 2009, remnants of the effects of the Great Recession appeared to pervade certain sectors of the world economy, leading most analysts to expect a slower recovery. The emerging markets, which were 'hospitalised for the sickness they never had' are reported to have survived the recession better than the developed economies owing to their prudent macro-economic policies. Since most of Africa is reported to have avoided the recession, the IMF expects the continent's economy to grow by between 4-6 percent in 2010 while most of the developed world economy is forecast to record a 0-1 percent growth. Although these forecasts may look too conservative or pessimistic, the continuing EU sovereign debt crisis, which is threatening to drag most of the developed world economy into a double dip recession if not properly managed, had to be taken into account.

However, the rescue package of gargantuan proportions, amounting to $1 trillion, offered by the European Central Bank and the IMF appears to have prevented or postponed metastasis of the situation.

While steel production declined in most advanced economies, China's increased driven mainly by its infrastructural development programmes. China, whose economy grew by 9 percent in 2009, is expected to grow by 10 percent this year. According to the World Steel Association, world steel output is expected to grow by 5 percent in 2010 while consumption is forecast to grow by 10.7 percent and demand for iron ore is expected to grow in tandem. However, the anticipated lower iron ore production growth is expected to perpetuate the current market tightness while the market could be in deficit by the end of 2010, if the accelerated rate of steel production is maintained. Such market tightness could exert a steep upward pressure on prices, illustrated by the 86-100 percent price hikes achieved for the second quarter of 2010. Freight rates are expected to remain high driven by a shortage of ships and continuing ports congestions. China, which accounts for about 50 percent of world steel production, is likely to be the main determinant of the iron ore supply-demand situation in the foreseeable future. The introduction of a new quarterly pricing system after the benchmark contract pricing system was abandoned, which at best is a mixture of benchmark and spot pricing could lead to price instability, a situation which is likely to favour iron ore producers more while putting the fragmented steel industry under sustained pressure.

The joint venture between Rio Tint and BHP Billiton on all their iron ore assets, which could strengthen their hand in negotiations, weaken competition and push prices north as the partners leverage their super-dominance has been bemoaned by many steel producers who claimed that it will erode competition amongst the producers and push prices further into the stratosphere. However, such partnerships could benefit both shareholders and customers provided that these partners pass the billions of dollars worth of savings on to shareholders and provided further that they refrain from abusing their super-dominant position to charge their clients excessive prices.

Although the KIO-AMSA supply contract dispute, which could take two years to resolve could affect downstream steel users as AMSA has threatened to pass any extra costs resulting from the cancellation of the discounted price on to consumers, its resolution could provide an opportunity for the establishment of a new steelmaker who may be willing to charge developmental steel prices to local users, a move that would give local beneficiation a sorely needed shot in the arm while increasing competition. While South Africa's iron ore industry performance will be influenced by changes in the exchange rate of the rand against the dollar, prices are expected to show a significant improvement in 2010. Continued rail and port infrastructure development will support growth of the industry.

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MANGANESE

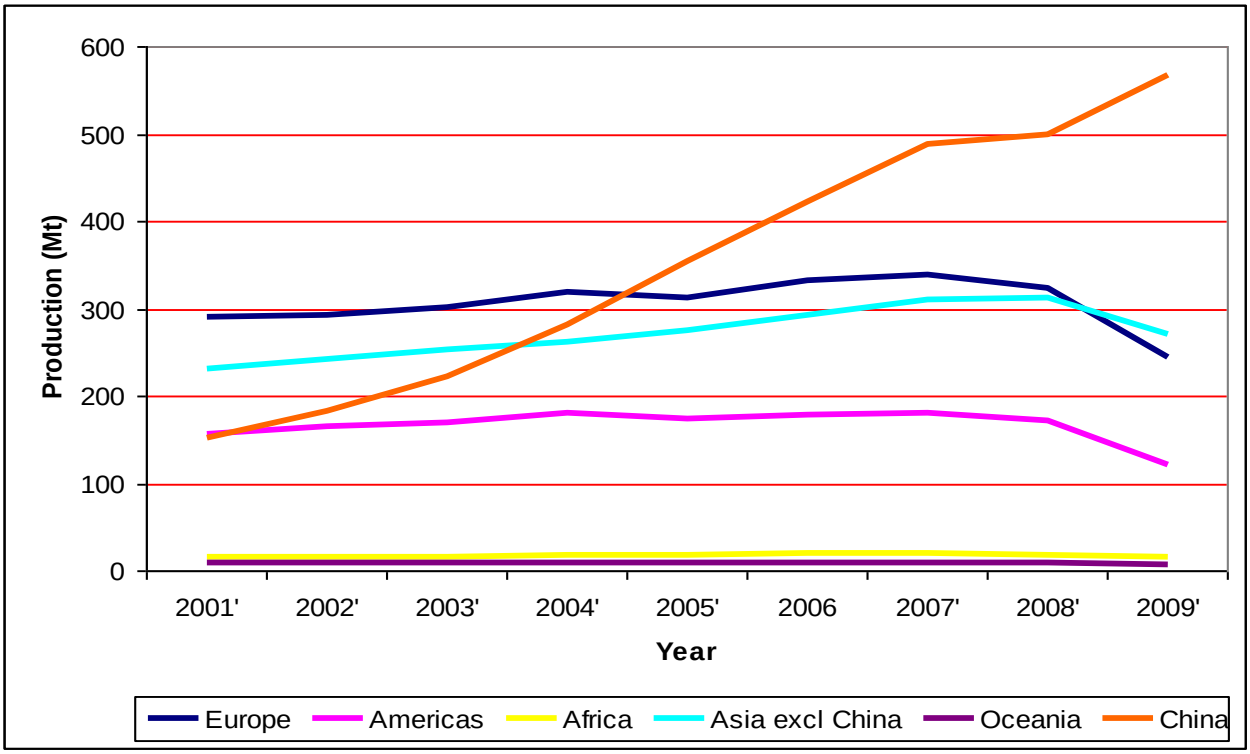
Mpumzi Bonga

WORLD DEMAND

Demand for manganese ores and alloys depends almost entirely on the state of the steel market, whch consumes 90 percent of world manganese ore production. According to the World Steel Association (WSA), world crude steel production amounted to 1 220 Mt in 2009, a decline of 8.4 percent compared with 2008. While the overall output remains high, the decline in annual production is the second recorded since steel production exceeded the 1 billion ton mark for the first time in 2004. All the major producing regions experienced production cutbacks except Asia where output rose by 3.1 percent driven by China where output increased by 13.5 percent above its 2008 production to 566.4 Mt in 2009. The Americas' production dropped by 30.2 percent, Europe's decreased by 25 percent and Africa's declined 10.6 percent.

Asia, at 68.5 percent, continued to dominate regional contribution to world steel production (Fig.1) with the EU (19.9 percent) and the Americas (9.8 percent) a distant second and third, respectively. Demand for manganese ore decreased by 10 percent to 37.8 Mt in 2009 but the decline, at 14 percent, was much greater when measured on a manganese content basis (from 13.2 Mt in 2008 to 11.4 Mt in 2009), consistent with the lower world crude steel production. Demand, however, improved during the second half of the year as world steel showed the first signs of recovery.

FIGURE 1: WORLD STEEL PRODUCTION, 2001-2009



Source: WSA, 2010

WORLD SUPPLY

Although quarterly manganese ore production remained lower year-on-year when compared with each quarter of 2008, output rose during each successive quarter of 2009. Production continued to grow at a higher rate than demand resulting in an oversupplied market for the first three quarters of the year. However, as major producers reduced output and demand improved driven by the recovering world economy during the second half of the year, the market swung into deficit as demand exceeded supply of 11.0 Mt by almost 900 kt. World manganese ore production declined by 22 percent to 35.3 Mt with a manganese (Mn) content of 11.7 Mt (Table 1).

Since most of the manganese ore output resulted from increased exploitation of low grade ore dominated by China, the manganese content of 11.0 Mt was lower than demand of 11.9 Mt by 0.9 Mt. World manganese ferro-alloy production declined by 16.7 percent to 11.6 Mt when compared with 2008.

TABLE 1: WORLD MANGANESE RESERVES, MINE PRODUCTION AND EXPORTS, 2009

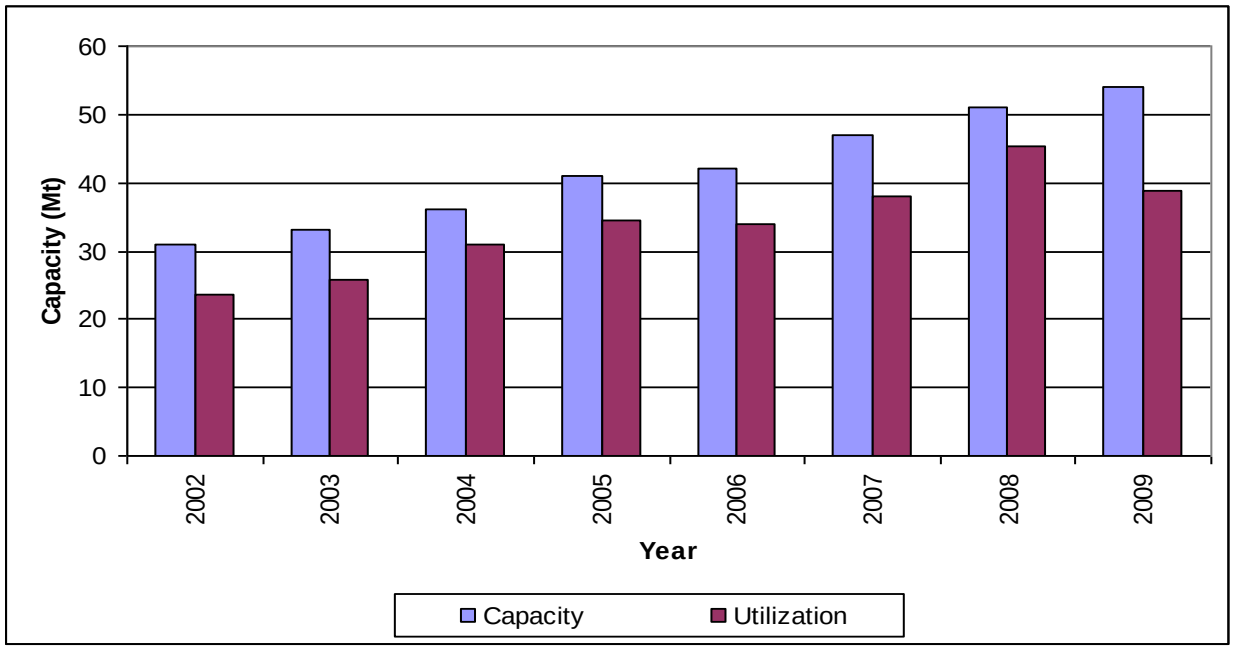
	RESERVE#			PRODUCTION			EXPORTS		
COUNTRY	Mt	%	Rank	kt	%	Rank	kt	%	Rank
Australia	87	16.1	3	3 989	11.3	3	4 120	27.6	1
Brazil	29	5.4	7	2 350	6.7	5	1 366	9.2	4
China	40	7.4	6	15 000	42.5	1	-	-	-
CIS	140	25.9	1	1 977	5.6	7	640	4.3	6
Gabon	52	9.6	5	1 992	5.6	6	1 754	11.8	3
Ghana	*	*		881	2.5	8	1 017	6.8	5
India	56	10.4	4	2 481	7.0	4	264	1.8	7
Mexico	4	0.7	8	330	0.9	9	20	0.1	8
South Africa+	130	24.1	2	4 455	12.6	2	3 747	25.1	2
Other	2	0.4		1 853	5.2		1 988	13.3	
TOTAL 2009	540	100		35 308	100		14 916	100	
2008				45 317			15 108		

Sources: *USGS, 2010 (for Reserve)*
+DMR, Directorate Mineral Economics
IMnI, for production and export figures

Notes: *# Manganese content*
** Included under "Other"*

World manganese ore production capacity increased by 5.9 percent to 54 Mt while capacity utilization decreased to 72 percent in 2009 (Fig 2) from 86 percent in 2008 mainly as a result of the anaemic demand from alloy plants driven by lower steel production.

FIGURE 2: WORLD MANGANESE ORE PRODUCTION CAPACITY AND CAPACITY UTILIZATION, 2002-2009



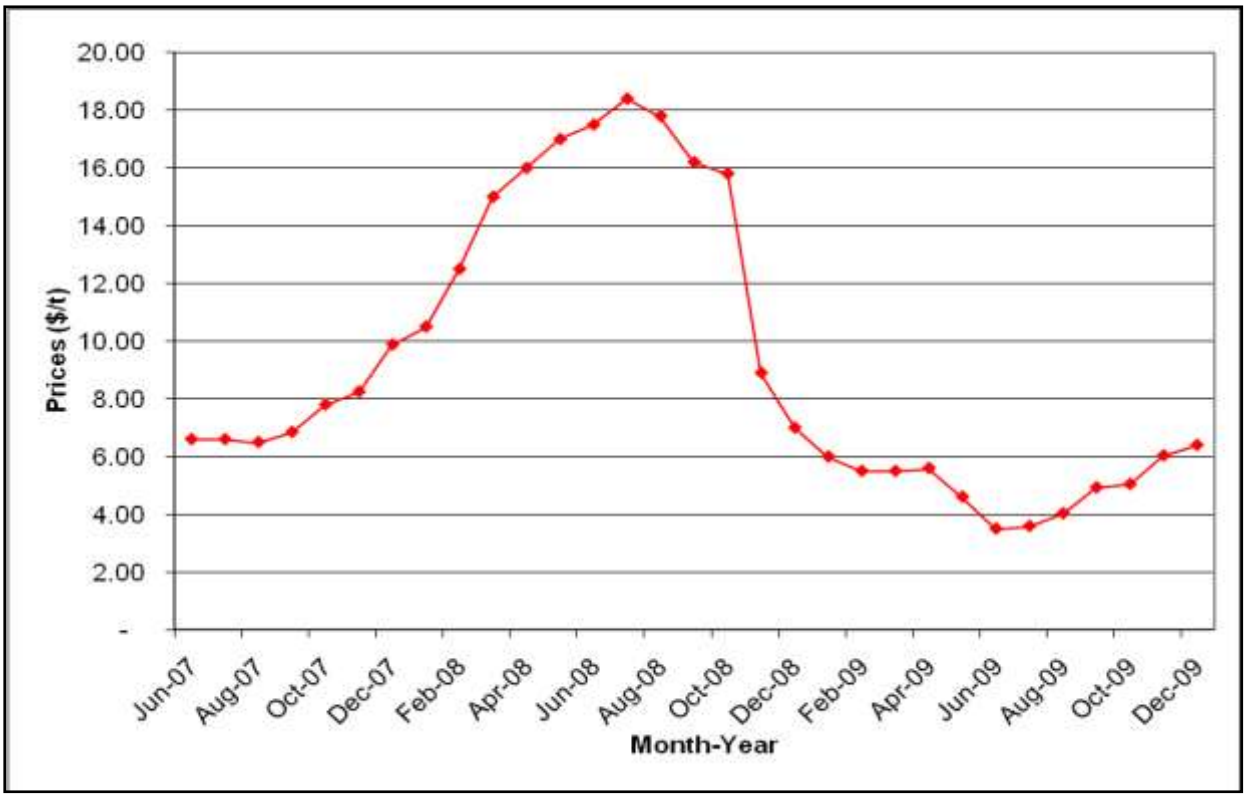
Source: IMnI, 2009

WORLD PRICES

Supply disruptions and higher demand from steel, which persisted for the first three quarters of 2008, exerted an upward pressure on prices causing a steep upward movement, which was sustained until October when waning demand resulting from the global economic meltdown led to a precipitous decline. Consequently, prices of manganese ore, which had risen by 600 percent, taking the price from a low of $3.0/mtu during the first quarter of 2007 to $18/mtu by August 2008, plummeted to $7/mtu by December

(Fig 3). The bearish market conditions persisted right into 2009, driving prices down further to about $5.67/mtu during the first quarter of the year, 47 percent lower when compared with the last quarter of 2008. The trend continued during the second and third quarter, dropping by 19 and 9 percent to $4.6/mtu and $4.2/mtu respectively, when compared with preceding quarters (Q1 and Q2 of 2009). However, prices started recovering during the last quarter of the year, averaging $5.8/mtu, a 39 percent increase on the third quarter while a further 22 percent price increase was reported during the first quarter of 2010.

FIGURE 3: MONTHLY MANGANESE ORE PRICES, 2007-2009

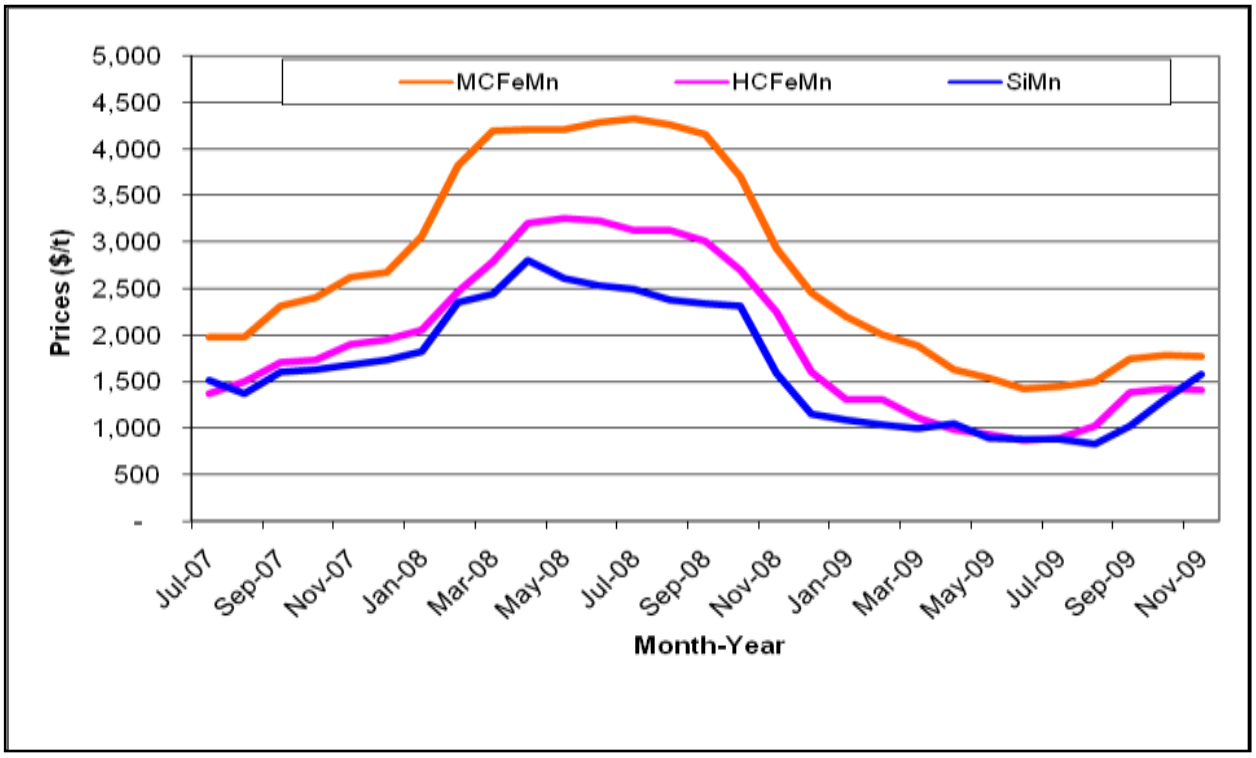


Source: CRU, 2009

The manganese alloy market was significantly undersupplied in 2009, with an estimated overall deficit of more than 420 kt for the year with 194 kt of High Carbon Ferromanganese (HCFeMn) accounting for most of the shortage, followed by Medium Carbon Ferromanganese (MCFeMn), which contributed about 130 kt and Silicomanganese' (SiMn) -92 kt. Consequently prices, which were on a downward spiral during the first half of the year, driven by the weak demand, finally showed some signs of recovering.

Consistent with improved steel production, demand for manganese alloys improved during the second quarter of 2009. As a result, MCFeMn prices, which had dropped to $1 534/t during the second quarter of the year rose by 2 percent to $1 566.7/t during the third quarter and by a further 15 percent to $1 802/t in the last quarter of the year (Fig 4). Similarly, HCFeMn prices rose by 19 and 26 percent to $1 093/t and $1 382/t respectively during the same period. However, SiMn prices declined through all three quarters to bottom out at $909/t in the third quarter, only to rise by a steep 59 percent to $1 447/t during the last quarter of the year.

FIGURE 4: MONTHLY AVERAGE PRICES OF MANGANESE ALLOYS IN THE US, 2007-2009



Sources: CRU

SOUTH AFRICA

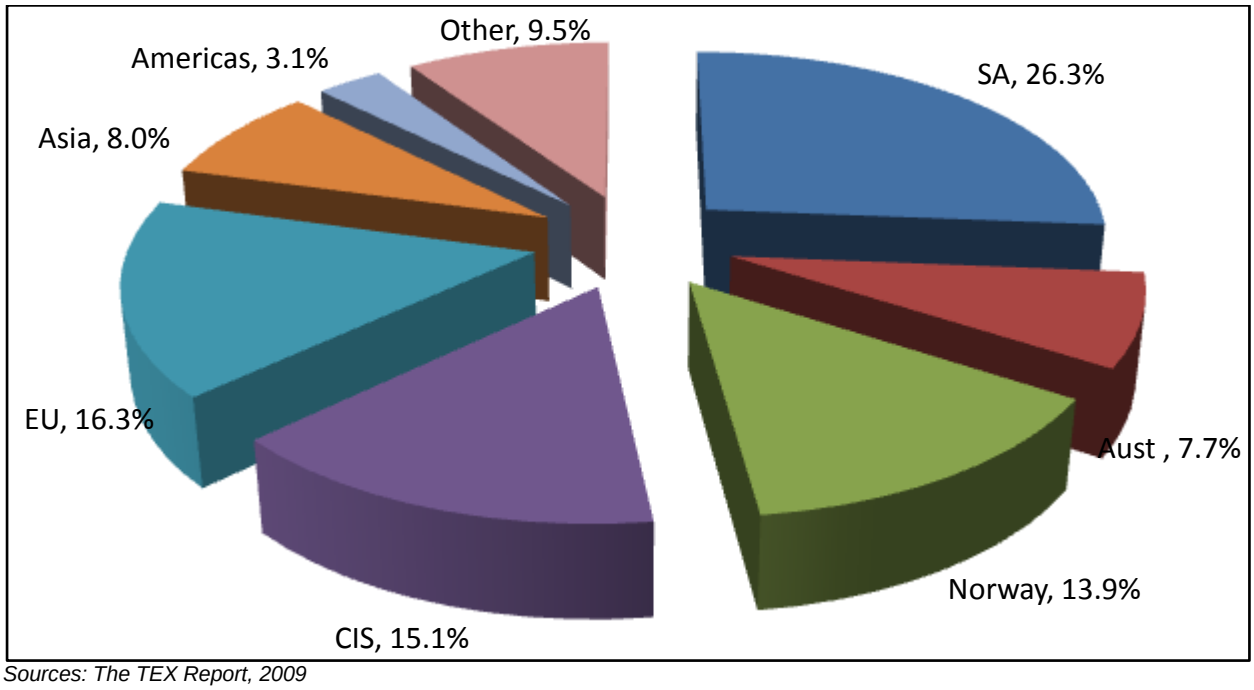
South Africa's manganese ore production declined by 32.8 percent to 4 575 kt in 2009 (Table 2). Export volumes decreased by 15.3 percent to 3 975 kt while local sales volumes were down 57.3 percent. Local sales value decreased by 66.1 percent to R583 million while export earnings dropped by 67.1 percent to R5 003 million in 2009 driven by a combination of lower sales volumes and prices, which were 62.9 percent lower.

TABLE 2 - SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF MANGANESE ORE, 1999- 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORTS SALES		
		Mass	Value (FOR)		Mass	Value (FOB)	
	kt	kt	R'000	R/t	kt	R'000	R/t
1999	3 122	W	319 308	W	1 569	615 190	392.2
2000	3 635	W	368 604	W	1 845	863 512	468.0
2001	3 266	W	423 621	W	1 528	877 819	575.0
2002	3 322	W	583 603	W	1 539	1 042 952	678.0
2003	3 501	W	614 393	W	1 956	852 983	436.0
2004	4 282	W	656 435	W	2 403	1 082 285	450.0
2005	4 612	W	681 860	W	2 119	1 518 965	717.0
2006	5 213	W	727 182	W	2 846	1 518 652	534.0
2007	5 996	W	934 901	W	3 691	2 636 526	697.0
2008	6 807	W	1 761 848	W	4 689	15 581 560	3 323.0
2009	4 575	W	583 601	W	3 975	5 003 011	1 258.0

Note: W =Withheld

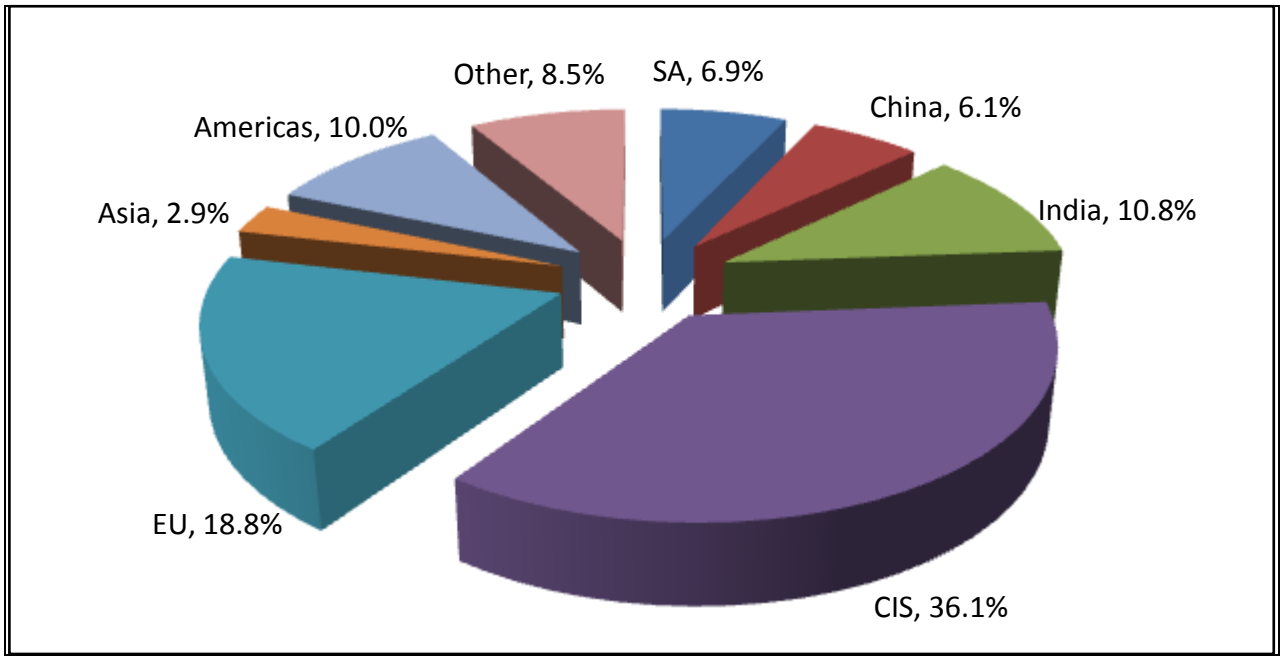
FIGURE 5: WORLD EXPORTS OF HC FERROMANGANESE BY COUNTRY, 2009



Sources: The TEX Report, 2009

South Africa's share of the manganese ore export market declined from 31.1 percent in 2008 (Table 1) to 25.1 percent in 2009. Its share of the HCFeMn and SiMn export markets remained unchanged at 26.3 percent and 6.9 percent respectively (Fig. 5 & 6) in 2009.

FIGURE 6: WORLD SUPPLY OF SILICOMANGANESE BY COUNTRY, 2009



Sources: The TEX Report, 2009

TABLE 3 – SOUTH AFRICA'S PRODUCTION AND SALES OF HIGH AND MEDIUM-CARBON FERROMANGANESE, 1999 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORTS SALES		
		Mass	Value (FOR)		Mass	Value (FOB)	
	t	t	R'000	R/t	t	R'000	R/t
1999	527 106	101 089	213 870	2 115.7	421 636	855 597	2 029.2
2000	596 873	134 483	292 110	2 172.4	458 131	1 101 710	1 975.8
2001	523 844	131 009	329 750	2 517.0	405 876	1 232 009	3 035.4
2002	618 954	161 639	530 166	3 280.0	475 645	1 805 324	3 795.0
2003	607 362	150 843	493 599	3 272.0	437 181	1 352 433	3 093.0
2004	611 914	152 914	783 993	5 127.0	445 683	2 495 947	5 600.0
2005	570 574	140 172	601 143	4 289.0	374 786	1 710 953	4 565,0
2006	656 235	127 962	450 813	3 543.2	555 866	2 302 936	4 142.9
2007	698 654	150 633	835 398	5 545.9	565 189	3 702 763	6 551.1
2008	502 631	79 144	1 114 751	14 085.1	499 806	8 883 344	17 773.6
2009	274 923	22 862	212 856	9 310.1	262 223	1 819 877	6 940.1

Source: DMR, Directorate Mineral Economics

Total production of HCFeMn and MCFeMn declined by 45.3 percent to 274.9 kt in 2009 (Table 3). Local sales volumes dropped by 71.2 percent while export sales went down 47.5 percent. At R212.9 million, the value of local sales was 81 percent lower while export sales value decreased by 79.5 percent to R1.8 billion driven by lower volumes and unit values. Other manganese alloys production declined by 54.6 percent to 117.7 kt (Table 4). Local sales volumes of these alloys, at 44.8 kt, were 4.3 percent lower while export sales declined by 17.2 percent to 150.9 kilotonnes. The value of local sales dropped by 41.1 percent to R384.9 million while export sales values went down 40.3 percent to R1.8 billion, dragged down by lower sales volumes and prices.

TABLE 4: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF OTHER* MANGANESE ALLOYS, 2000- 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORTS SALES		
		Mass	Value (FOR)		Mass	Value (FOB)	
	t	t	R'000	R/t	t	R'000	R/t
2000	310 400	42 704	119 369	2 795.1	221 850	977 552	4 406.1
2001	259 176	37 705	121 337	3 218.1	210 359	1 099 792	5 228.2
2002	315 802	35 293	122 736	3 495.0	215 259	1 256 592	5 840.0
2003	313 152	41 860	140 054	3345.7	270 225	1 181 787	4 373.3
2004	373 928	38 971	148 026	3 798.4	307 821	1 833 313	5 956.0
2005	275 324	25 071	120 621	4 811.1	184 151	1 080 123	5 865.4
2006	277 703	30 508	130 136	4 265.6	148 605	812 582	5 468.1
2007	327 794	35 378	216 335	6 114.5	223 296	1 700 188	7 614.1
2008	259 014	46 799	653 236	13 958.3	182 341	3 020 947	16 567.6
2009	117 683	44 766	384 966	8 599.5	150 978	1 804 864	11 954.5

Note: Individual product details withheld for reason of company confidentiality
Source: DMR, Directorate Mineral Economics

Employment in the manganese industry rose by 25.7 percent to 4 998 (Table 5), while productivity per employee amounted to 915 t per employee per year and each employee generated R1.12 million in 2009, 75 percent lower, compared with 2008, owing to lower prices.

TABLE 5 - SOUTH AFRICA'S MANGANESE MINES EMPLOYMENT AND REMUNERATION, 2002 – 2009

YEAR	EMPLOYEES	TOTAL REMUNERATION R'000
2002	2 495	179 203
2003	2 460	208 150
2004	3 236	241 433
2005	3 336	257 986
2006	3 340	319 841
2007	3 240	405 313
2008	3 934	666 356
2009	4 988	731 618

Source: DMR, Directorate Mineral Economics

OUTLOOK

The world economy was still dominated by the recessionary market conditions throughout the first half of 2009. Consequently, most commodity markets experienced poor market conditions, which were dominated by bearish diffidence. However, most analysts were optimistic that the worst was over, buoyed by the few green shoots that appeared in several economies towards the end of the first half of the year as the world appeared to have shaken off the stultifying effects of the recession. Despite the subdued demand from most advanced economies, the developing economies appeared to be emerging from the recession a lot sooner than previously anticipated, evinced by the world steel production, which showed the first signs of recovery, led by the world's fastest growing economy, China.

According to the International Monetary Fund (IMF), world steel output is expected to grow by 4.3 percent in 2010, following a 0.5 percent contraction in 2009. However, the World Steel Association expects a 10.7 percent rise in steel use in 2010 compared with a 6.7 decline of 2009. Global steel demand is expected to return to pre-crisis levels in 2010 and increase at a higher rate in 2011. World steel supply is expected to grow at a rate of 5 and 4 percent in 2010 and 2011 respectively. The anticipated growth in world steel output, which is expected to lead to stronger demand for its input raw materials, will be spurred on by continuing accelerated growth in China's steel consumption leading to negligible net steel exports from that country. The rest of Asia is forecast to support this growth, resulting from the continued increase in intra-regional trade and growing domestic consumption. The restrictive monetary policies of the OECD countries, however, are expected to constrain this growth due to their debt overhang and constricted import capacity.

Since demand for manganese ore is expected to strengthen in response to strong demand for steel while production is forecast to rise slightly in 2010, the current market tightness is likely to persist throughout the year pushing prices higher. Higher ore prices and continuing market tightness, exacerbated by the slower output growth rate could swing the market into deficit. This market shortfall and growing demand for vital input raw materials could lead to a further upward spiral in alloy prices in 2011.

Thus, prospects for all manganese products appear to be positive and if the supply shortfall persists throughout the year, prices can be expected to remain on their northward trajectory for the remainder of 2010. Producers can be expected to raise production in tandem with demand until the market is brought back to a state of equilibrium towards the end of 2011 when the threat of a double dip recession is likely to have dissipated.

South Africa's steel industry is likely to gain from several infrastructural projects around the country. The higher demand for manganese resulting from these activities may help raise local demand for and production of manganese alloys consistent with the government's strategy to grow the local downstream value addition industry.

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SILICON

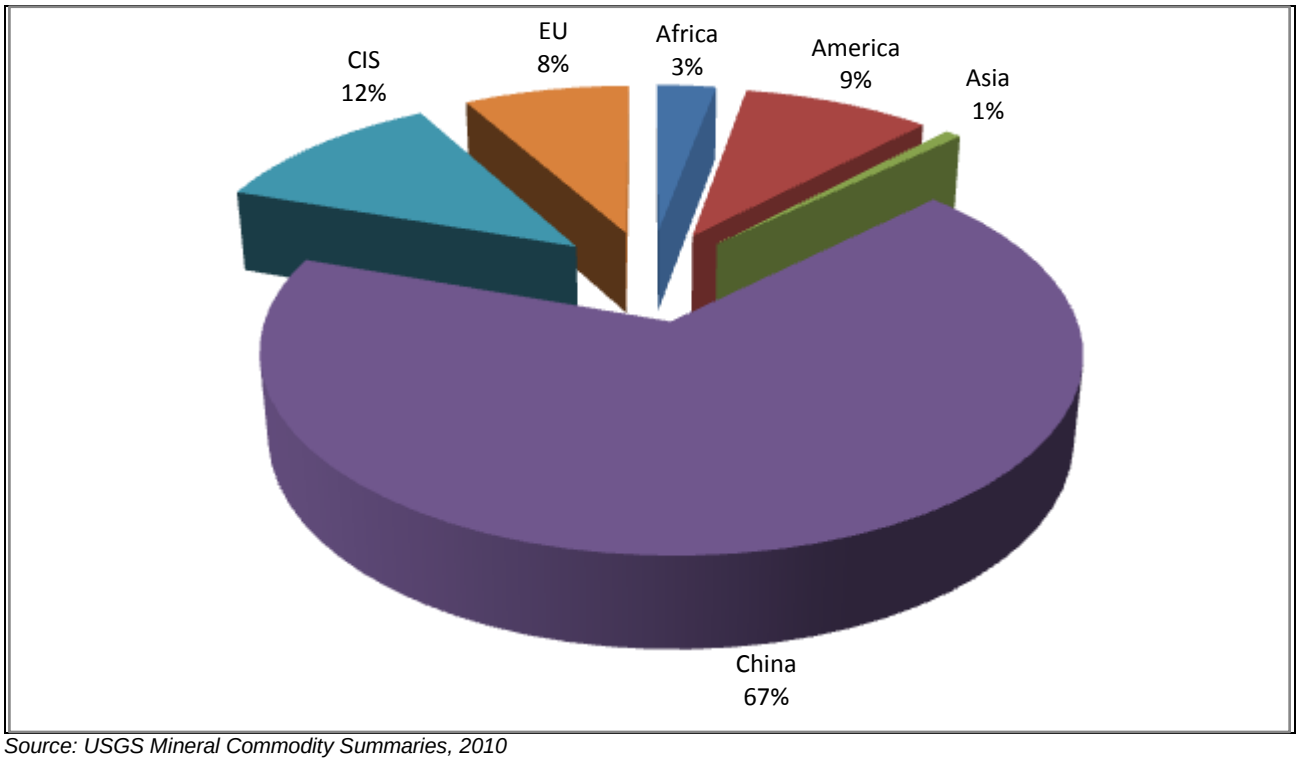
Keneilwe Ratshomo

WORLD DEMAND

World demand for silicon metal depends on the aluminium and chemical industries, while demand for ferrosilicon is determined by developments in the global steel industry. South Africa is a minor role player, accounting for 3.3 percent and 2.1 percent of world exports of silicon and ferrosilicon, respectively.

World refined aluminium production declined by 4.8 percent to 37.1 Mt compared with 38.0 Mt in 2008, while consumption dropped by 6.9 percent to 35.9 Mt. China, at 67 percent, was the dominant producer of silicon in 2009 (Fig. 1) followed by Russia's 9.4 percent and Brazil's 4.2 percent.

FIGURE 1: REGIONAL CONTRIBUTION TO SILICON PRODUCTION, 2009



Source: USGS Mineral Commodity Summaries, 2010

TABLE 1: WORLD PRODUCTION AND EXPORTS OF SILICON METAL, 2009

COUNTRY	PRODUCTION			EXPORT		
	kt	%	Rank	kt	%	Rank
Brazil	214	12.1	2	179	13.6	2
Canada	45	2.5	7	40	3.1	7
China	780	44.1	1	604	46.0	1
CIS	192	10.8	3	174	13.2	3
France	130	7.3	6		-	-
Norway	183	10.3	4	170	12.9	4
South Africa *	39	2.1	8	42	3.2	6
USA	138	7.8	5	66	5.0	5
Other countries	51	2.9		40	3.0	
World total 2009	1 770			1 315	100	

Sources: Data estimated (in silicon content) from information supplied by various bureaux
**DMR, Mineral Economics*

SILICON METAL

World silicon metal output is estimated at 1 770 kt in 2009, a decline of 13 percent from 2 034 kt in 2008. South Africa's production of silicon metal declined by 25.5 percent to 38.6 kt in 2009 compared with 51.8 kt in 2008 (Table 2). Export sales mass declined by 28.2 percent to 38.4 kt in 2009, driven by weaker demand from the world aluminium industry, while local sales mass increased by 64.1 percent to 6.4 kt due to the buoyant domestic market. Local sales revenue increased by 8 percent to R91.6 million despite a 36.2 percent decline in local unit values. Export sales revenue dropped by 47.2 percent to R640.4 million owing to a combination of lower export volumes and unit values.

TABLE 2: SOUTH AFRICA'S PRODUCTION AND SALES OF SILICON METAL, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
	Mass	Mass	Value		Mass	Value	
	kt	kt	R' 000	R/t	kt	R' 000	R/t
2000	40.6	1.4	9 493	6 691	41.0	274 498	6 702
2001	39.4	2.2	15 215	7 002	39.4	313 627	7 956
2002	42.5	4.3	38 586	8 486	29.7	320 007	10 766
2003	48.5	5.7	49 713	8 739	40.8	392 582	9 630
2004	50.5	8.8	65 414	7 403	45.9	389 430	8 473
2005	53.5	5.5	47 881	8 716	41.6	450 200	9 556
2006	53.3	7.8	72 270	9 213	47.4	503 583	10 622
2007	50.3	8.9	101 794	11 498	46.3	570 763	12 319
2008	51.8	3.9	87 443	22 438	53.5	1 213 107	22 669
2009	38.6	6.4	91 586	14 310	38.4	640 413	16 677

Source: DMR, Directorate Mineral Economics

FERROSILICON

World ferrosilicon output is estimated to have decreased to 4 050 kt in 2009 while exports declined to 1 861.8 kt (Table 3). The imposition of higher export tariffs on all silicon products by the Chinese authorities resulted in lower exports and had a major impact on the world market.

Lower crude steel production during the first half of 2009 resulted in weaker world demand for ferrosilicon. However, ferrosilicon demand was stronger during the second half of 2009 as steel producers increased production as the world economy slowly emerged from the recession.

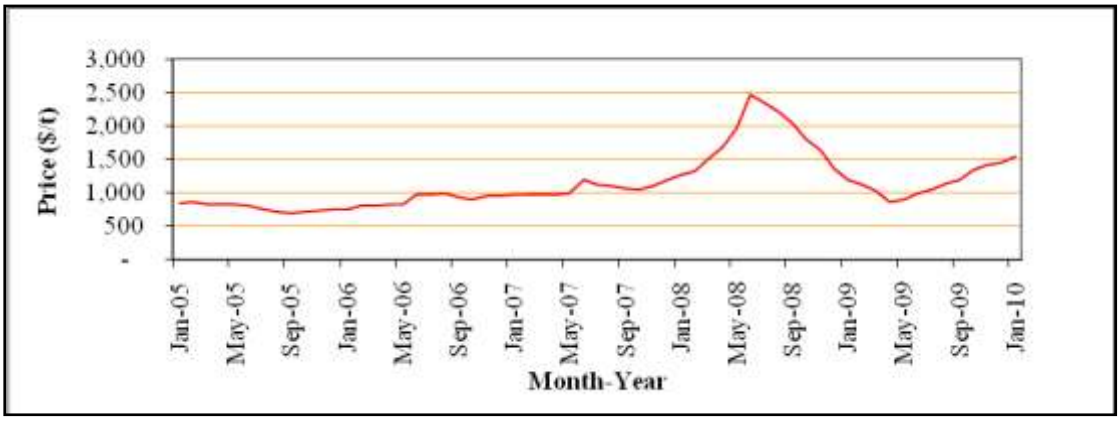
TABLE 3: WORLD PRODUCTION AND EXPORTS OF FERROSILICON, 2009

COUNTRY	PRODUCTION			EXPORT		
	kt	%	Rank	kt	%	Rank
Brazil	147	3.6	4	99	5.3	4
China	2 700	66.7	1	810	43.5	1
CIS	660	16.3	2	310	16.7	2
France	76	1.9	7	42	2.3	6
Iceland	55	1.4	8	36	1.9	8
Norway	152	3.8	3	179	9.6	3
South Africa *	110	2.7	6	38	2.1	7
USA	112	2.8	5	71	3.8	5
Other countries	37	0.9		275	14.8	
World total 2009	4 050.0	100.0		1 861.8	100	

Sources: Data estimated (in silicon content) from information supplied by various bureaux
**DMR, Mineral Economics*

Ferrosilicon prices peaked in June 2008 and subsequently spiralled down driven by the waning demand resulting from the increasingly poor market conditions which persisted well into the first half of 2009. Consequently, the average price, at $1 028/t, was 33.9 percent lower during the first half of 2009 compared with a similar period in 2008. However, higher demand resulting from higher steel production together with the imposition of higher export duties on ferrosilicon by Chinese authorities exerted an upward pressure on prices during the second half of the year when prices ranged between $1 100/t and $1 500/t.

FIGURE 2: FERROSILICON MONTHLY SPOT PRICES IN THE US, 2005 2009



Source: The Tex Report
USGS

South Africa's production of ferrosilicon amounted to 110.4 kt in 2009, a 17.9 percent decrease from 2008. Local sales mass declined by 14.5 percent to 60.9 kt in 2009 compared with 71.2 kt in 2008, while export sales volumes decreased to 43.6 kt. Revenue from local sales, at R659.9 million, was 21.6 percent lower while that from export sales declined by 9.9 percent to R460.9 million as a result of lower unit values (Table 4).

TABLE 4: SOUTH AFRICA'S PRODUCTION AND SALES OF FERROSILICON, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
	Mass	Mass	Value		Mass	Value	
	kt	kt	R' 000	R/t	kt	R' 000	R/t
2000	108.5	70.6	242 824	3 441	36.6	120 402	3 441
2001	107.6	65.9	245 946	3 733	31.4	110 771	3 733
2002	141.7	79.5	325 226	4 092	73.0	306 851	4 203
2003	135.3	79.0	364 716	4 618	65.7	280 285	4 267
2004	140.6	84.3	436 095	5 174	57.8	268 786	4 648
2005	127.0	73.4	388 446	5 293	41.3	223 216	5 401
2006	148.9	79.5	444 261	5 585	49.0	301 534	6 153
2007	139.6	91.7	616 444	6 724	54.7	395 352	7 222
2008	134.5	71.2	842 183	11 835	44.2	512 037	11 573
2009	110.4	60.9	659 855	10 835	43.6	460 901	10 571

Source: DMR, Directorate Mineral Economics

OUTLOOK

The bearish market conditions which dominated the world economy during the first half of 2009 appeared to be dissipating during the second half of the year as the world economy appeared to be slowly emerging from the 'Great Recession'. China's hegemonic consumption of vital input raw materials for crude steel and aluminium alloys, helped commodity markets to recover a lot sooner than previously anticipated. Consequently, demand for ferrosilicon and silicon metal, which was depressed during the first half emerged stronger during the second half of 2009. The stronger demand helped arrest the price decline by May 2009 as market tightness built up while continued higher demand and lower supplies exacerbated the situation further. The delicately poised supply demand situation soon swung into deficit, exerting an upward pressure on prices. The bullish market conditions are expected to continue throughout 2010 and stabilise in 2011. However, the markets are likely to be dragged down by the continuing EU sovereign debt crisis, which seems to be persisting despite the gargantuan rescue package put together by the EU Bank and the IMF, delaying world economic recovery. Consequently, the markets are not totally discounting the possibility of a double dip recession, which would have a full impact on commodity markets.

As the dominant consumer of ferrosilicon, the steel industry exerts great influence on the silicon industry. The World Steel Association forecasts that, world apparent steel use will increase by 10.7 percent in 2010. Demand for steel is expected to grow at pre-crisis levels in 2010 and increase at a higher rate in 2011 while demand for aluminium is forecast to grow at 9 percent during this time. Since demand for silicon products will strengthen in response to the strong demand for its end-use products, the current market tightness is likely to continue, pushing prices higher.

Thus, prospects for silicon and ferrosilicon appear to be positive and if the current market tightness continues, producers could utilise excess available capacity to increase production. South Africa is likely to benefit from such developments given the country's current capacity excess.

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VANADIUM

MC Mosiane

INTRODUCTION

Vanadium was discovered in 1831 and its major modern application is as an alloying element to impart unique properties of strength for use in stress resistant structural steels that are extensively utilised in the construction and power generation industries. These steels, known as high strength low-alloy (HSLA) steels contain very small quantities of alloying elements (vanadium, niobium, molybdenum and titanium) but represent the major application of vanadium.

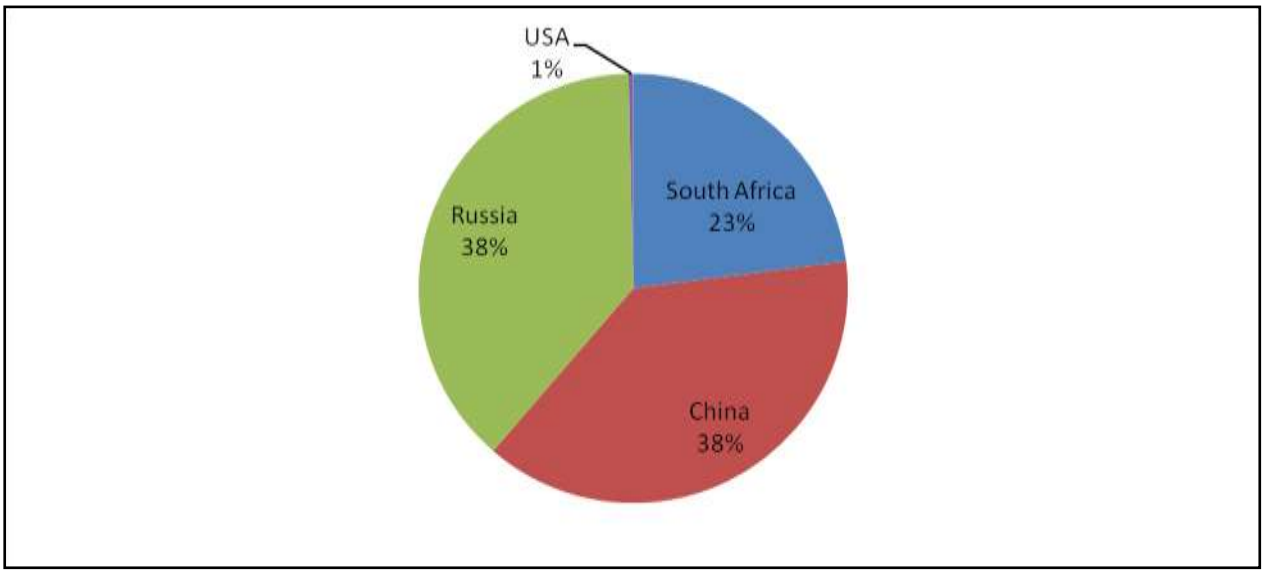
DEMAND

The key driver for vanadium production, steel, consumes more than 90 percent of global vanadium production and, therefore, there is a strong connection between vanadium supply and steel demand. The global steel output fell by 8 percent to around 1 200 million tons in 2009 and further reduced demand for vanadium. Lower steel production level in 2009 was the second consecutive annual decline, which has been brought about by the global economic crisis of 2008. Regional steel production continued to be led by Asia, which together with the Middle East showed a positive growth, but production in the European Union, the Americas as well as the Commonwealth of Independent States (CIS) declined. Asia's positive growth was once again driven by China, which maintained resilience to the recession. Although China drives steel demand, the country's vanadium input per ton of steel is amongst the lowest in the world; hence the steep growth in steel production in China has not had the same impact on vanadium demand.

SUPPLY

World vanadium reserves are estimated at 13 Mt, led by China and Russia at 38 percent each, followed by South Africa 23 percent (Fig 1). The three countries, together account for 99 percent of world's known vanadium reserves. The world produced a total of 47 kt of vanadium in 2009, down 17.5 percent from the previous year's 57 kt. This represents the second consecutive annual decline (3 percent in 2008) in the world vanadium output since the start of the global crisis.

FIGURE 2: WORLD VANADIUM RESERVES, 2009

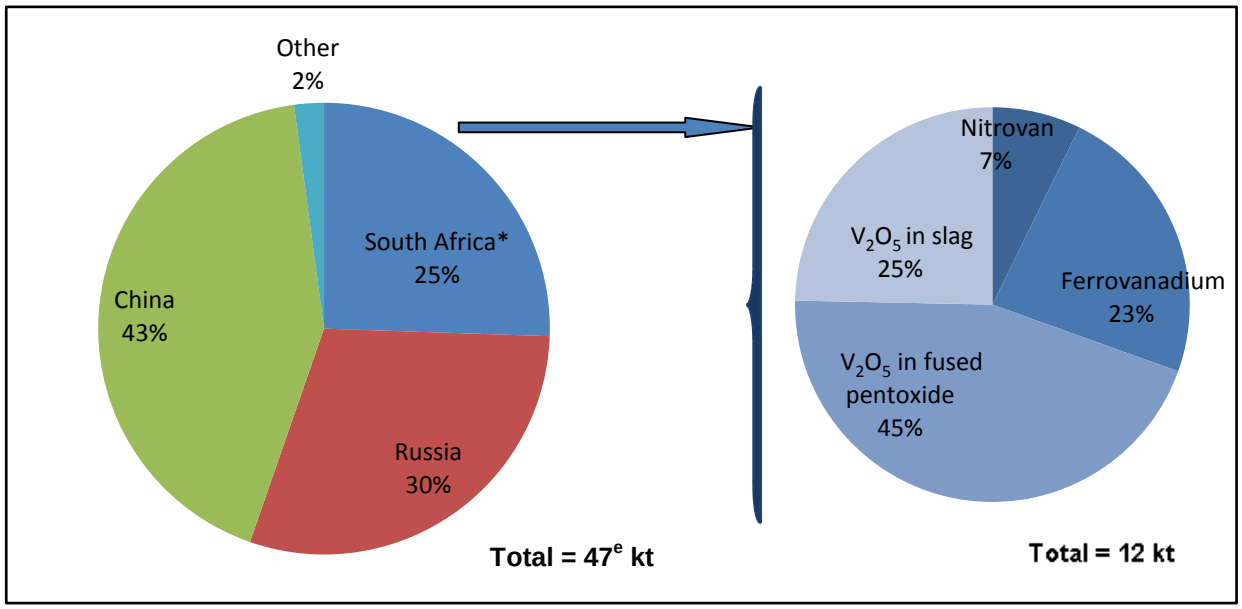


Source: USGS Mineral Yearbook, 2010
Note: The USGS discontinued the reserves base estimates in 2009, the figures displayed represent the reserves.

China and Russia, the largest and the second largest vanadium producers, appear to have emerged from the economic crisis which affected production of most commodities, the effect of which still prevailed in South Africa's vanadium industry in 2009. China's and Russia's production, at 20 kt and 14 kt respectively, remained the same as in 2008. At 12 kt, South Africa was the third largest producer of vanadium and the biggest contributor to lower global production, down from the first place with vanadium production of 20.3 kt reached in 2008 (Fig 2). South Africa's production comprised 45 percent fused vanadium pentoxide (V_2O_5),

25 percent slag, as well as 23 percent and 7 percent of ferrovanadium (FeV) and nitrovanadium, respectively.

FIGURE 3: WORLD VANADIUM PRODUCTION, 2009

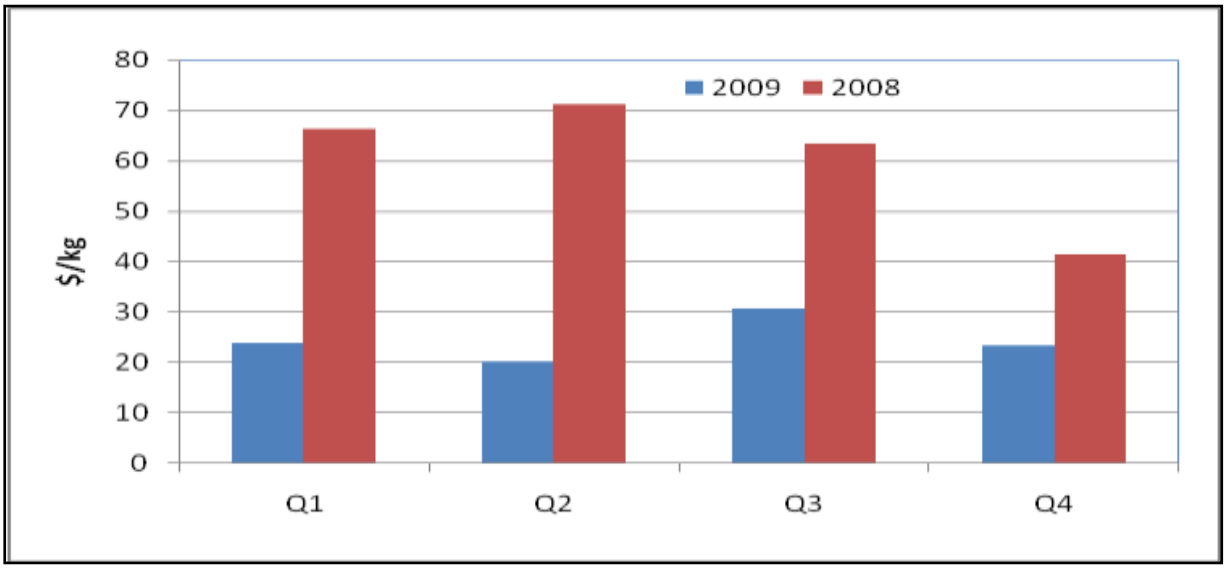


Source: *USGS Mineral Yearbook, 2010*
**DMR, Mineral Economics*
Note: e Estimates

PRICES

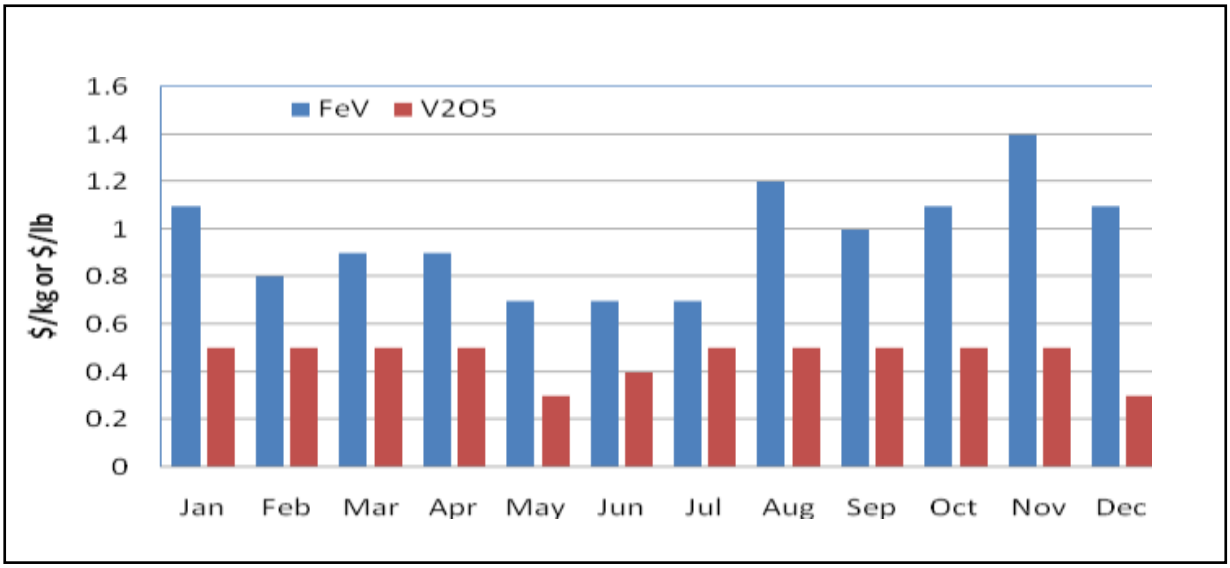
The average 2009 ferrovanadium price was $25/kg, 60 percent weaker than in 2008, resultant from lower demand from steel manufacturers worldwide. Vanadium pentoxide prices also fell by almost 60 percent to $6/lb in 2009. Ferrovanadium quarterly prices ranged between $20 and $30 per kg for the year 2009, around 60 percent lower than the $40 to $80 range seen in 2008 (Fig 3). The last quarter of 2008 had already recorded ferrovanadium prices lower than $40/kg and this downward trend continued into the first quarter of 2009, where prices fell below $25/kg. The second quarter of 2009 saw the lowest price levels of around $20/kg, while there was an apparent recovery to $30/kg in the third quarter followed by a decline to around $25/kg in the last quarter of the same year. Monthly price variation for ferrovanadium averaged $1/kg while vanadium pentoxide averaged 50 cents per pound, indicating more volatility in FeV than V_2O_5 (Fig 4).

FIGURE 4: WORLD FERROVANADIUM PRICES, 2008 - 2009



Source: *USGS Monthly Mineral Commodity Reports, 2009*

FIGURE 4: MONTHLY VANADIUM PRICES VARIATION, 2009



Source: USGS Monthly Mineral Commodity Reports, 2009

SOUTH AFRICA

The South African vanadium industry was still reacting to the ripple effect of the global financial crisis which prompted minimum utilisation of capacity in the first half of 2009, with a slight recovery in the beginning of the second half. South Africa's vanadium production shrunk by 43 percent to 11.5 kt in 2009, due to weaker demand for steel (Table 1). In 2009, the overall sales mass amounted to 13.7 kt, down 4.5 percent from 2008, while the corresponding revenues dropped by 59 percent to R1.63 billion, on the back of a combination of a decline in mass and lower vanadium prices. Export sales volumes declined by 1.6 percent to 11.9 kt while local sales volumes, at 1.8 kt, were 21.7 percent lower. Revenues from local sales declined by 70 percent to R267 million, while export sales revenue, which amounted to R1.36 billion were 56 percent lower, owing to both lower volumes and prices.

TABLE 3: SOUTH AFRICA'S VANADIUM PRODUCTION AND SALES, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value (FOB)		Mass	Value (FOB)	
	kt	kt	R'000	R/kg	kt	R'000	R/kg
2000	18.0	0.3	24 848	83	15.9	755 006	48
2001	18.2	0.3	20 121	75	17.3	886 248	51
2002	25.2	0.4	36 015	91	20.0	1 145 036	57
2003	27.2	1.1	108 666	97	18.8	1 072 477	57
2004	23.3	2.6	415 915	158	16.3	1 674 785	103
2005	22.6	2.8	1 153 896	406	15.3	3 758 189	246
2006	23.8	2.0	451 664	222	15.6	2 652 870	170
2007	23.5	2.3	446 429	191	14.3	2 318 974	163
2008	20.3	2.3	892 766	391	12.1	3 089 547	256
2009	11.5	1.8	266 968	149	11.9	1 360 352	116

Source: DMR, Mineral Economics

Notes: Mass data is given in units of vanadium contained. Consumption of vanadium slag and fused pentoxide or trioxide in the production of other downstream saleable products is eliminated from both production and sales to avoid double and triple counting. These figures, therefore apply to production and sales of the final product which is sold after processing yield losses. The production and export data include all exported slag and fused pentoxide, which may have a yield loss of 2 kt of vanadium during processing. In world supply terms, these outputs might regularly be counted more than once as production, overstating the markets.

DEVELOPMENTS

In South Africa, Highveld Steel and Vanadium Corp. concluded a Black Economic Empowerment (BEE) transaction with Umnotho weSizwe Investment Holdings Ltd. (South Africa),in which Russia's Evraz Group S.A. holds a controlling stake,. According to the deal, the BEE company would have a 26 percent interest in the Mapochs Mine, in Mpumalanga.

Australian based Windimurra Vanadium required an additional $81 million for construction labour in 2008 and since the financial situation could not improve, the company was placed under insolvency, which led to its vanadium mine being placed on care and maintenance. Australian junior mining company NiPlats Australia completed an initial study of a potential open cast development at the Speewah vanadium project in Western Australia. The study estimated mineral resources of 85 Mt at 0.32 percent V_2O_5, but further investigations on the cost competitiveness of the proposed operation must be conducted.

In Canada, Uranium Star Corp. signed an agreement with Madagascar Minerals (MMR) to purchase the remaining 25 percent of the Green Giant vanadium project in Madagascar from MMR at the value of $100,000. Apella Resources Inc. announced that it has commenced the next phase of exploration on its 100 percent owned Iron-T Iron-Vanadium-Titanium project. Largo Resources Ltd. is hopeful that it may have access to one of the world's largest known vanadium deposits outside of China, after signing a 20-year lease agreement with Brazil's Companhia Baiana de Pesquisa Mineral. The leased property contains iron ore and titanium.

EMPLOYMENT

Employment in the vanadium industry increased by 4 percent to 1 312 in 2009 (Table 2), while the corresponding remuneration grew by 22 percent to R376 million. At 8.8 tons per employee, productivity was 46 percent less than in 2008, while each employee generated R1.2 million in revenue.

TABLE 2: EMPLOYMENT IN SOUTH AFRICA'S VANADIUM INDUSTRY, 2005 – 2009

YEAR	EMPLOYEES	TOTAL REMUNERATION R' 000
2005	1 088	184 879
2006	1 088	207 072
2007	1 151	244 614
2008	1 253	291 857
2009	1 312	376 540

Source: DMR, Mineral Economics

OUTLOOK

The vanadium outlook for 2011 is less gloomy than the previous year, on the back of the projected recovery in steel demand as the traces of the global financial crisis dissipate. The global economy is already on the upturn and steel demand is expected to grow by 10.7 percent by the end of 2010 and a further 5.3 percent in 2011 to reach a record of 1 306 Mt. Vanadium demand is expected to grow at a faster rate as there is an increasing need for high strength steel, hence the Commodity Research Unit (CRU) has forecast that the intensity of vanadium use per tonne will increase by 11 percent from the 2008 level of 0.046 kg/t. This increase will be driven by a range of factors including increased use of higher strength micro alloy steels in the Chinese construction industry, which could mitigate the disastrous impact of the prevalent earthquakes.

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INDUSTRIAL MINERALS OVERVIEW

PR Motsie

INTRODUCTION

Industrial minerals are generally high volume, low value commodities that will usually bear minimum costs of underground exploitation since most occur near surface. As a result, most industrial minerals require less complicated mining techniques and, therefore, present opportunities for small-scale mining development. Because of industrial minerals' low value, some companies mining these minerals have a high degree of vertical integration, in that they mine raw materials and beneficiate them to the stage of final product.

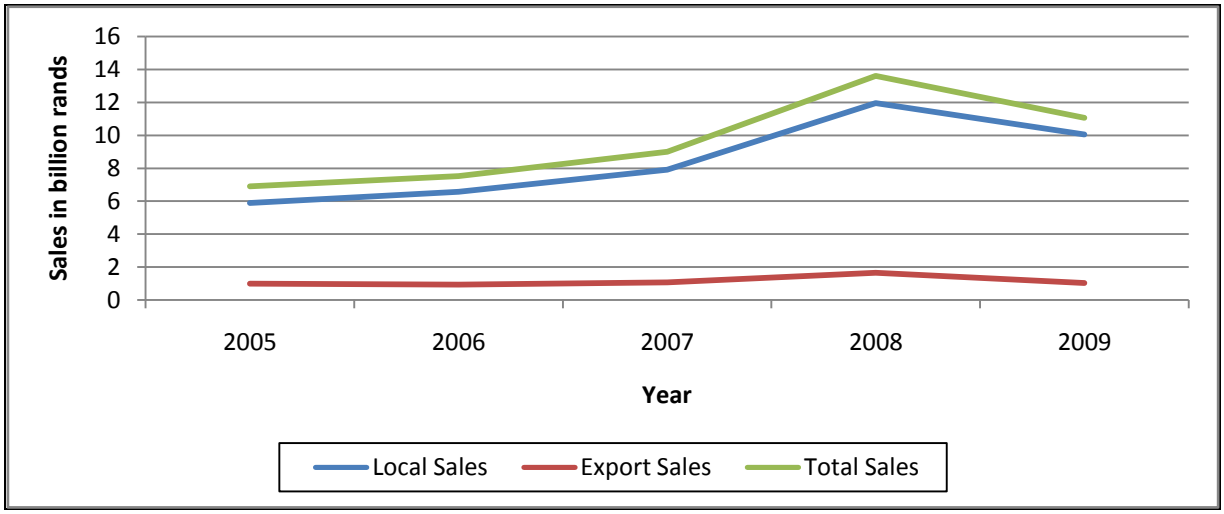
The main end-user markets for industrial minerals are the agricultural, construction, chemical, metallurgical and pigment sectors, which account for most local purchases of industrial minerals. Markets for industrial minerals are often diverse, highly technical and require unique marketing and sales expertise.

There are approximately 680 producers of industrial minerals in South Africa, of which roughly half are in the sand and aggregate sector. There are some 153 producers of clays (brickmaking and special), 40 limestone and dolomite, 79 dimension stone, 28 salt and 20 silica producers.

SALES TRENDS

Industrial minerals contributed 4.6 percent of the total revenue from South African mineral sales during 2009, of which R10 billion was from local sales and R1 billion from exports (Table 1). From 2005 to 2009, sales of primary industrial minerals have grown at an annualised compounded rate of 15 percent (Fig 1). However, total revenue decreased from R13,6 billion in 2008 to R11,1 billion in 2009, owing to the depressed economic conditions which resulted in weak demand for commodities in most sectors.

FIGURE 1: INDUSTRIAL MINERAL SALES, 2005 – 2009

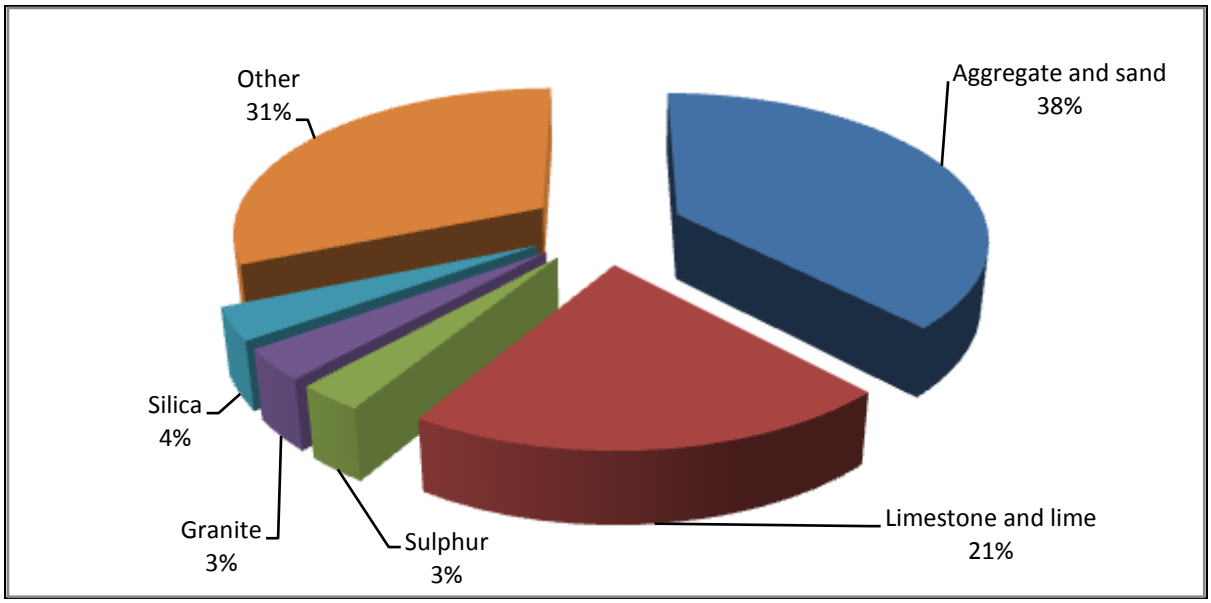


Source: DMR, Directorate Mineral Economics

DOMESTIC SALES

The bulk consumption of industrial minerals is realised in the domestic market, as most are low priced commodities and sold in bulk, making their economic exploitation highly dependent on transport costs and distance to markets. In 2009, aggregate & sand and limestone & dolomite accounted for more than 50 percent of industrial minerals local sales value driven by demand from activities in the construction sector (Fig 2). The local sales value of industrial minerals decreased from R11.9 billion in 2008 to R10 billion.

FIGURE 2: LOCAL SALES VALUE OF INDUSTRIAL MINERALS, 2009

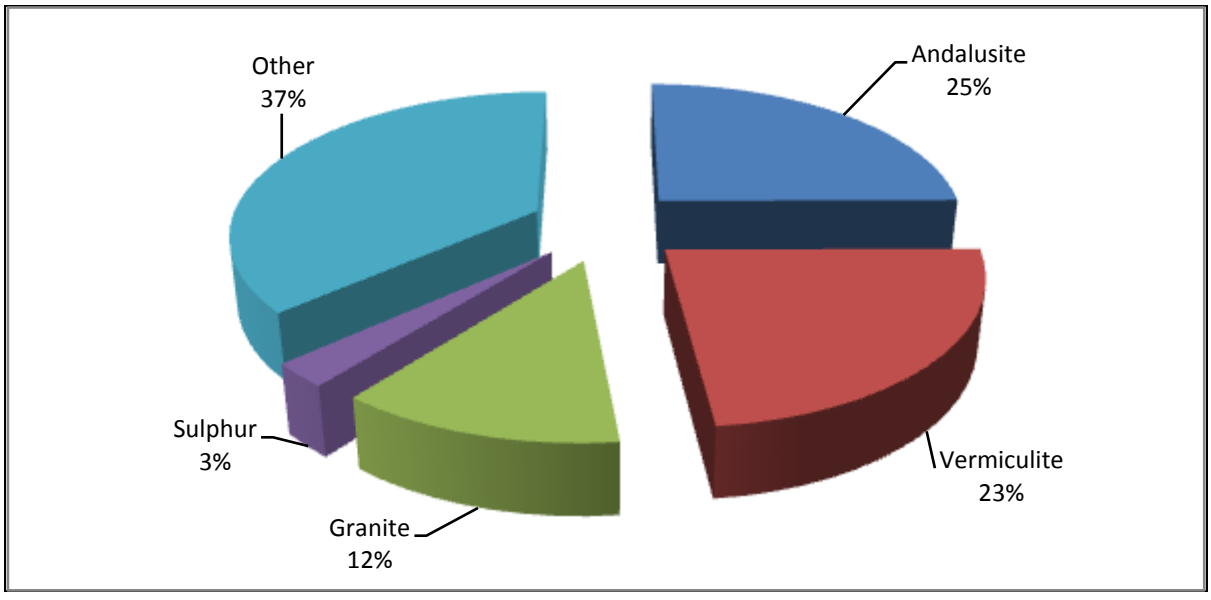


Source: DMR, Directorate Mineral Economics

EXPORT SALES

In 2009, export sales value of industrial minerals dropped by 41 percent to R1 billion from R1.6 billion in 2008. The biggest contributors to export sales of industrial minerals were andalusite (25 percent), vermiculite (23 percent), granite (12 percent) and fluorspar (data confidential) (Fig 3). Approximately 60 percent of South Africa's primary industrial mineral exports, by value, were destined for Europe, with 25 percent sold to Pacific Rim countries.

FIGURE 3: EXPORT SALES OF INDUSTRIAL MINERALS, 2009



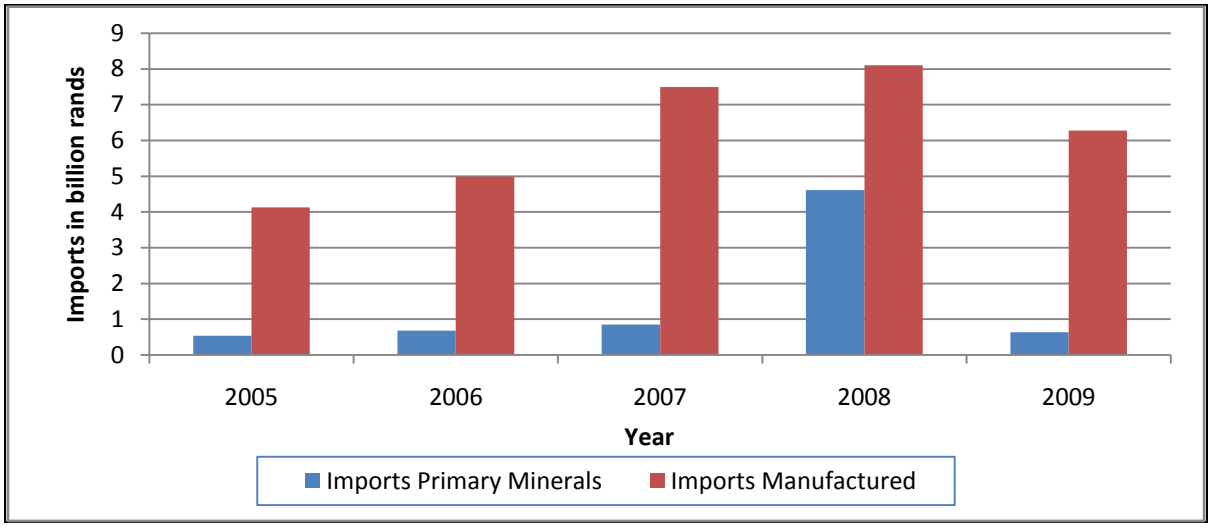
Source: DMR, Directorate Mineral Economics

IMPORTS

Imports of primary industrial minerals dropped to R633 million in 2009, compared to R4,6 billion in 2008 (Table 3 and Fig 4). Expenditure on imports of primary industrial minerals normalised in 2009, after experiencing a 542 percent increase in 2008, due to a surge in sulphur prices as a result of increased demand for crops in the biofuels industry. The rise in demand indicated a need for more capacity to supply the local market. However, sulphur prices began to stabilise again in 2009, averaging $60/t – $80/t as domestic demand weakened. Imports of a selection of manufactured industrial commodities (Table 4) –

refractories, ceramic products and glass & glassware have increased at an average annual growth rate of 13.2 percent per annum (Fig 4), over the period 2005 to 2009, but fell by 22.6 percent to R6,3 billion in 2009.

FIGURE 4: IMPORTS OF PRIMARY AND MANUFACTURED INDUSTRIAL MINERALS, 2005 – 2009

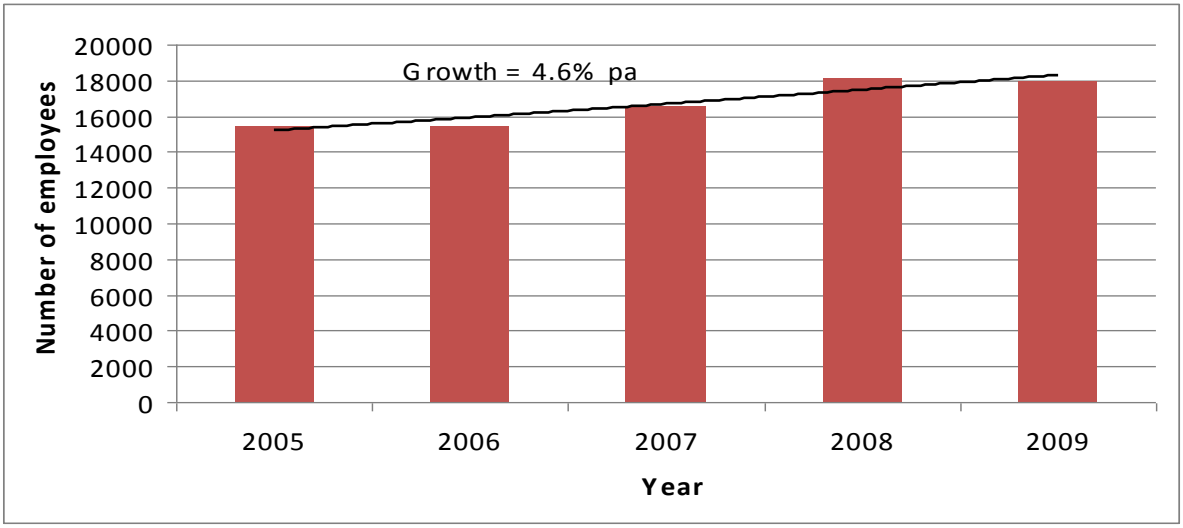


Source: DMR, Directorate Mineral Economics

EMPLOYMENT

Employment in the industrial minerals sector grew at an annualised compound rate of 4.6 percent from 2005 to 2009 (Fig 5). The industrial minerals sector accounted for 3.7 percent of employees in the South African mining industry. Average earnings per employee increased by 11.9 percent to R94 651/t in 2009 compared to 2008.

FIGURE 5: EMPLOYMENT IN THE INDUSTRIAL MINERALS SECTOR, 2005 – 2009



Source: DMR, Directorate Mineral Economics

OUTLOOK

The demand for industrial minerals in South Africa is underpinned by the construction industry. The local construction market is expected to continue on its growth trajectory on the back of Government's New Growth Path, which prioritises infrastructural development. The growth will, however, be moderate in the short term following infrastructural developments in the past years provided by stimulus from preparations for the 2010 FIFA World Cup.

Despite the moderate growth pace in the short term, the government's commitment to infrastructural development will accelerate growth in the construction sector in the long term. Aggregate & sand and limestone & dolomite minerals are essential raw materials in the construction sector and account for the bulk of industrial mineral sales.

The use of chemical fertilizers has grown rapidly in recent years, owing to the rapid developments of the agriculture and chemical industry. In the medium term, fertilizer demand is expected to increase at an annual rate of 3.5 percent between 2009 and 2014, owing to the positive agricultural outlook. Global consumption of elemental sulphur is expected to grow annually by 6 percent to 62.1 Mt by 2014 driven by increasing consumption of sulphuric acid in the manufacture of phosphoric acid-based fertilisers and demand from alternative energy producers.

The global economic downturn that started in the fourth quarter of 2008 had a negative impact on demand for most industrial minerals. With South Africa's economy recovering from the economic crisis, most industrial minerals commodities are expected to rebound, on the back of expansions in various sectors. Furthermore, the prioritisation of the beneficiation strategy to be adopted as Government policy will present opportunities for enterprise development in the form of new entrants in the manufacture of products.

TABLE 1: SOUTH AFRICA'S PRIMARY INDUSTRIAL MINERAL PRODUCTION AND SALES 2008

COMMODITY	PRODUCTION	LOCAL SALES (FOR)		EXPORT SALES (FOB)		TOTAL SALES	
	Mass (t)	Mass (t)	Value (R)	Mass (t)	Value (R)	Mass (t)	Value (R)
General							
Andalusite	216 667	76 791	118 870 795	147 965	289 175 948	224 756	408 046 743
Asbestos	*	*	*	*	*	*	*
Barytes	*	432	181 440	*	*	432	181 440
Calcite	*	281	571 287	*	*	281	571 287
Feldspar	105 815	70 209	49 265 830	*	*	70 209	49 265 830
Fluorspar	**	**	**	**	**	**	**
Gypsum	571 343	392 751	33 679 955	*	*	392 751	33 679 955
Kieselguhr	*	*	*	*	*	*	*
Limestone & lime	23 841 038	19 701 455	1 895 070 300	11 217	10 795 158	19 712 672	1 905 865 458
Magnesite	**	**	**	**	**	**	**
Mica	393	*	*	316	2 300 400	316	2 300 400
Perlite	**	**	**	**	**	**	**
Pigments minerals	39	288	94 140	*	*	288	94 140
Phosphate rock	2 286 794	2 687 287	**	*	*	2 687 287	**
Pyrophyllite	**	**	43 542 591	**	8 468 844	**	52 011 435
Salt	415 996	439 736	125 884 310	*	*	439 736	125 884 310
Silica	3 544 414	3 089 760	356 657 532	956	1 484 485	3 090 715	358 142 017
Sulphur	571 007	315 298	548 704 481	110 480	353 417 899	425 778	902 122 380
Talc	5 145	6 332	5 304 417	*	*	6 332	5 304 417
Vermiculite	199 764	10 725	11 002 950	204 539	273 239 528	215 264	284 242 478
Dimension and building stone							
Granite		457 794	489 131 501	80 296	195 888 231	538 090	685 019 732
Sandstone		8 081	5 171 921	*	*	8 081	5 171 921
Slate		9 281	11 661 643	*	*	9 281	11 661 643
Clays							
Attapulgite	69 876	69 876	20 783 388	*	*	69 876	20 783 388
Bentonite	44 067	96 051	64 669 978	3 435	4 398 960	99 486	69 068 938
Plastic clays		9 823 938	144 282 837	*	*	9 823 938	144 282 837
Flint clay	47 290	53 022	39 738 545	1 132	1 388 249	54 154	41 126 794
Kaolin	39 506	33 822	9 166 416	*	*	33 822	9 166 416
Aggregate & sand		61 369 143	3 753 429 878	*	*	61 369 143	3 753 429 878
Miscellaneous			4 219 844 292		*		7 936 584 048
TOTALS			11 946 710 427		1 652 133 401		13 598 843 828

Source: *DMR, Directorate Mineral Economics*
Notes: *All quantities are in metric tons, unless otherwise specified*
* *Nil*
** *Classified, included under Miscellaneous*

TABLE 2: SOUTH AFRICA'S PRIMARY INDUSTRIAL MINERAL PRODUCTION AND SALES 2009

	Production	Local Sales (FOR)		Export Sales (FOB)		Total Sales	
Commodity	Mass (t)	Mass (t)	Value (R)	Mass (t)	Value (R)	Mass (t)	Value (R)
General							
Andalusite	165 217	52 799	97 918 113	109 006	253 553 786	161 805	351 471 899
Asbestos	*	*	*	*	*	*	*
Barytes	*	284	119 280	*	*	284	119 280
Calcite	*	185	284 318	*	*	185	284 318
Feldspar	101 394	72 891	55 247 701	*	*	72 891	55 247 701
Fluorspar	**	**	**	**	**	153 797	**
Gypsum	597 571	396 653	36 598 206	*	*	396 653	36 598 206
Kieselguhr	*	*	*	*	*	*	*
Limestone & lime	22 698 007	20 008 015	2 105 297 423	11 248	11 263 453	20 019 263	2 116 560 876
Magnesite	**	**	**	**	**	**	**
Mica	299	245	1 206 438	106	808 883	351	2 015 321
Perlite	**	**	**	**	**	**	**
Pigment minerals	183	119	40 400	*	*	119	40 400
Phosphate	2 237 128	2 268 258	**	*	*	2 268 258	**
Pyrophyllite	**	**	38 449 513	178 215	9 795 565	224 315	48 245 078
Salt	408 422	437 674	140 308 997	*	*	437 674	140 308 997
Silica	2 306 151	2 430 539	330 403 983	1 222	1 651 801	2 431 761	332 055 784
Sulphur	536 103	347 673	293 105 068	62 335	27 193 284	410 008	320 298 352
Talc	4 718	6 213	5 892 673	*	*	6 213	5 892 673
Vermiculite	193 334	9 535	10 235 809	164 576	238 295 090	174 111	248 530 899
Clays							
Attapulgite	52 103	51 888	15 653 133	*	*	51 888	15 653 133
Bentonite	40 340	59 839	37 584 694	1 816	2 529 011	61 655	40 113 705
Fire clay	120 162	129 539	14 046 546	*	*	129 539	14 046 546
Flint clay	37 227	36 269	29 679 955	547	943 861	36 816	30 623 816
Kaolin	31 048	30 068	9 343 014	*	*	30 068	9 343 014
Dimension and building stone							
Granite		335 871	341 282 581	61 723	126 507 463	397 594	467 790 044
Sandstone		3 249	2 867 997	*	*	3 249	2 867 997
Slate		30 473	17 369 475	*	*	30 473	17 369 475
Aggregate and sand		52 157 111	3 799 708 020	*	*	52 157 111	3 799 708 020
Miscellaneous			2 654 584 320		345 903 540		3 000 487 860
TOTALS			10 037 227 657		1 018 445 737		11 055 673 394

Source: *DMR, Directorate Mineral Economics*

Notes:
- *All quantities are in metric tons, unless otherwise specified*
- * *Nil*
- ** *Classified, included under Miscellaneous*

TABLE 3: SOUTH AFRICA'S IMPORTS OF SELECTED PRIMARY INDUSTRIAL MINERAL COMMODITIES, 2007-2009

COMMODITY	2007		2008		2009	
	Mass (t)	Value (R)	Mass (t)	Value (R)	Mass (t)	Value (R)
Salt (25.01)	5 870	8 577 405	5 691	14 941 779	2 811	20 947 823
Iron pyrites (25.02)	352	610 840	293	756 718	245	588 783
Sulphur (25.03)	599 193	365 920 654	791 249	3 436 560 005	525 469	354 611 195
Graphite natural (25.04)						
In powder or flakes (25.04.10)	935	7 866 028	842	16 827 326	772	7 560 778
Other (25.04.90)	73	340 788	161	3 273 697	150	1 096 698
Sand (25.05)						
Silica and quartz sands (25.05.10)	1 645	4 981 786	1 493	9 263 896	725	4 192 437
Other (25.05.90)	1 612	4 707 513	14 656	5 896 918	5 302	7 218 295
Quartz (25.06)	607	2 930 595	223	1 999 374	57	599 741
Kaolin (25.07)	15 836	27 927 329	10 229	25 775 184	11 049	31 468 649
Bentonite (25.08.10)	1 824	33 877 647	19 648	38 440 351	17 447	44 928 483
Fuller's earth (25.08.20)						
Fire clay (25.08.30)	7	27 347	49	5 477 913	28	906 021
Other clays (25.08.40)	3 289	10 797 209	2 564	10 205 114	2 121	9 941 765
Alumino-silicates (25.08.50)	331	539 141	181	407 172	147	406 390
Chalk (25.09)	4 707	6 466 898	3 536	6 128 190	1 825	3 674 704
Phosphate rock (25.10)	117 933	44 452 484	255 438	641 130 028	49 277	85 422 787
Barytes (25.11.10)	3 114	14 921 112	3 568	14 106 065	2 822	13 804 735
Kieselguhr (25.12)	4 828	18 929 506	5 539	23 205 406	3 930	16 075 153
Natural abrasives (25.13)	1 282	6 095 019	1 182	5 197 571	1 208	7 419 355
Slate (25.14)	14 313	26 572 240	3 811	9 894 350	2 056	5 860 897
Marble (25.15)	997	5 790 043	714	6 530 553	647	4 382 782
Granite (25.16)	16 117	27 585	9 902	19 147 300	7 970	9 953 527
Dolomite (25.18)	1 395	2 913 199	3 952	8 332 203	1 127	1 747 777
Magnesite & magnesia (25.19)	72 900	142 904 958	51 567	175 580 174	0	0
Limestone (25.21)	116	269 196	61	430 759	74	385 195
Slaked, quick, hydraulic lime (25.22)	71 263	75 611 563	59 121	94 201 639	48 850	75 125 955
Asbestos (25.24)	993	3 570 682	759	3 401 577	0	0
Mica (25.25)	865	1 667 375	296	1 103 059	358	933 778
Steatite (25.26)	11 721	26 040 409	8 142	25 133 774	0	0
Cryolite (25.27)	295	1 934	0	0	0	0
Sodium borates (25.28.10)	5 002	24 894	13	206 627	116	870 479
Feldspathoids (25.29.30)	299	1 021 363	453	1 846 150	378	1 910 592
Perlite (25.30.10)	12 175	4 146 560	10 153	4 741 565	10 235	5 400 068
TOTAL		**850503717**		**4 610 153 538**		**633 253 286**

Source: *RSA, Commissioner for South African Revenue Service, 2007 - 2009*

TABLE 4: SOUTH AFRICA'S IMPORTS OF MANUFACTURED INDUSTRIAL MINERALS COMMODITIES, 2006-2008

Commodity	2007 Value (FOB) R	2008 Value (FOB) R	2009 Value (FOB) R
Articles of stone, plaster, cement, asbestos, mica or similar materials	**1 106 259 907**	**1 237 493 691**	**1 009 658 338**
Building stone (68.02)	346 559 124	406 249 923	302 991 368
Worked slate & articles of slate (68.03)	17 889 635	25 763 268	26 003 210
Millstones and grindstones (68.04)	102 456 662	117 590 731	99 337 903
Natural abrasive powders (68.05)	184 429 496	227 605 331	179 180 989
Slag wool, rock wool & similar mineral wools (68.06)	308 710 038	312 354 225	257 273 614
Articles of asbestos-cement (68.11)	33 709 676	23 023 298	31 406 156
Fabricated asbestos fibres (68.12)	5 685 041	5 680 245	4 330 868
Friction material (68.13)	97 046 245	106 282 567	91 113 244
Worked mica & articles thereof (68.14)	19 773 990	12 844 103	18 020 986
Refractories	**1 291 966 873**	**1 186 239 495**	**940 536 488**
Of siliceous fossil meals (69.01)	3 051 393	7 982 398	3 166 451
Other bricks (69.02)	714 644 952	1 003 283 630	815 881 695
Other refractory ceramic goods (69.03)	574 270 528	174 973 467	121 488 342
Ceramic products	**3 169 873 713**	**3 664 918 992**	**2 615 128 759**
Ceramic building bricks (69.04)	992 243	376 589	738 325
Roofing tiles (69.05)	6 632 642	12 553 191	5 991 174
Ceramic pipes (69.06)	821 056	501 348	702 276
Unglazed ceramic (69.07)	110 796 257	113 420 925	129 924 074
Glazed ceramic (69.08)	751 198 325	604 732 212	549 498 926
Ceramic wares for laboratory (69.09)	1 807 395 446	2 396 523 802	1 477 519 764
Ceramic sinks (69.10)	145 404 517	121 760 351	103 085 549
Tableware (69.11)	143 416 320	185 312 607	167 771 123
Ceramic tableware (69.12)	138 561 685	156 458 972	135 406 928
Ceramic articles (69.13)	43 487 947	38 720 279	27 819 291
Other ceramic articles (69.14)	21 167 275	34 558 716	16 671 329
Glass and glassware (70.00)	**1 924 047 381**	**2 019 230 516**	**1 708 053 194**
TOTAL	**7 492 147 874**	**8 107 882 694**	**6 273 376 779**

Source: *RSA, Commissioner for South African Revenue Service, 2007 - 2009*
Note: *Codes in brackets refer to subchapters of the Harmonised System*

AGGREGATE AND SAND

PR Motsie

MARKET DEVELOPMENTS

In South Africa, the sand and aggregate sector comprises some 502 registered operating quarries with growth driven by the demand from the construction industry. Investment in the construction industry in 2009 continued on its growth trend, but at markedly softer annual rates offset by government's infrastructure development programs mainly in civil works. Since 2007, sand and aggregate sales by volume have declined by 10 percent year on year (Table 1). The decline in growth was attributed to the effects of the global recession resulting in weaker consumer and business confidence and lower house price growth. Local sales value increased by 0.65 percent to R3,8 billion in 2009, as most companies adopted a more aggressive pricing strategy in a bid to recover their operational costs and unit value increased by 13.2 percent to R72.9/t

TABLE 1: SOUTH AFRICAN SALES OF SAND AND AGGREGATE BY MASS, 2000 – 2009

YEAR	COARSE[+]			FINE[x]			TOTAL		
	Mass	Value (FOR)		Mass	Value (FOR)		Mass	Value (FOR)	
	kt	R'000	R/t	kt	R'000	R/t	kt	R'000	R/t
2000	22 434	743 015	33.1	6 236	60 258	9.7	28 597	804 817	28.1
2001	21 360	776 511	36.4	6 184	63 736	10.3	27 632	832 238	30.1
2002	22 106	880 469	39.1	6 810	78 249	11.5	28 916	958 718	33.2
2003	26 852	1 281 263	47.7	5 735	74 808	13.0	32 587	1 356 071	41.6
2004	39 035	1 948 642	49.9	8 347	136 721	16.4	47 381	2 085 364	44.0
2005	37 923	2 000 985	52.8	12 046	221 034	18.3	49 970	2 222 019	44.5
2006	47 144	2 549 709	54.1	11 419	239 846	21.0	58 563	2 789 555	48.0
2007	50 678	3 077 423	60.7	13 143	298 941	22.7	63 821	3 376 364	52.9
2008	45 218	3 358 639	74.3	13 391	416 364	31.0	58 609	3 775 003	64.4
2009	39 557	3 371 852	85.2	12 600	427 856	34.0	52 157	3 799 708	72.9

Source: *DMR, Directorate Mineral Economics*
Notes: [+] *Includes crusher sand*
[x] *Natural sand*

CONSTRUCTION

The South African construction industry comprises residential building, non residential building and civil construction and accounts for about 12 percent of the gross domestic product (GDP). The industry employed just over 1 million people in 2009. As one of the lead indicators, a healthy construction industry indicates a growing economy.

In 2009, the construction industry continued to outperform growth in GDP, with its contribution increasing to 10.7 percent in the third quarter, but dropping marginally to 10.6 percent in the fourth quarter. The industry has experienced a remarkable recovery compared to low levels of 4.7 percent in 2002 and 8 percent during 2008. About R275 billion (current prices unadjusted for inflation) was spent in construction in 2009, compared to R225 billion in 2008. According to Industry Insight, the building industry played a lesser role in 2009 compared to civil works, which rose to 64.9 percent of total construction spending.

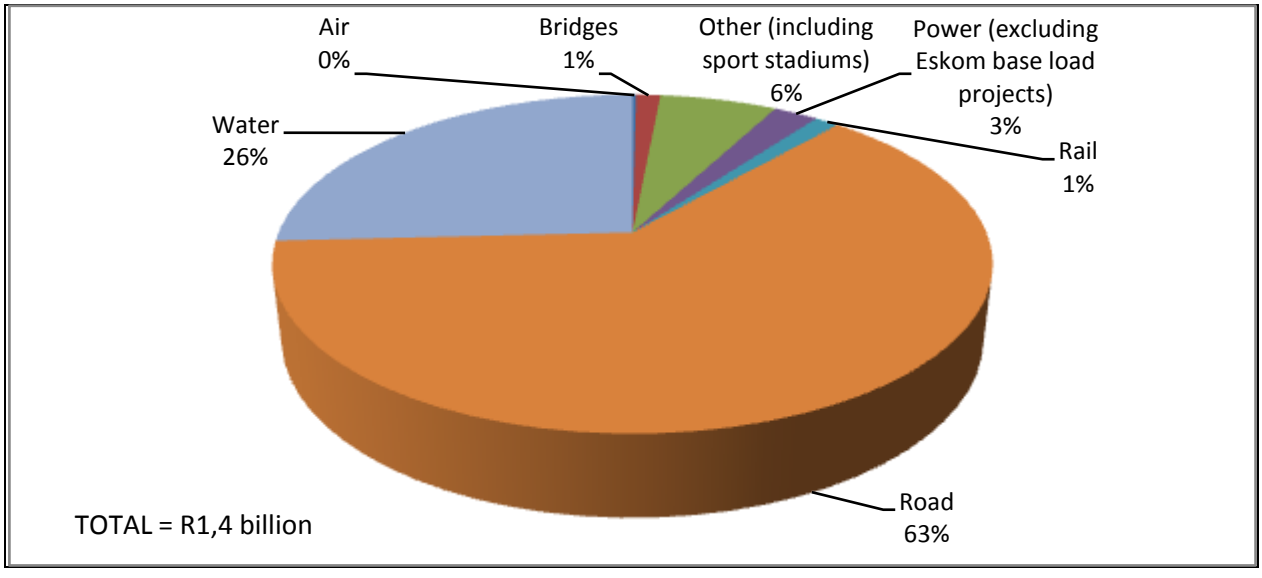
Investment in civil works contributed 32.4 percent to total Gross Fixed Capital Formation (GFCF) in 2009, while investment in buildings contributed 17.4 percent. Spending on construction was the main driver in GFCF, supported by strong government spending.

PROJECTS IN THE NON RESIDENTIAL AND CIVIL CONSTRUCTION SECTORS IN 2009

Public corporations funded 56 percent of the value of civil construction works in 2009 compared with 45 percent in 2008, followed by general government, which funded 37 percent of the projects. Spending by public corporations was driven by capital infrastructure projects such as airport upgrades and expansions (ACSA), expanding rail network (Transnet), energy projects (Eskom) and roads maintenance and upgrades (SANRAL). Investment in housing contracted by 9.3 percent in 2009 compared to 7.6 percent contraction experienced in 2008. Non-residential investment growth moderated to1.9 percent in 2009 compared to 7.8 percent in 2008.

The number of civil contracts awarded by government fell by 16 percent year on year in the second half of 2009, when conditions started to deteriorate as lower value projects were awarded compared to 2008 (Fig 1).

FIGURE 1 – SECTORAL VALUE OF CIVIL PROJECTS AWARDED BY GOVERNMENT, 2009



Source: Industry Insight, 2010

Road projects lost market share slightly by 0.9 percentage points compared with 2008, but still remained the biggest contributor with 63 percent to total value of civil projects awarded in 2009, followed by water projects gaining market share to 26 percent.

EMPLOYMENT

The sand and aggregate sector employed 6 773 staff in 2009, an increase of 5.2 percent compared with 2008 (Table 2). Labour productivity decreased by 18.9 percent to 7.7 kt/employee. Higher employment levels were supported by activity in the non-residential and civil construction sectors.

TABLE 2 – SOUTH AFRICA'S AGGREGATE AND SAND QUARRIES EMPLOYMENT AND REMUNERATION, 2004 – 2009

YEAR	EMPLOYEES	TOTAL REMUNERATION
		R'000
2 004	4 080	242 043
2 005	5 210	312 073
2 006	5 133	371 897
2 007	5 970	463 528
2 008	6 438	538 700
2 009	6 773	604 730

Source: DMR, Directorate Mineral Economics

OUTLOOK

The New Growth Path,which emphasises job creation, through projects such as the expanded public works programme and infrastructure development projects, will ensure that sufficient stimulus is provided for faster growth to the economy. Growth in the local construction market is expected to be moderate in the next three years, following robust construction activities experienced in the past years supported by the 2010 FIFA World Cup preparations.

Civil infrastructure investment is expected to accelerate in the next five to ten years driven mainly by spending from state owned enterprises. The long term prospect for the local construction industry is positive as key infrastructure development projects, including electricity, water, roads, airports and harbours will remain the major driving force for economic growth in the long term. Since sand and aggregate are essential input raw materials needed for infrastructural development and maintenance in the civil industry, the sector will initially also experience softer growth rates in the short term, but with good prospects in the long term.

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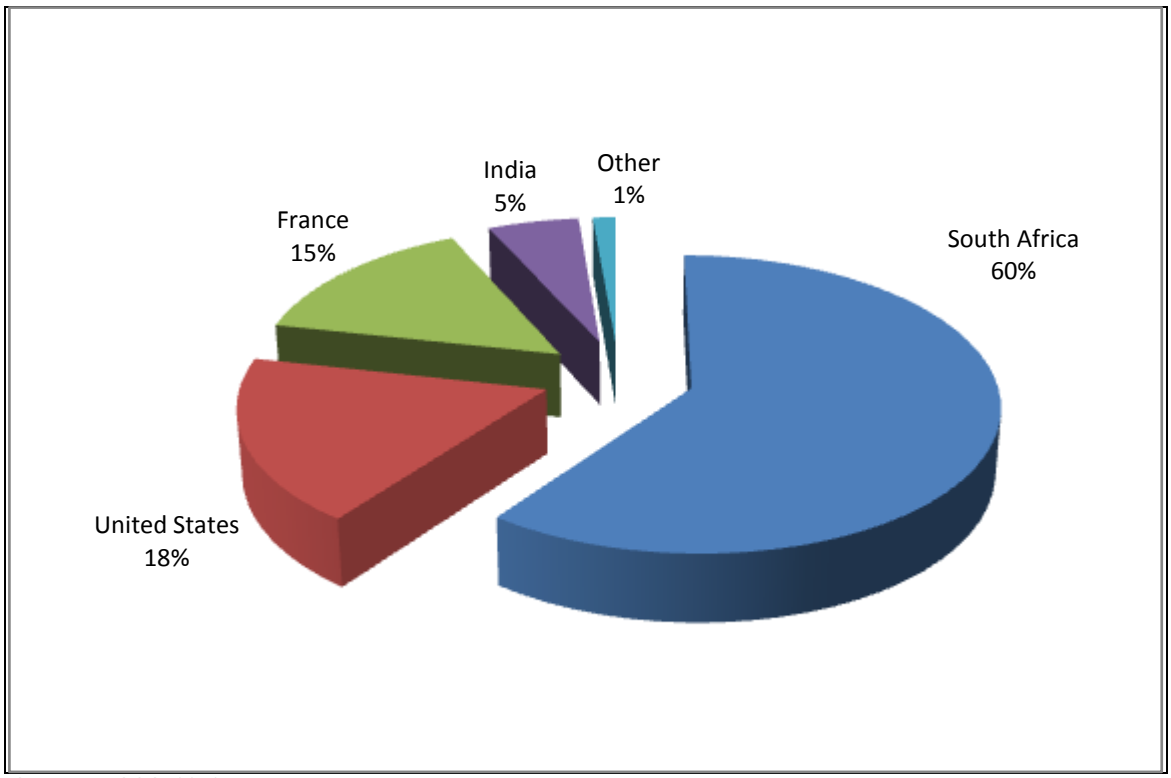
ALUMINO-SILICATES

Mphonyana Modiselle

WORLD SUPPLY

World production of the three alumino-silicate minerals, namely: andalusite, kyanite and sillimanite, decreased by 6.4 percent from 470 kt in 2008 to 440 kt in 2009. The world decline resulted mainly from a 24.0 percent decrease in South Africa's annual production of andalusite. South Africa, where majority of andalusite is produced, remained the world' largest producer of alumino-silicates, accounting for 60 percent of world output followed by the United States (US) at 18 percent and France at 15 percent (Fig. 1). Because of the recession in 2009, contraction and weak demand for metal production resulted in temporary mothballing of some refractory plants.

FIGURE 1 – WORLD PRODUCTION OF ALUMINO-SILICATES BY COUNTRY, 2009

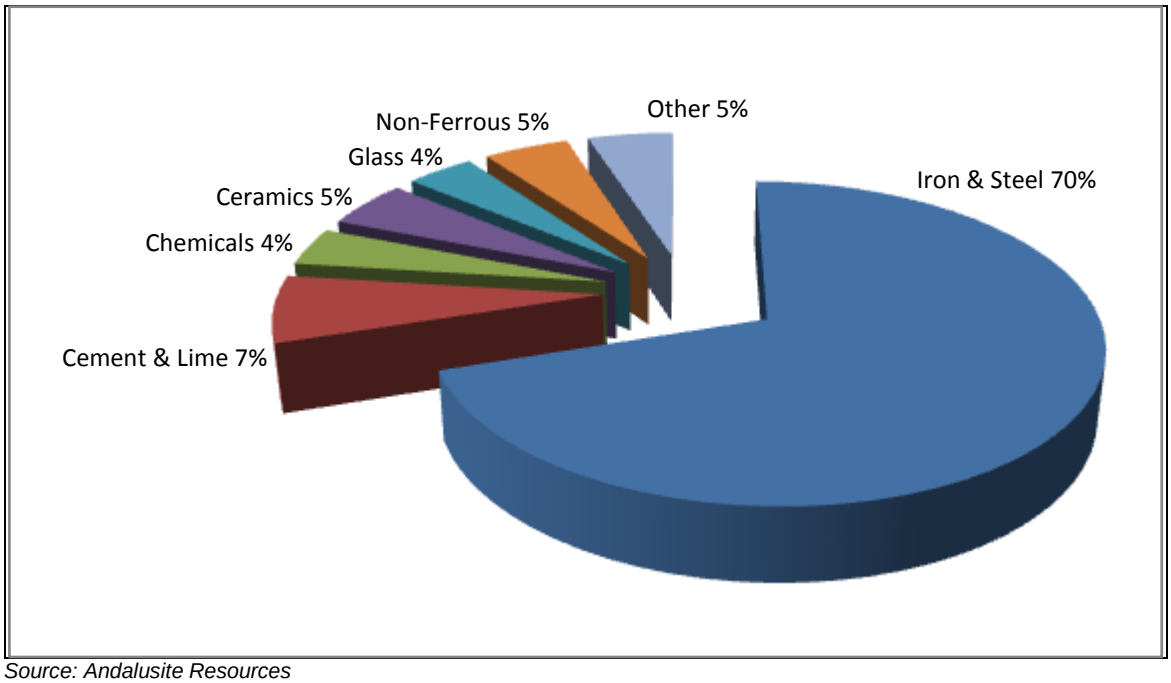


Sources: USGS, 2010
DMR, Directorate Mineral Economics

WORLD DEMAND

Alumino-silicates are used as refractories, the world market of which is estimated to be 20 Mt. Crude steel production consumes around 70 percent of the production of refractories, with the balance used for glass, cement and lime, chemicals, ceramics and non-ferrous metals (Fig. 2).According to the World Steel Association, world crude steel production decreased by 8.4 percent compared with 2008, resulting in correspondingly lesser demand for refractories.

FIGURE 2 – WORLD REFRACTORIES MARKET BY END-USERS, 2009



Source: Andalusite Resources

PRICES

According to the publication Industrial Minerals, the South African market prices (2 000 tonne bulk, FOB) for 57-58 percent aluminium trioxide (Al_2O_3) andalusite concentrate were in the range€225-€255/t in 2009, up from €160-€190/t in 2008, and European FOB prices for 57-59 percent Al_2O_3 andalusite were in the range €335-385/t up from €260-€310/t in 2008. US prices for raw and calcined 54-60 percent Al_2O_3 kyanite ranged from $211 to $301/t and $351 to $414/t respectively.

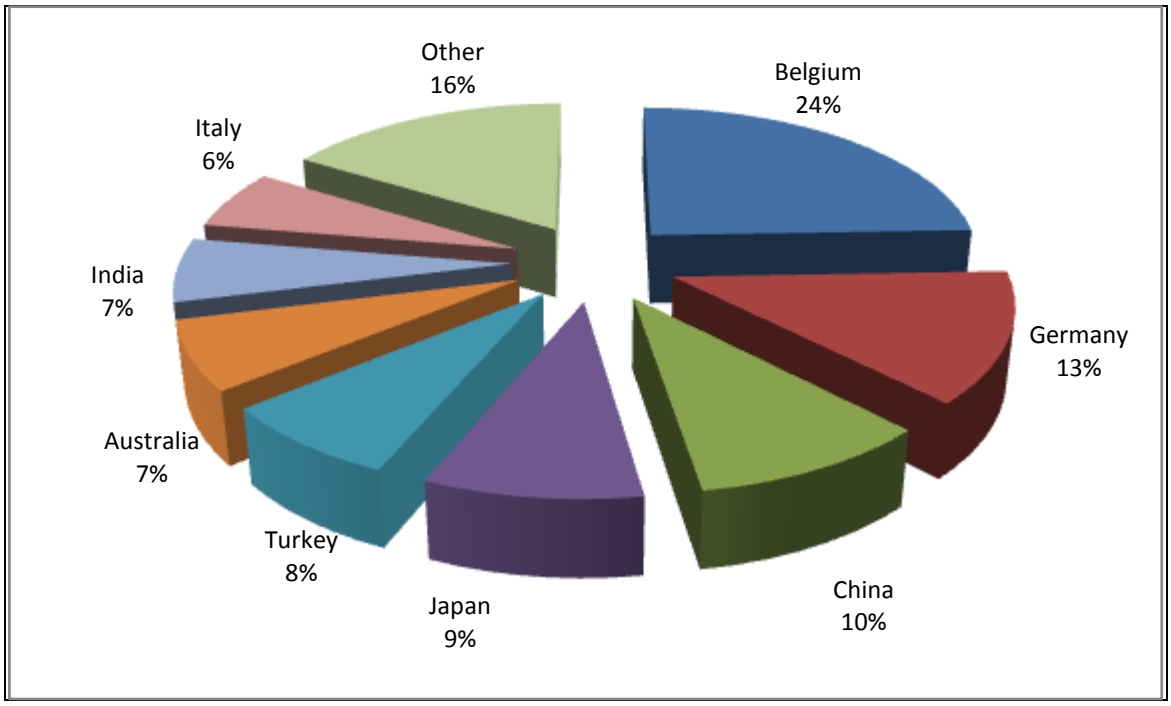
South African average local and export unit values increased by 19.8 percent to R1 855/t and 19.0 percent to R2 326/t respectively, as a result of annual price increases.

TRADE

South Africa exported 109 kt of andalusite in 2009, a decrease of 26.3 percent compared with 2008 due to the prevailing apprehension about the possibility of a double dip recession. The major consumers of South African andalusite were Belgium, which accounted for 24 percent of the total export sales followed by Germany at 13 percent and China at 10 percent.

South African exports to Japan and India declined to 9 percent and 7 percent respectively in 2009 (compared to 29 and 15 percent in 2008) due to the economic recession (Fig. 3).

FIGURE 3 – SOUTH AFRICA'S EXPORTS OF ANDALUSITE BY DESTINATION, 2009



Sources: DMR, Directorate Mineral Economics

WORLD DEVELOPMENTS

A new development is the emergence of a new competitor on the world market: a Peruvian andalusite producer. The company which mines a very high quality andalusite is currently focusing on improving output volumes and quality. It is anticipated that in the next few years it will provide stiff competition to South African andalusite producers.

Kyanite Mining Corp. (KMC) located in central Virginia, USA, implemented extensive plant renovations that are expected to enhance product quality, order handling and overall production capacity. KMC also plans to set up a distribution network in South America to better serve customers in that region.

In the Republic of Karelia, northwest Russia, Kianitt LLC, a subsidiary of JSC Granit, announced plans in early 2009 to mine kyanite ore at the Khysovaarskoe deposit. Surface mining is scheduled to begin in 2011, with an annual production capacity of about 20 kt of kyanite concentrate.

SOUTH AFRICA

Andalusite Resources, which is the only other producer of South African andalusite outside the Imerys subsidiary Damrec, is owned by African Mineral Trading and Exploration and operates near Thabazimbi. Imerys South Africa, the subsidiary of Imerys through parent company Damrec, produces almost 80 percent of the andalusite in the country.

Damrec (Imerys overseas affiliate) has four mines in South Africa namely: the Annesley mine on the outskirts of Burgersfort in Limpopo Province, the Havercroft mine in Sekhukhuneland in Limpopo, the Rhino Andalusite mine near Thabazimbi in Limpopo Province and Krugerspost, owned by Imerys South Africa's subsidiary Samrec, which is located near Lydenburg in the Mpumalanga province.

Andalusite concentrate with an aluminium trioxide (Al_2O_3) content in the range of 57-58 percent is produced in size fractions from 2 micrometre (µm) to 8mm. South Africa's production of andalusite was 165 kt in 2009, a 24.0 percent decrease over 2008 (Table 1), as demand was depressed around the globe and as some producers temporarily slowed down production after experiencing technical problems.

TABLE 1: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF ANDALUSITE, 2000–2009

		LOCAL SALES			EXPORTS		
YEAR	PRODUCTION	Mass	Value (FOR)		Mass	Value (FOB)	
	Kt	kt	R'000	R/t	Kt	R'000	R/t
2000	183	46	40 527	890	130	117 886	907
2001	193	46	45 456	985	133	130 089	798
2002	165	46	48 800	1 051	112	118 064	1 056
2003	165	44	53 515	1 212	130	166 736	1 282
2004	235	50	64 430	1 284	168	211 719	1 263
2005	228	47	57 568	1 236	135	186 229	1 380
2006	221	47	59 022	1 249	129	183 581	1 421
2007	265	51	70 554	1 382	175	282 164	1 612
2008	217	75	115 292	1 534	148	289 175	1 954
2009	165	52	97 918	1 855	109	253 554	2 326

Source: DMR, Mineral Economics

Local consumption decreased by 30.7 percent to 52 kt in 2009 compared with 2008, owing to weaker demand, while export tonnages dropped by 26.3 percent. The value of local sales decreased by 15.1 percent to R97.9 million while the export sales value declined by 12.3 percent to R253.5 million.

Denain-Anzin Mineraux Refractarie Ceramique (Damrec) has planned three projects to increase andalusite production by 55 kt/a within the next five years: debottlenecking at Rhino and Krugerspost and starting a new mine at Segorong, when Rhino expects to have finally obtained the approval from the South African government for the exploitation of its andalusite Segorong project. The Segorong mine, which is expected to produce 85 kt by 2014, will be located between the existing Havercroft and Annesley mines and will extend reserves currently being exploited by these mines by an estimated fifteen years.

TABLE 2: SOUTH AFRICA'S ALUMINO-SILICATE MINES: EMPLOYMENT, 2005–2009

YEAR	EMPLOYEES	TOTAL REMUNERATION R'000
2005	441	33 008
2006	501	38 776
2007	567	48 581
2008	742	62 956
2009	775	68 470

Source: DMR, Mineral Economics

Employment in the alumino-silicate industry increased by 4.4 percent while remuneration went up by 8.7 percent, in 2009 compared with 2008 (Table 2). Despite the fact that volumes decreased in 2009, companies invested capital in order to expand production capacities in anticipation of a stronger future demand. Productivity in terms of average revenue earned and production per employee for 2009 amounted to R453 512 and 0.21kt respectively.

OUTLOOK

Over the long term, the andalusite demand is expected to outgrow current world supply capabilities, as developed and developing nations continue to grow, fuelling demand for steel, alumina and cement around the world. Despite going through a steep downturn in 2009, the steel industry may be approaching a rebound. The steel industry will recover gradually, and a moderate recovery might occur but this will depend on the success of infrastructure programmes especially in emerging economies.

Andalusite supply constraints in France have resulted in projects expansion opportunities in South Africa driven by the long-term anticipated growth in the market. South Africa's andalusite producers Imerys and Andalusite Resources are expected to increase production by 40 percent by 2012. Andalusite Resources has plans to increase its production by 100 kt per annum at its Maroeloesfontein mine in Limpopo province. All these expansions would increase andalusite production in South Africa from 245 kt/a to an estimated

350 kt/a. Prices are expected to increase, especially as a result of increased usage of improved high quality refractories in the steel industry.

Andalusite producers are looking more at expanding through research and development (R&D) and thus taking market share away from other raw materials such as bauxite. One of the long- term goals for the industry is to widen the possible applications for andalusite and thus grow the market. A current project is being undertaken in collaboration with some R&D consultants from the refractory industry in Germany which is looking at replacing bauxite with andalusite in certain applications. First production trials are already in progress.

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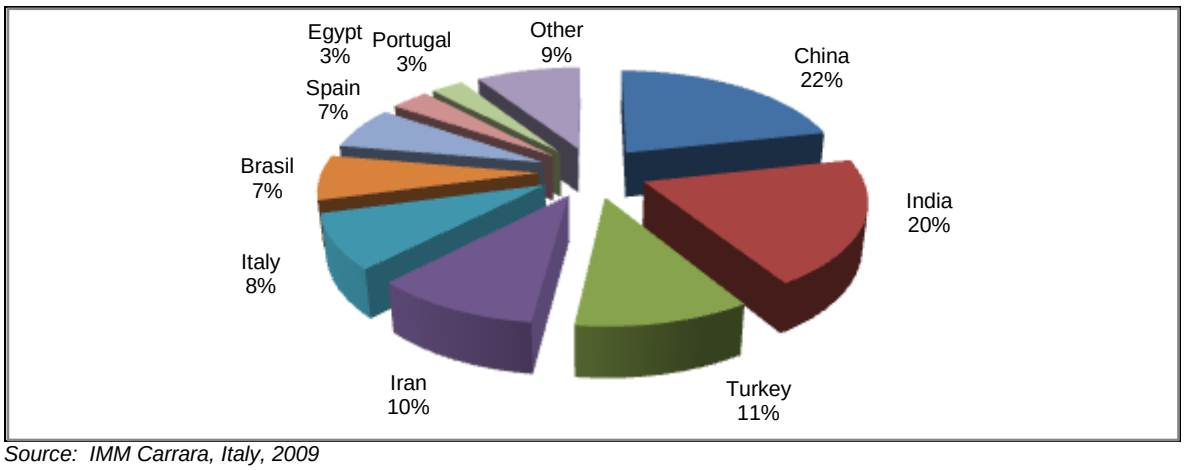
DIMENSION STONE

Lerato Ramane

WORLD SUPPLY

World dimension stone output amounted to 106.81 Mt in 2009, almost unchanged from 106.79 Mt in 2008 despite higher production from China and Turkey. China and India still remained the world's largest producers, accounting for shares of 22 and 20 percent respectively, followed by Turkey with 11 percent and Iran with 10 percent (Fig. 1).

FIGURE 1: ESTIMATED WORLD PRODUCTION OF DIMENSION STONE, 2009

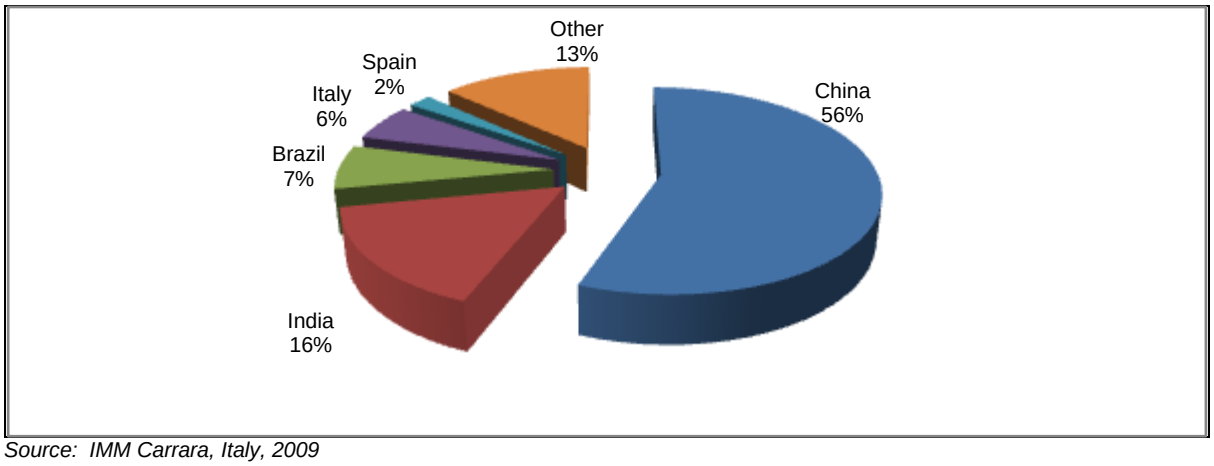


Source: IMM Carrara, Italy, 2009

WORLD EXPORTS

Total world exports of granite declined by 12.1 percent to 28.7 Mt in 2009, compared with 32.7 Mt in 2008. China continued to dominate exports, contributing 56 percent to total world exports, followed by India at 16 percent and Brazil at 7 percent (Fig. 2). Italian exports of stone processing machinery and advanced technology fell by 42.2 percent to 39.3 kt in 2009, compared with 68 kt the previous year owing to weaker demand from major consuming countries.

FIGURE 2: WORLD EXPORTS OF GRANITE BY COUNTRY, 2009

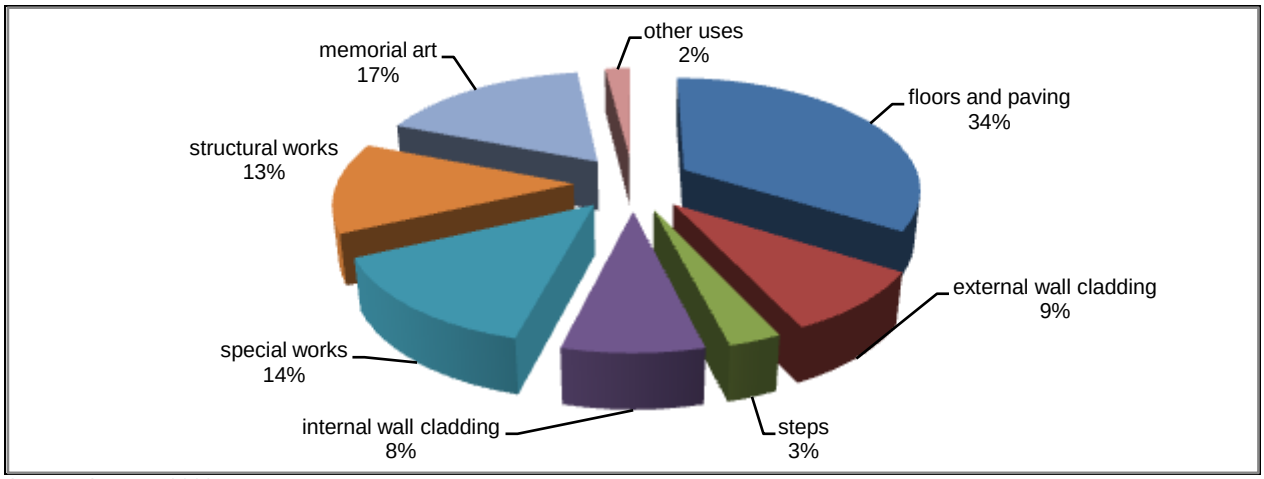


Source: IMM Carrara, Italy, 2009

WORLD DEMAND

The main consumption of dimension stone is within the construction industry, which accounts for over 80 percent of demand with the funerary monumental industry accounting for approximately 15 percent while various special applications account for the balance (Fig. 3).

FIGURE 3: WORLD CONSUMPTION OF DIMENSION STONE, BY SECTOR



Source: SAIMM, 2008

SOUTH AFRICA

There are 77 registered quarries for dimension stone in South Africa (62 granite, 8 slate, 1 marble and 6 sandstone). The major producing areas of granite are the North West and Limpopo Provinces. There are no known figures for granite reserves, but the estimated life of mine of the major quarries is in the range of 30 - 40 years. Continuous exploration is taking place, especially for grey/black norites (Bushveld Igneous Complex) which are well established in world markets. The local granite industry is dominated by two companies, Kelgran Investments (Spain) and Marlin Corporation (subsidiary of Finstone Srl, Luxembourg), which together account for approximately 72 percent of South Africa's total granite production.

TABLE 1 – SOUTH AFRICA'S GRANITE SALES, 2000–2009

LOCAL SALES					EXPORTS		
YEAR	Mass	Value (FOR)			Mass	Value (FOB)	
	kt	R'000	R/t		kt	R'000	R/t
2000	99,5	47 334	477		844,8	627 687	743
2001	85,6	39 836	465		761,1	677 698	890
2002	75,2	37 229	495		630,6	837 332	1 328
2003	78,5	47 824	609		384,7	718 746	1 868
2004	177,9	147 273	828		370,7	342 284	888
2005	302,5	165 783	548		305,0	260 493	854
2006	284,4	185 234	651		211,9	209 754	990
2007	394,8	319 455	809		159,3	156 810	984
2008	458.0	489 346	1 069		85.6	211 674	2 474
2009	335.9	341 283	1 016		61.7	126 507	2 050

Source: DMR, Directorate Mineral Economics

South Africa's local sales mass of granite decreased by 26.7 percent to 335.9 kt and local sales value also declined by 30.3 percent to R341 million in 2009, as a result of falling demand from the construction industry and cheaper imports from China (Table 1). Export sales tonnages declined by 27.9 percent to 61.7 kt and revenue declined by 40.2 percent to R126.5 million.

OUTLOOK

The global economic downturn that started in 2008 had a negative impact on the dimension stone industry. As a result, demand for the use of dimension stone for both commercial and residential applications decreased. World demand is not expected to improve in the short to medium term. China and India will continue to dominate world production and consumption.

In South Africa, the local market has been growing by approximately 5 percent over the last few years, as a result of the increasing demand from the construction and tombstone industries as well as capitals 2010 FIFA soccer World Cup. The local market will continue to compete internationally as long as the "Rustenburg granites" are unique to South Africa's Bushveld Igneous Complex. However, the local market will still compete against cheaper imports from China and India.

The demand for dimension stone in South Africa is expected to grow as this commodity is used in the construction sector, and government has committed to spending R846 million on infrastructure programmes in the next three years.

Considering that the South African government has adopted the mineral beneficiation strategy as a policy, it would prove beneficial for the local producers to grow the local market by adding value to the waste rock generated during processing. A niche market could be established in the following industries: gardening, cobblestone, paving, concrete and tiling. Raw blocks could be further beneficiated by production of colour reconstituted products and by secondary and tertiary cutting. It will be economical for raw blocks to be beneficiated locally, as a result of high transport costs which makes up about 50 percent of the landed price of the block.

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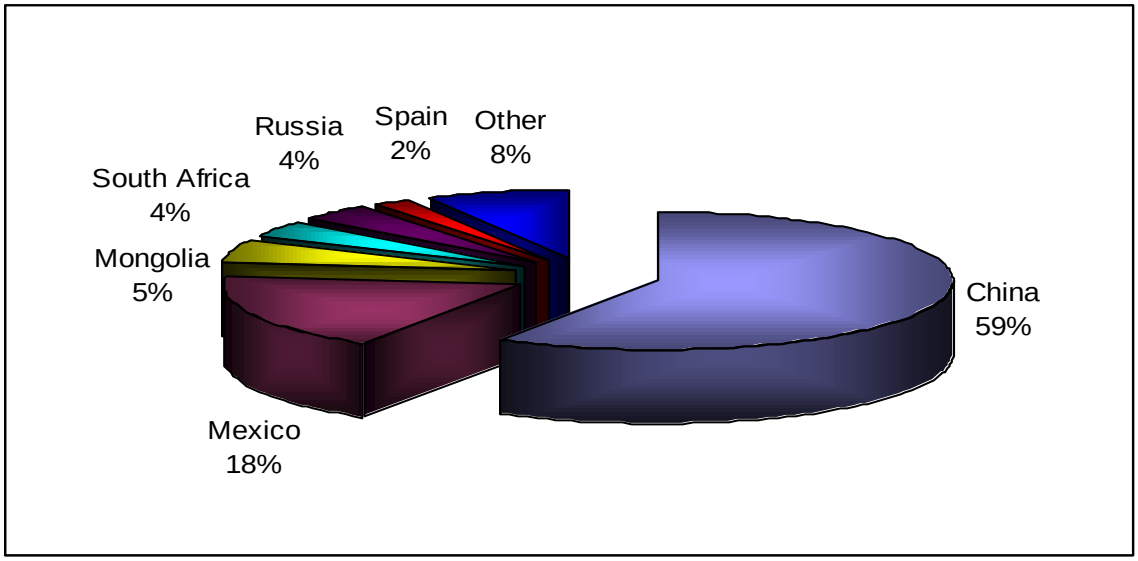
FLUORSPAR

Mphonyana Modiselle

SUPPLY

Total world production of fluorspar decreased by 15.6 percent from 6.04 Mt in 2008 to 5.10 Mt in 2009 as a result of mothballed fluorspar mines around the world, owing to the depressed economic conditions. Sallies (South Africa), Kenya Fluorspar (Kenya) and Okorusu Fluorspar (Namibia) curtailed mining operations and mothballed facilities as they were not viable at current prices. China remained the world's leading fluorspar producer accounting for 59 percent of world production followed by Mexico's 18 percent, Mongolia's 5 percent and South Africa and Russia's 4 percent each (Fig.1). Mexico has moved to make up for the shortfall in world markets as a result of reduced exports by China, which has spurred prospective developments in both established and new regions.

FIGURE 1: WORLD FLUORSPAR PRODUCTION, 2009



Source: USGS, 2010

DEMAND

Fluorspar demand remained weak in 2009, as consumers reduced stocks due to lack of demand across all end uses. Demand has been particularly weak in the steel and aluminium sectors owing to poor demand from the automobile industry. Severely reduced demand in many cases led to suspended operations although technical difficulties were also responsible.

TRADE

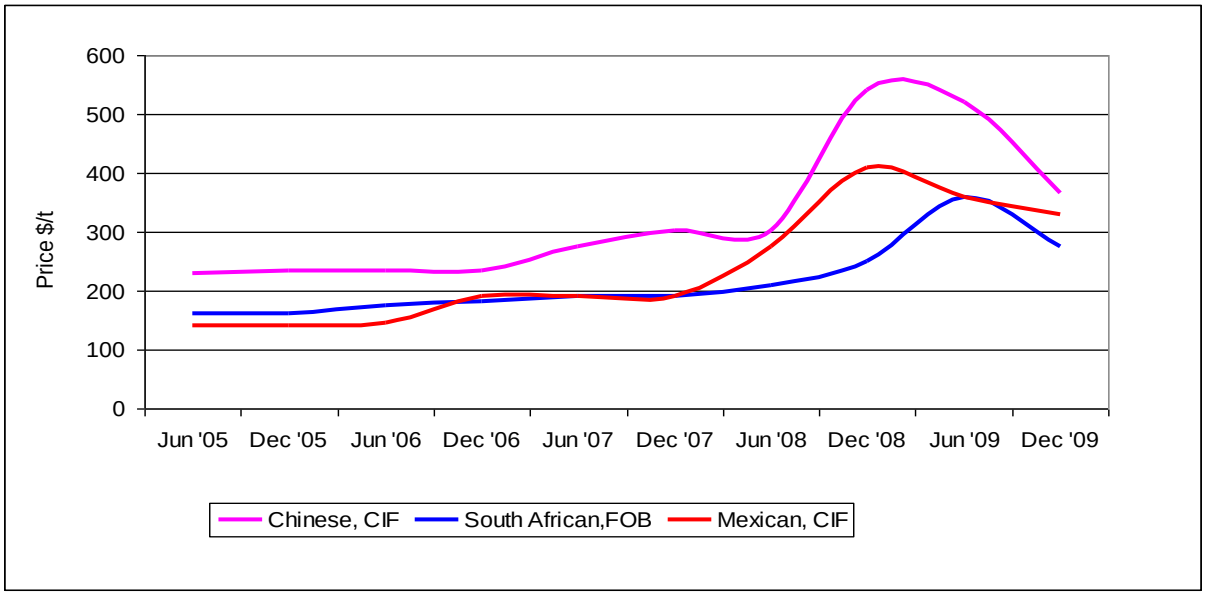
By the middle of 2009, the effects of the worldwide recession had negatively affected several fluorspar producers in Africa, which is one of the leading fluorspar exporting regions. All six major producers in Africa have had production shutdowns in the last year and several others are understood not to be presently operating. The three mothballed companies in South Africa, Kenya and Namibia had accounted for about 330 kt per year of fluorspar export sales previously.

In August 2009, Mexico, the United States and the European Union filed a complaint with the World Trade Organization (WTO) over China's export restrictions. China has abolished value-added tax export rebates and uses quantitative restrictions in the form of export quotas, export license fees and export taxes to favour its own economic needs. However, in 2009 lack of international demand was the primary cause of reduced exports from China rather than its continuing restriction of exports.

PRICES

Severely reduced demand for fluorspar resulted in a sharp decrease in Chinese acid-grade fluorspar prices. Prices for low-arsenic acid-grade fluorspar from Mexico also decreased significantly. Prices for Mexican high-arsenic fluorspar were more stable owing to increased substitution for Chinese material. South African acid-grade prices continued increasing from 2008 until June 2009, when prices declined owing to poor demand (Fig. 2).

FIGURE 2: WORLD ACID GRADE FLUORSPAR PRICES, 2005 – 2009



Source: Industrial Minerals, 2009

SOUTH AFRICA

South Africa's fluorspar production declined by 43.0 percent from 316 kt in 2008 to 180 kt in 2009 (Table 1) as a result of reduced mill throughput and a lower acid spar recovery. Revenue was negatively affected by the lower sales but positively affected by the higher selling.

There was an increased focus at Vergenoeg mine on producing and delivering higher quality acid spar to match customer requirements in 2009. Sales at Vergenoeg have been severely curtailed as customers cancelled and delayed shipments, while some anticipated new sales never materialised. The reduction in demand for fluorspar provided Vergenoeg the opportunity to stop production for a month for critical maintenance. A significant amount of fluorspar has been warehoused in an off-site stockpile for sale when the market improves.

The Buffalo mine had received a permit to explore for underground ore, but the new-order surface mining rights, applied for by Rooiberg Stone, had been approved at the time of writing. The initial estimates suggested that Buffalo could re-enter the market as a low or medium cost producer, should the test work prove successful. The test work aims to reduce phosphorus levels in the fluorspar produced from the tailings dams five and six.

TABLE 1 - SOUTH AFRICA'S PRODUCTION OF FLUORSPAR, 2000 – 2009

YEAR	PRODUCTION
	kt
2000	212
2001	286
2002	227
2003	235
2004	275
2005	265
2006	270
2007	285
2008	316
2009	180

Source: USGS, 2010
Note: Sales figures withheld for reasons of confidentiality

In late September 2009, Metorex announced the disposal of its 55 percent shareholding in Vergenoeg Mining Company to Minerales Y Productos Derivados S.A. ("Minersa"), the owner of a 30 percent share, thus giving the Spanish company a controlling 85 percent share with Medu Capital, a consortium of Black Economic Empowerment-controlling entities, owning the balance of which 15 percent, consistent with the Mining Charter interim target of 2009.

Firebird Management LLC (United States), which was already a shareholder in South African fluorspar producer Sallies, purchased additional Sallies shares through its Firebird Global Master Fund Ltd. This acquisition pushed Firebird over the 60 percent ownership threshold, forcing it to make a mandatory offer to the minority shareholders as required by the provisions of The Companies' Act 2008 (Act No 71 of 2008).

Eurasian Natural Resources Corp. Plc (United Kingdom) agreed to purchase Central Africa Mining and Exploration Co. (United Kingdom), which among other mining assets, owns a 51 percent interest in the Doornhoek fluorspar property in South Africa.

The Federal Supreme Court of Switzerland has ordered South African fluorspar company Sallies to pay the initial fine of $1.2 million to Honeywell International, as imposed by the International Chamber of Commerce International Court of Arbitration. Sallies and Honeywell have been embroiled in a contract dispute since 2006. Full provision has been made for the $1.2 million penalty with the interest until the end of June 2009. Sallies also settled a dispute with chemicals company Solvadis, which claimed $500 000 arising from the cancellation of a contract. The companies settled the claim at $225 000 in August. Sallies also reported that it was still in a dispute with the South African Revenue Service (SARS) over value-added tax refunds of R3.2 million. Its Witkop subsidiary is also in a dispute with SARS over the refund of R6.7 million in income tax.

Labour productivity decreased by 19.2 percent to 0.42 kt per employee in 2009 and average earnings increased by 33.5 percent to R136 870 per employee (Table 2).

TABLE 2: SOUTH AFRICA'S FLUORSPAR QUARRIES: EMPLOYMENT AND REMUNERATION, 2006-2009

YEAR	EMPLOYEES	TOTAL REMUNERATION
		R'000
2006	441	39 375
2007	490	51 608
2008	605	62 027
2009	432	59 128

Source: DMR, Directorate Mineral Economics

OUTLOOK

Although the fluorspar market is currently depressed, when the world economy picks up, consumers will want to secure supplies early to minimize exposure to future supply difficulties.

Fluorspar will remain by far the primary source of fluorine for industry and fluxing material for steel manufacture. Since over 80 percent of world fluorspar production goes into hydrofluorocarbons (HFCs) and aluminium trifluoride manufacture, future demand for fluorspar will depend on end use markets such as refrigerants and iron and steel production. Long term, demand for fluorochemicals will depend to a large degree of competition in the refrigeration market where substitutes such as carbon dioxide or ammonia have global warming potential indices that are more favourable. The performance of these sectors is generally linked to global Gross Domestic Product (GDP). Demand for fluorspar in the manufacture of aluminium fluoride and synthetic cryolite has grown over the past decade, but growth could be constricted as smelting technology improves.

As demand for fluorspar recovers, production will ramp up and some idle mines will restart operations. Projects under development particularly in South Africa and Canada are expected to add about 280 kt to the existing supply market by 2012.

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LIMESTONE AND DOLOMITE

PR Motsie

SUPPLY

In 2009, total South African production of limestone and dolomite decreased by 3.4 percent to 22.70 Mt compared with 2008, owing to certain mines and quarries being put on care and maintenance programmes in response to the weak economic conditions (Table 1). Local sales volume increased by 1.4 percent to 20 Mt compared with 2008, resulting in a 10.8 percent revenue increase to R2,1 billion.

TABLE 1: SOUTH AFRICA'S PRODUCTION AND LOCAL SALES OF LIMESTONE AND DOLOMITE FOR NON-AGGREGATE USE, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES		
		Mass	Value (FOR)	
	kt	kt	R'000	R/t
2000	19 279	14 898	778 917	52.3
2001	18 946	15 110	901 551	59.7
2002	20 738	16 901	1 055 733	62.5
2003	21 267	17 502	1 198 800	68.5
2004	22 031	17 466	1 227 322	70.3
2005	24 813	18 877	1 306 527	69.2
2006	27 366	20 359	1 517 661	75.0
2007	23 941	20 493	1 698 586	83.0
2008	23 495	19 781	1 899 279	96.0
2009	22 698	20 008	2 105 297	105.0

Source: DMR, Directorate Mineral Economics

DEMAND

Demand for limestone and dolomite products is mainly driven by the construction, agriculture and manufacturing sectors. The principal use of limestone in South Africa is in the manufacture of cement, followed by metallurgical applications (as a fluxing agent in steel making), the extraction of lime and agricultural uses.

The South African cement industry is comprised of four major cement producers and one newcomer. Pretoria Portland Cement (PPC) is the largest cement producer with a 40 percent market share followed by Afrisam (29.5 percent), Lafarge (17.5 percent) and NPC-CIMPOR (7 percent). The entrance of Sephaku Cement in the industry will bring about 1.2 Mt of production capacity into the market. Sephaku is a joint venture (JV) between Sephaku investment group and a Nigerian-based company, Dangote Cement.

Cement manufacture accounts for over 80 percent of limestone demand. Sales volume of limestone for the manufacture of cement increased by 4.3 percent to 14.86 Mt (Table 2). Local sales mass of metallurgical grade carbonates declined by 9.8 percent to 1.24 Mt while the local sales mass of agricultural limestone and dolomite (aglime) dropped by 2.7 percent to 855 kt. Metallurgical grade carbonates are used in steel production while aglime is used in fertiliser applications.

TABLE 2: SOUTH AFRICA'S LOCAL SALES OF LIMESTONE AND DOLOMITE BY APPLICATION, 2000 – 2009

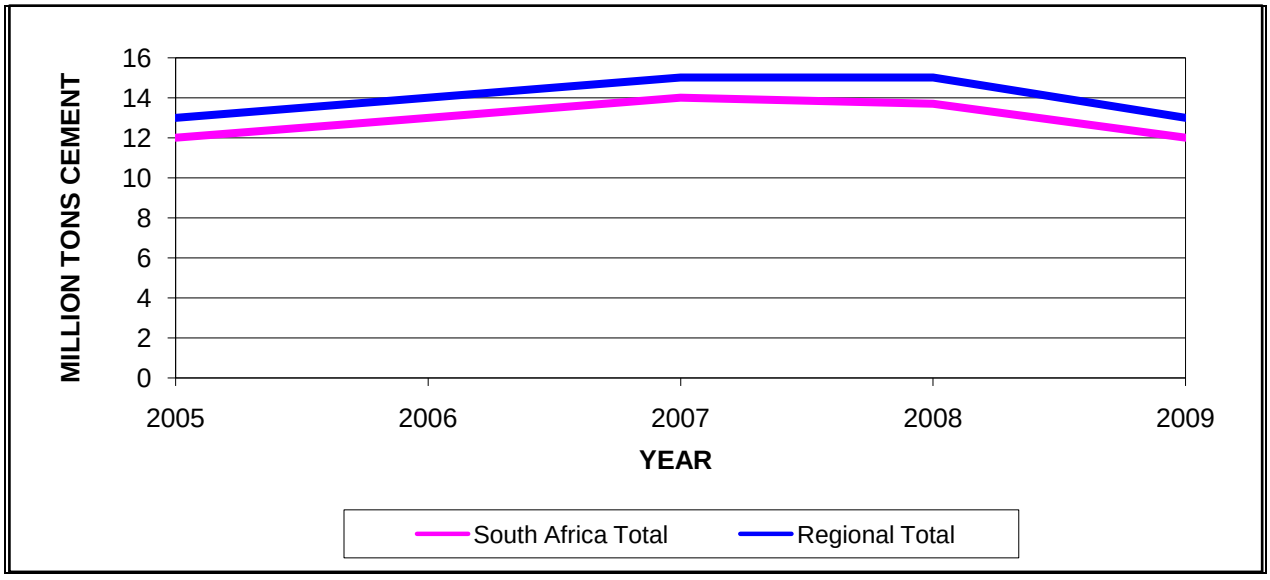
YEAR	CEMENT			METALLURGICAL			AGRICULTURAL			OTHER		
	Mass	Value (FOR)		Mass	Value (FOR)		Mass	Value (FOR)		Mass	Value (FOR)	
	Kt	R'000	R/t	Kt	R'000	R/t	Kt	R'000	R/t	kt	R'000	R/t
2000	9 794	136 004	14	2 131	96 379	45	653	26 205	40	969	170 403	176
2001	9 700	156 639	16	2 038	90 442	44	799	36 497	46	974	185 487	190
2002	11 218	188 653	17	2 088	98 690	47	993	49 281	50	1 017	230 879	227
2003	11 893	216 148	18	1 972	104 861	53	935	53 732	57	1 110	260 981	235
2004	11 565	225 433	19	2 041	107 887	53	948	48 404	51	1 139	275 612	242
2005	13 519	279 474	21	1 964	114 205	58	604	35 948	60	1 328	297 219	224
2006	14 225	313 038	22	2 183	131 284	60	707	51 779	73	1 533	335 919	219
2007	14 647	350 922	24	1 569	117 847	75	860	59 304	69	1 774	366 980	207
2008	14 252	403 215	28	1 372	120 083	87	879	72 263	82	1 646	381 021	231
2009	14 860	462 122	31	1 237	117 632	95	855	81 762	96	1 616	404 149	250

Source: DMR, Directorate Mineral Economics

South Africa's cementitious sales declined by 14 percent to 11.8 Mt in 2009, compared with the previous year (Fig 1). The market for cementitious products in South Africa is divided into civil engineering and building sectors. The decrease in cement sales was due to inactivity in the residential and light-commercial construction sectors, especially in metropolitan areas. However, this was partially offset by demand for government infrastructure expansion programme of R846 billion over the next three years. Civil construction accounted for higher demand due to the continuation of significant infrastructure projects such as the:

- rapid rail link (Gautrain)
- Gauteng Freeway Improvement Plan
- Medupi and Kusile power stations
- improvements to the national roads network
- the construction of several new dams
- upgrade of existing airports

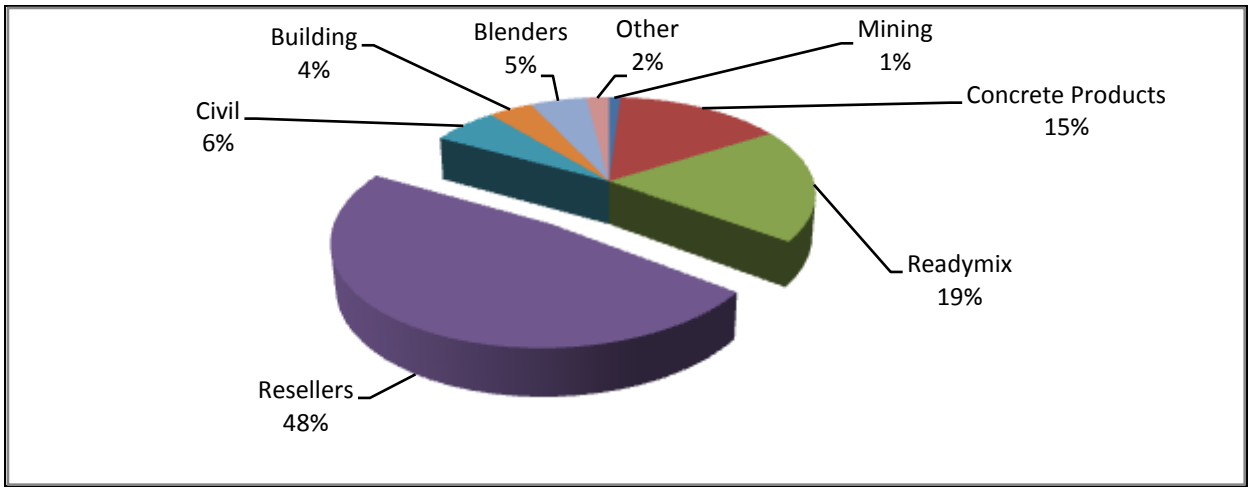
FIGURE 1: SOUTH AFRICAN AND REGIONAL CEMENTITIOUS PRODUCT SALES, 2005 – 2009



Source: Cement and Concrete Institute, 2009

Resellers are the biggest buyers of cementitious products accounting for 48 percent of consumption followed by ready mix (19 percent) and concrete products (15 percent) (Fig.2). In 2009, public corporations were the most important client of the civil engineering industry, accounting for 56 percent of the value of civil construction. General government funded 37 percent and private businesses contributed 7 percent.

FIGURE 2: DEMAND FOR CEMENTITIOUS PRODUCTS, 2009



Source: Estimates from various sources

EXPANSIONS IN THE CEMENT INDUSTRY

South Africa

Plans are in progress to build a new complete cement production plant in the Limpopo Province, following the signing of a memorandum of understanding between Women Investment Portfolio Holdings group (Wiphold) and limestone miner Continental Cement (Conticem) with Chinese Jidong Development Group, and the China-Africa Development Fund (CADFund). The memorandum of understanding which represent one of China's biggest foreign direct investment in South Africa to build a R1,65 billion cement manufacturing plant was signed on 13 May 2010. The initial project design will produce 2.5 kt/day of ordinary Portland cement by 2012, with sufficient resources to substantially increase capacity in the future. The deal would see foreign direct investment of more than R800 million flow from China, of which 45 percent would be equity investment, with the remaining 55 percent in the form of commercial debt. The transaction will be done through Nedbank Capital.

Sephaku Cement entered into a convertible loan agreement and a subscription of shares agreement with Dangote, a Nigerian based cement producer, in a bid to obtain the necessary guarantees to secure the debt funding required for its Aganang project in North West Province and Delmas project in Mpumalanga Province. Both the projects are expected to come on line by 2012/13, with an aggregate capacity of 2.2 Mt per annum. Sephaku increased Dangote's share interest from 19.76 percent in March 2008 to 64 percent in August 2010. This further investment follows the original R350 million of equity funding concluded in March 2008, making the R1.129 billion total investment the largest ever foreign direct investment into South Africa by an African company. The remaining 36 percent will continue to be held by Sephaku Holdings. Furthermore, Dangote will fund Sephaku Cement's limestone exploration programme relating to its assets in the Western Cape and Limpopo Province by way of a loan of up to R35 million, which will be provided on commercial terms.

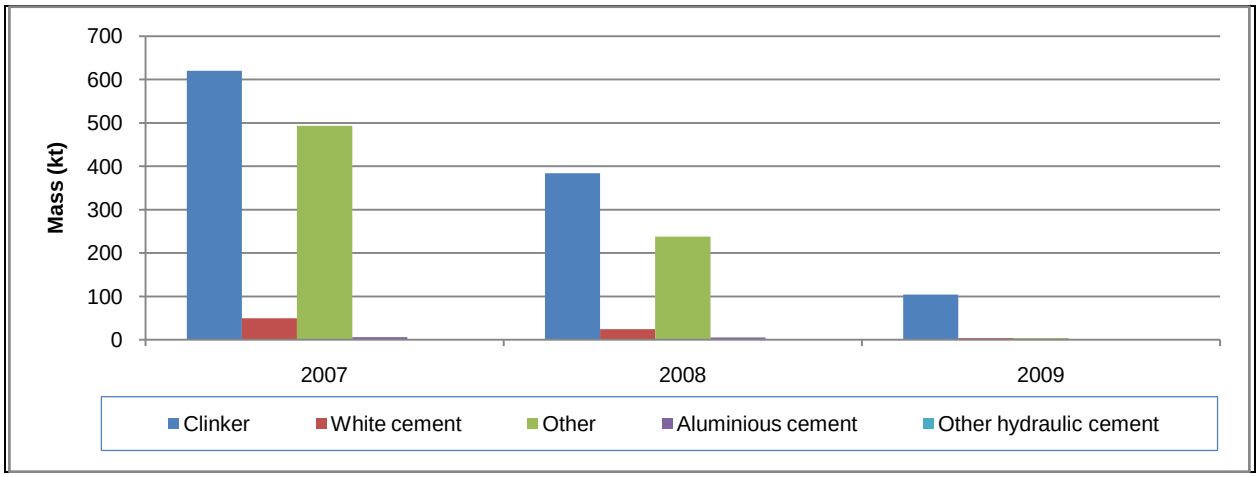
Southern Africa

In Namibia, the Ohorongo cement project is in its final stages of completion with production expected to start in 2011. The plant will have a total production capacity of 700 kt per annum which will cater mainly for domestic demand.

CEMENT IMPORTS

South Africa imported some 112 kt of cement and clinker during 2009, a significant decline on the 653 kt imported the previous year (Fig 3). Clinker imports declined by 72.9 percent to 104.2 kt, while white cement decreased by 85.2 percent to 3.6 kt compared with the previous year. Following slow residential demand despite low interest rates, the decline in imports showed that local capacity was sufficient to meet local and regional demand.

FIGURE 3: SOUTH AFRICAN IMPORTS OF CEMENT PRODUCTS, 2007 – 2009



Source: South African Revenue Service

LIME

The local sales volume of lime declined by 12.8 percent to 1.38 Mt compared with the previous year as a result of a downturn in the local steel and alloy industries (Table 3). Sales volume of quicklime for pyrometallurgical and chemical applications decreased by 12 percent to 1.26 Mt. However, sales revenue of quicklime increased by 17 percent to R9.2 billion compared with the previous year. The increase in revenue was the result of the surge in prices of quicklime for pyrometallurgical and chemical applications by an average of 38 percent and 27 percent respectively. Hydrated lime sales to the water purification sector increased by 11 percent to 49 kt due to increased water demand in metropolitan areas. In the chemical sector, sales of hydrated lime decreased by 43 percent to 34 kt as a result of cutbacks in production by several mining operations using hydrated lime in their metallurgical processes.

TABLE 3: SOUTH AFRICA'S LOCAL SALES OF LIME, 2008 – 2009

LIME PRODUCT, BY SECTOR USE	2008			2009		
	Mass	Value (FOR)		Mass	Value (FOR)	
	Kt	R'000	R/t	Kt	R'000	R/t
Quicklime						
Pyrometallurgical	774	396 667	513	688	488 177	710
Chemical	662	393 344	594	576	434 612	754
SUB-TOTAL	1 436	790 011	550	1 264	922 789	730
Hydrated lime						
Water purification	44	34 399	790	49	44 189	902
Chemical	60	49 890	835	34	35 831	1 026
Other	38	35 201	933	27	29 771	1 087
SUB-TOTAL	142	119 490	842	111	109 791	986
TOTAL	1 577	909 501	577	1 375	1 032 580	751

Source: DMR, Directorate Mineral Economics

EMPLOYMENT

The limestone and dolomite industry employed 2 490 people in 2009, a marginal decrease of 1.1 percent compared with 2008 (Table 4). Labour productivity decreased by 5.1 percent to 9.1 kt/employee and average annual earnings increased by 13.1 percent to R144 562/employee.

TABLE 4: SOUTH AFRICA'S LIMESTONE AND DOLOMITE QUARRIES: EMPLOYMENT AND REMUNERATION, 2005 – 2009

YEAR	EMPLOYEES	TOTAL REMUNERATION
		R'000
2005	2 286	228 932
2006	2 385	251 895
2007	2 452	286 461
2008	2 517	321 698
2009	2 490	359 959

Source: DMR, Directorate Mineral Economics

OUTLOOK

The local construction market is expected to continue on its growth trajectory on the back of Government's New Growth Path from 2011 onwards. Growth will, however, be moderate in the short term following infrastructural developments in the past years provided by stimulus from preparations of the 2010 FIFA World Cup. Despite the moderate growth pace in the short term, the government's commitment to infrastructural development will accelerate growth in the construction sector in the long term.

The Government's plan to develop 630 000 low cost housing units per annum between 2010 and 2015 coupled with initiatives such as the expanded public works programme and rural infrastructure development will ensure steady growth in demand for cement. Furthermore, the rise in cement sales in the sector will also be driven by the falling trend of interest rates, which is expected to spur activity in the residential market and, therefore, increase demand for limestone and dolomite. Capital investment in sustainable projects is expected to spur demand for environmentally cement products following the trend by most companies to reduce their carbon footprint of cement.

The overall prospects of cement demand are positive in the long run supported by new applications of cement in the construction of roads instead of asphalt because of its low maintenance properties and its very environmentally friendly energy-efficient properties as a building material.

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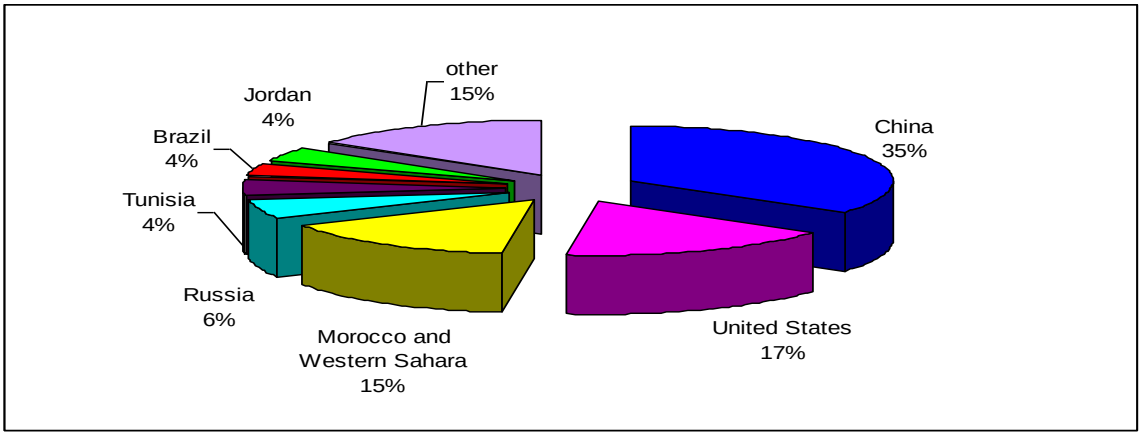
PHOSPHATE ROCK

Lerato Ramane

WORLD SUPPLY

World phosphate rock production decreased by 2 percent to 158 Mt in 2009 compared with 161 Mt in 2008, due to production cuts by major producers. Phosphate rock is mainly used in the manufacture of fertilizers. Stockpiles grew larger as farmers delayed purchases until the prices dropped. This led to the temporary closure of several phosphate rock mines. China was the world's largest producer of phosphate rock in 2009, accounting for approximately 35 percent of production, followed by the United States' 17 percent and Morocco and Western Sahara's 15 percent (Fig.1).

FIGURE 1: PHOSPHATE ROCK PRODUCTION BY COUNTRY, 2009



Source: USGS, 2010

World phosphoric acid (P_2O_5) production decreased marginally by 1.2 percent to 33.2 Mt in 2009, compared with 33.6 Mt in 2008, as a result of the production cutback by producers due to weaker international demand. Production of phosphate fertilizers declined by 11 percent to 20.7 Mt in 2009 compared with 23.3 Mt the previous year, due to reduced demand by farmers.

WORLD DEMAND

It is estimated that demand for fertilizer production accounts for more that 90 percent of world phosphate rock production, while the balance is consumed in animal feed and in a variety of industrial applications. World demand for phosphate rock was sluggish in 2009, as fertilizer end users delayed orders, driven by the volatile economic conditions. Prices have been unstable, falling by a third in the last quarter of 2009. Due to highly fluctuating prices, global demand for phosphate fertilizers fell by 7 percent to 156.7 Mt in 2009 compared with the previous year.

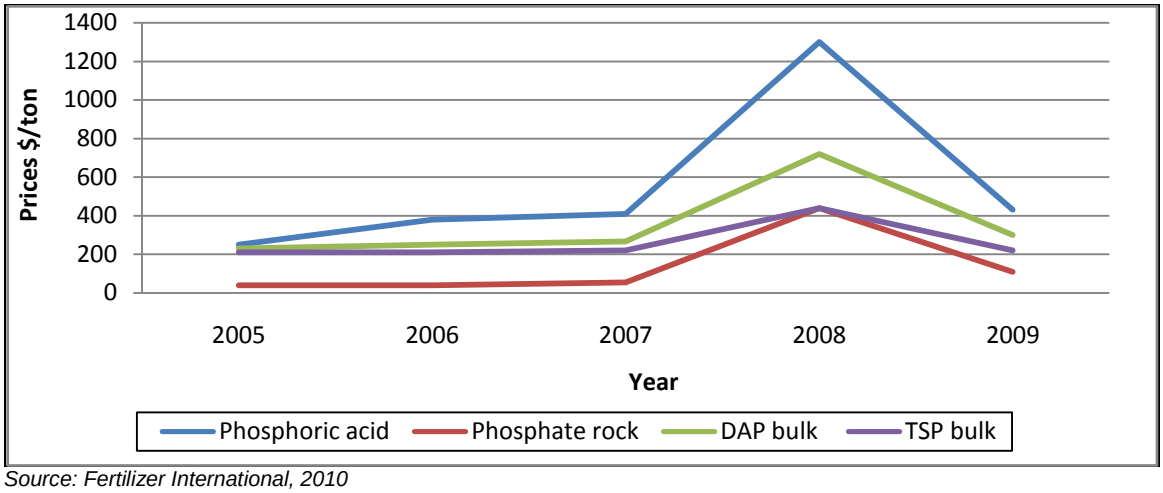
TRADE

World phosphate rock exports decreased by 35 percent to 20 Mt in 2009 compared with 30.6 Mt in 2008, driven by lower demand from key consuming countries in Europe and East Asia. World phosphoric acid trade increased by 5 percent to 4.2 Mt in 2009 compared with 4.0 Mt in 2008, as a result of larger imports by India.

PRICES

The phosphate fertilizer market remains depressed since prices collapsed throughout 2009. Phosphate rock prices declined by 75 percent to $110/ton, phosphoric acid prices declined by 67 percent to $430/ton, the diammonium phosphate (DAP) prices declined by 58 percent to $300/t and trisodium phosphate (TSP) prices declined by 50 percent to $220/t in 2009 compared with 2008 (Fig. 2).

FIGURE 2: PRICES OF PHOSPHATE RESOURCES, 2005 – 2009



Source: Fertilizer International, 2010

SOUTH AFRICA

South Africa's production of phosphate rock declined by 2.2 percent from 2 287 kt in 2008 to 2 237 kt in 2009. Local sales mass decreased by 15.6 percent to 2 268 kt in 2009 compared with 2 687 kt in 2008, owing to lower production and drawing down stockpiles of phosphate rock (Table 1).

TABLE 1: SOUTH AFRICA'S PRODUCTION AND SALES OF PHOSPHATE ROCK, 2000– 2009

YEAR	PRODUCTION	LOCAL SALES	EXPORTS
	Mass	Mass	Mass
	kt	kt	kt
2000	2 796	2 417	779
2001	2 420	2 591	555
2002	2 803	2 532	349
2003	2 643	2 665	250
2004	2 735	2 484	268
2005	2 577	2 498	91
2006	2 629	2 252	0
2007	2 556	2 523	36
2008	2 287	2 687	0
2009	2 237	2 268	0

Source: Foskor

Foskor's Pyroxenite Expansion Project (PEP) is aimed at increasing its pyroxenite processing capacity as well as enhancing output at the existing Extension 8 processing plant. The project is split into two phases, PEP1 (a and b) and PEP2. PEP1a, which involved the development of the South Pyroxenite Opencast Mine and its associated infrastructure, is now complete, while PEP1b, which was running behind schedule by a month, was completed in June this year. PEP1b refers to the installation of a primary gyratory crusher and an overland conveyor system needed to move ore from the new mine to the existing plant. PEP2 is the de-bottlenecking of the existing Extension 8 plant, increasing its crushing and milling capacity. This phase is two months ahead of schedule and is expected to be commissioned in March 2011.

In July 2009, Foskor announced that the Manyoro Consortium, Ba-Phalaborwa and uMhlathuze communities, Foskor staff as well as Foskor Zirconia's employees will constitute its Black Economic Empowerment (BEE) equity partners. Foskor is now owned by the IDC (59 percent), Coromandel (15 percent), Manyoro Consortium (15 percent), as well as the staff and communities (11 percent).

South African petrochemicals group Sasol has mothballed its Phalaborwa, Limpopo Province phosphoric acid plant, owing to high feedstock prices and declining fertilizer demand.

OUTLOOK

Global phosphate rock production capacity is forecast to increase by 20 percent, from 190 Mt in 2009 to 228 Mt in 2014 as a result of a combination of expansion projects at existing operations, new mines, and new capacity added by emerging suppliers. In view of the current market dynamics, most new suppliers have plans to further beneficiate their products in order to remain competitive in the longer term. Expansions of existing operations are planned for Brazil, China, Egypt, Finland, Morocco, Russia and Tunisia. If all these projects proceed as planned, the phosphate concentrate market could be brought back to equilibrium.

World supply of phosphoric acid is estimated at 47.1 Mt by 2014, while demand is forecast to grow at an annual rate of 5 percent to reach 43.7 Mt P_2O_5 in 2014. The main additions to world capacity are expected in China, Morocco, and Saudi Arabia. Approximately 90 percent of this increase would be earmarked for their domestic markets and the balance would be sold under contracted off-take agreements.

In the medium term, fertilizer demand is expected to increase at an annual rate of 3.5 percent between 2009 and 2014, owing to the positive agricultural outlook. Close to 40 new mono ammonium phosphate (MAP), diammonium phosphate (DAP) and trisodium phosphate (TSP) processing plants are expected globally over the next five years. The global capacity for phosphate fertilizers is forecast at 42.3 Mt P_2O_5 by 2014. Expansions of DAP capacity would account for three quarters of this increase. Due to increased demand, phosphate commodity prices are expected to increase as the global agricultural sector rebounds.

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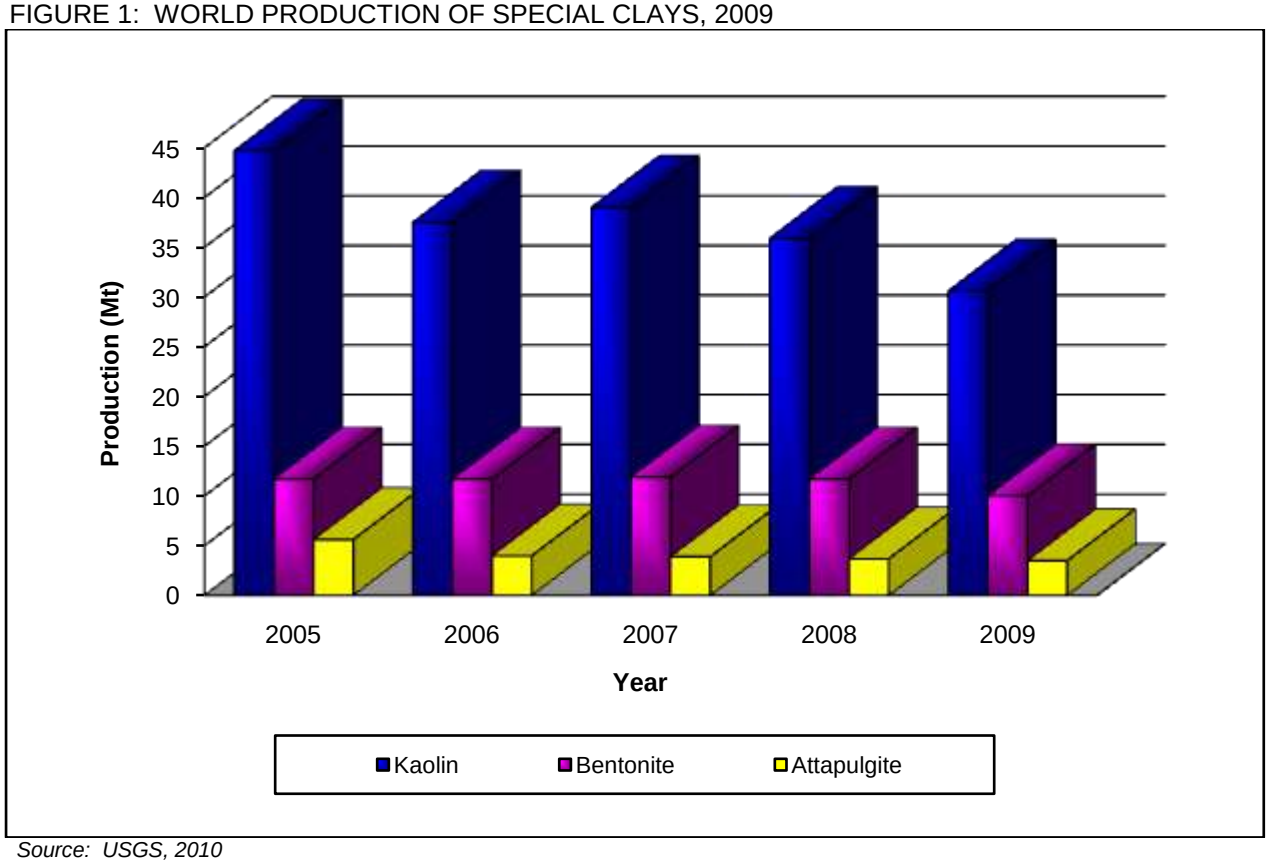
SPECIAL CLAYS

Mphonyana Modiselle

WORLD SUPPLY

Total world kaolin production declined by 14.8 percent from 35.9 Mt in 2008 to 30.6 Mt in 2009 as a result of the continuous decline of kaolin usage in the paper industry, leading to several manufacturing plants being on the verge of closure (Fig.1). The United States (US) accounts for 17 percent of the total world production of kaolin, followed by Uzbekistan at 15 percent, with the Czech Republic and Germany at 11 percent each. Bentonite production declined by 14.5 percent from 11.7 Mt in 2008 to 10.0 Mt in 2009 due to a significant reduction in demand for bentonite applications in domestic oil drilling and iron ore pelletizing. Sales of bentonite for pet litter and foundry applications declined slightly. The US accounts for 41 percent of total world bentonite production, followed by Greece's 8.5 percent, Turkey's 8.1 percent and Italy's 5.4 percent. World attapulgite production decreased by 5.4 percent from 3.7 Mt in 2008 to 3.5 Mt in 2009 owing to the suppressed world demand markets. The US was the major primary producer with 67 percent of total world attapulgite production, followed by Spain's 23 percent and Mexico's 2 percent.

FIGURE 1: WORLD PRODUCTION OF SPECIAL CLAYS, 2009



Source: USGS, 2010

WORLD DEMAND

Demand for kaolin is driven by the paper industry, which accounts for about 40 percent of consumption. The transition of the European and North American paper industry from the use of kaolin to calcium carbonate, dampened demand for kaolin. Kaolin accounts for an estimated 55-65 percent of the world clay market.

Bentonite market demand dropped dramatically in 2009 as compared to the previous year due to the general weak economic background. Furthermore, the bentonite market declined as a result of its interdependence on foundries and civil engineering industries. Bentonite probably accounts for an estimated 25-35 percent of the world clay market.

The attapulgite market demand declined because of a drop in sales for fertilizer carrier and pet litter applications. Attapulgite accounts for an estimated 5-15 percent of the world clay market.

PRICES

Kaolin prices for 2009 ranged as follows:

- No 1 paper coating grade, Ex-Georgia plant, per short ton (s.ton) $146-185
- No 2 paper coating grade, Ex-Georgia plant, s.ton $95-147

Bentonite pricing for 2009 still remains in the ranges:

- Cat litter, grade 1-5 mm, bulk, FOB Main Europe port €47-65
- Indian, cat litter grade, crushed, dried, loose in bulk, FOB Kandla $34-38
- Oil Companies Materials Association (OCMA) / Foundry grades, crude & dried, bulk, FOB Milos €50-75
- American Petroleum Institute (API) grade, bagged rail-car, ex-works Wyoming, per s.ton $70-100
- Foundry grade, bagged, railcars, ex-works Wyoming, per s.ton $70-90
- Iron Ore Pelletising (IOP) grade, crude, bulk, ex-works Wyoming per s.ton $48-55

SOUTH AFRICA

South Africa's production of kaolin declined by 20.9 percent from 39.2 kt in 2008 to 31.0 kt in 2009. Local sales mass decreased by 10.1 percent to 30.1 kt but local sales value increased by 3.0 percent to R9.3 million in 2009 compared with the previous year (Table 1). The paper industry, which is the major end use industry of kaolin, continues the transition to calcium carbonate due to the latter's high adaptivity to alkaline technology and cost effectiveness.

TABLE 1: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND IMPORTS OF KAOLIN, 2000-2009

YEAR	PRODUCTION	LOCAL SALES			IMPORTS[#]		
		Mass	Value (FOR)		Mass	Value (FOB)	
	kt	kt	R'000	R/t	kt	R'000	R/t
2000	89.2	80.4	32 071	399	16.4	27 466	1 680
2001	83.5	71.3	32 219	452	15.7	31 491	2 009
2002	86.7	79.4	37 332	470	17.8	53 254	2 988
2003	86.4	72.9	40 573	556	11.6	24 925	2 156
2004	81.9	67.8	42 880	633	15.9	23 562	1 478
2005	59.4	52.7	30 321	575	9.8	16 641	1 690
2006	51.6	39.1	15 809	404	17.6	31 219	1 774
2007	50.8	39.3	10 232	260	15.8	27 927	1 768
2008	39.2	33.5	9 068	271	10.2	25 775	2 527
2009	31.0	30.1	9 343	311	11.0	31 469	2 861

Source: DMR, Directorate Mineral Economics
Source: # RSA, Commissioner for South African Revenue Services, 2000-2009
Notes: Import figures also include "other kaolinitic clays"

Bentonite production decreased by 8.6 percent from 44.1 kt in 2008 to 40.3 kt in 2009 (Table 2). Local sales volume decreased by 37.8 percent from 96.1 kt in 2008 to 59.8 kt in 2009, while local sales value declined by 41.9 percent to R37.6 million in 2009. Sales in the ferrochrome market came to a halt during the first half of 2009 and the foundry market halved for the whole of 2009, resulting in a production cut in line with the drop in bentonite sales. Ferrochrome application is a major market of bentonite, accounting for an estimated 40 percent of sales in South Africa and bentonite sales declined due to the recession-hit ferrochrome in 2009. Export sales volumes decreased by 47.0 percent from 3.4 kt to 1.8 kt in 2009, with export sales value decreasing by 42.5 percent to R2.5 million in 2009. The oil drilling market also came to a halt during the second half, when no new drilling campaigns were taken up.

TABLE 2: SOUTH AFRICA' PRODUCTION, LOCAL SALES AND EXPORTS OF BENTONITE, 2000-2009

YEAR	PRODUCTION	LOCAL SALES			EXPORTS		
		Mass	Value (FOR)		Mass	Value (FOB)	
	kt	kt	R'000	R/t	kt	R'000	R/t
2000	90.1	62.5	21 378	342	0	-	-
2001	108.3	51.8	19 793	382	0	-	-
2002	101.1	67.8	32 916	485	10.0	4 065	408
2003	145.1	74.4	31 210	420	11.0	3 728	338
2004	55.9	75.5	35 662	473	10.5	5 956	566
2005	139.8	75.9	35 738	471	6.9	4 778	688
2006	32.9	75.1	39 005	520	4.0	2 887	715
2007	45.8	87.3	49 749	570	3.2	2 434	761
2008	44.1	96.1	64 670	673	3.4	4 399	1 294
2009	40.3	59.8	37 585	628	1.8	2 529	1 393

Source: DMR, Directorate Mineral Economics

South Africa's production of attapulgite decreased by 25.5 percent to 52.1 kt in 2009 and local sales volume decreased by 25.7 percent to 51.9 kt in 2009 (Table 3). Local sales value decreased by 24.7 percent to R15.7 million in 2009 compared with 2008.

TABLE 3: SOUTH AFRICA' PRODUCTION, LOCAL SALES AND EXPORTS OF ATTAPULGITE, 2000-2009

YEAR	PRODUCTION	LOCAL SALES			EXPORTS		
		Mass	Value (FOR)		Mass	Value (FOB)	
	kt	kt	R'000	R/t	t	R'000	R/t
2000	10.3	8.6	3 447	400	0	-	-
2001	9.2	5.8	3 224	549	20	11	574
2002	13.3	11.0	5 883	535	0	-	-
2003	14.6	14.5	6 750	466	0	-	-
2004	20.4	20.2	8 962	443	0	-	-
2005	33.7	29.8	10 785	362	0	-	-
2006	49.2	49.0	13 201	270	0	-	-
2007	68.4	68.4	17 989	263	0	-	-
2008	69.9	69.9	20 783	297	0	-	-
2009	52.1	51.9	15 653	302	0	-	-

Source: DMR, Directorate Mineral Economics

Productivity per employee in the production of special clays increased by 10.3 percent to 0.64 kt per employee in 2009 compared with 0.58 kt per employee the previous year. Remuneration increased by 15.0 percent to R75 939 per employee in 2009 compared with R66 020 per employee in 2008 (Table 4).

TABLE 4: SOUTH AFRICA' KAOLIN, BENTONITE, ATTAPULGITE AND FLINT CLAY QUARRIES: EMPLOYMENT AND REMUNERATION, 2005-2009

YEAR	EMPLOYEES	TOTAL REMUNERATION	REMUNERATON PER EMPLOYEE
		R'000	R
2005	388	20 338	52 418
2006	340	19 332	56 859
2007	324	19 229	59 349
2008	344	22 711	66 020
2009	249	18 909	75 939

Source: DMR, Directorate Mineral Economics

OUTLOOK

Global demand for kaolin is forecast to grow to 24.8 Mt in 2013, exceeding growth achieved between 2003 and 2008. Asia/Pacific to be accounting for 35 percent, Western Europe 29 percent, North America 19 percent and other regions 17 percent. Strong demand gains in China and other developing countries are expected to account for most of global kaolin demand in 2013, with China alone accounting for over one-half of the global gain. Demand for kaolin in paper production is expected to improve as competition from minerals such as calcium carbonate reduces, offsetting an expected slowdown in the ceramics market.

Despite the transition to calcium carbonate, kaolin has a morphology that is still required for a large number of paper applications, particularly in light weight coated paper. China's market for kaolin in paper is forecast to lead gains, driven by a rapidly expanding domestic paper industry. Kaolin prices are forecast to grow slowly through 2013, as a more moderate growth of energy costs reduces inflationary pressure. In dollar terms, the kaolin market is projected to grow at two percent per year to more than $3.5 billion in 2013.

Landfill sites and stockpile areas are now being lined with bentonite more than in the past (geosynthetic clay liners) and this should contribute to raising the future demand for bentonite. The ferrochrome market has a high growth potential in the short and medium term. Bentonite is less dense than other fillers and it was used for a variety of civil engineering applications for the infrastructure for the FIFA 2010 Soccer World Cup. Civil engineering applications, which include the construction of landfills and stockpile areas, showed a big spike in demand due to the World Cup. Prices for bentonite are coming under pressure from increasing production costs including mining, labour and packing, and prices are expected to rise higher in the near future.

With South Africa's economy recovering from the economic crisis, the special clays industry is expected to grow, on the back of expansions in various sectors that consume clay, particularly the construction, motor and mining industries.

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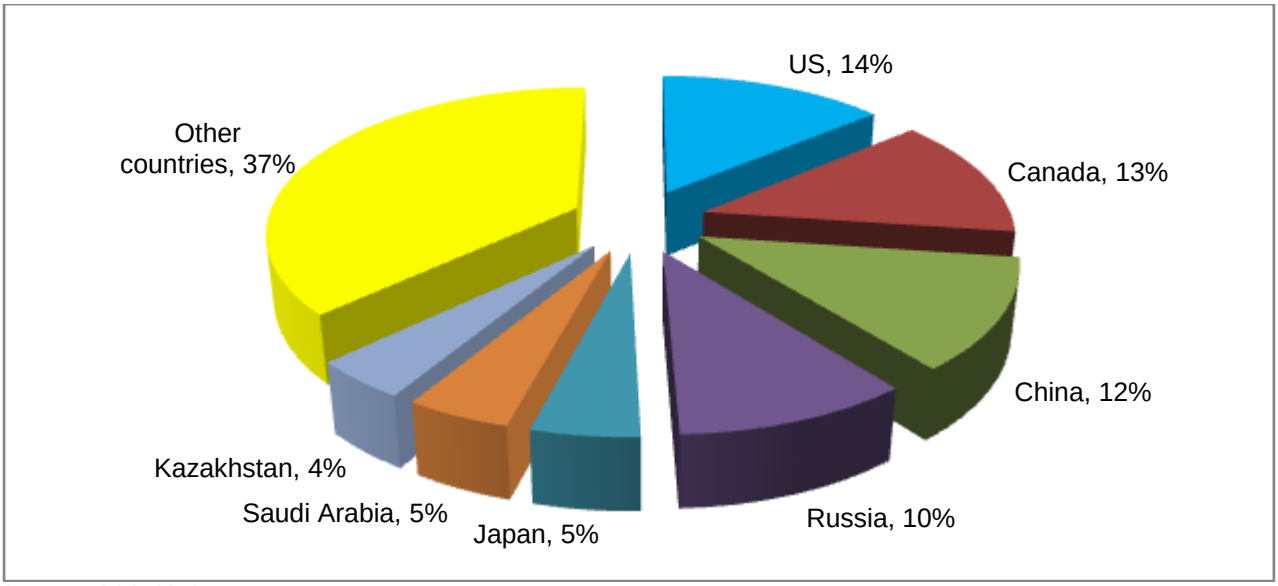
SULPHUR

L. Ramane and M. Modiselle

WORLD SUPPLY

World production of sulphur in all forms (SAF) increased by 1.9 percent to 70.3 Mt in 2009 compared with 69 Mt in 2008. The United States (US) was the largest producer accounting for 14 percent, followed by Canada and China at 13 and 12 percent respectively (Fig. 1). Elemental sulphur constitutes more than 70 percent of sulphur in all forms. World supply of elemental sulphur amounted to 50.4 Mt in 2009, an increase of 5.4 percent compared with the previous year.

FIGURE 1: WORLD PRODUCTION OF SULPHUR BY COUNTRY, 2009

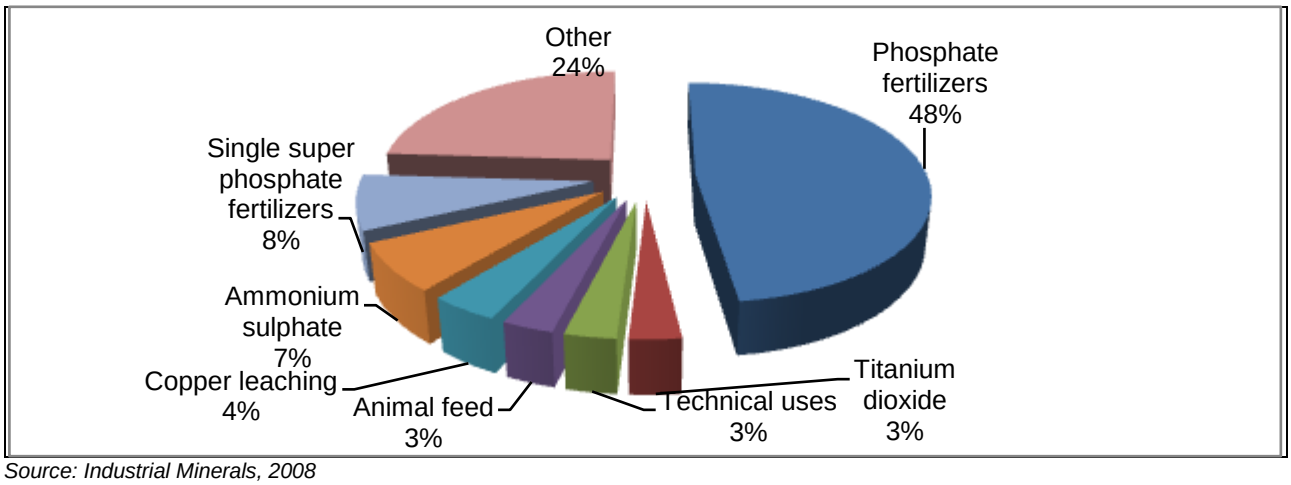


Source: USGS, 2010

WORLD DEMAND

World consumption of elemental sulphur was estimated at 47.1 Mt in 2009, an increase of 3.5 percent compared with 2008, owing to the strong demand from the fertilizer and industrial sectors. Over 90 percent of global sulphur demand is for the production of sulphuric acid. The product is extremely versatile and has many uses. Approximately 65 percent of this chemical is used in various forms for agricultural purposes (Fig. 2), with the majority being used in the manufacture of phosphoric acid, which is primarily used in the fertilizer industry.

FIGURE 2: SULPHURIC ACID CONSUMPTION BY USE



Source: Industrial Minerals, 2008

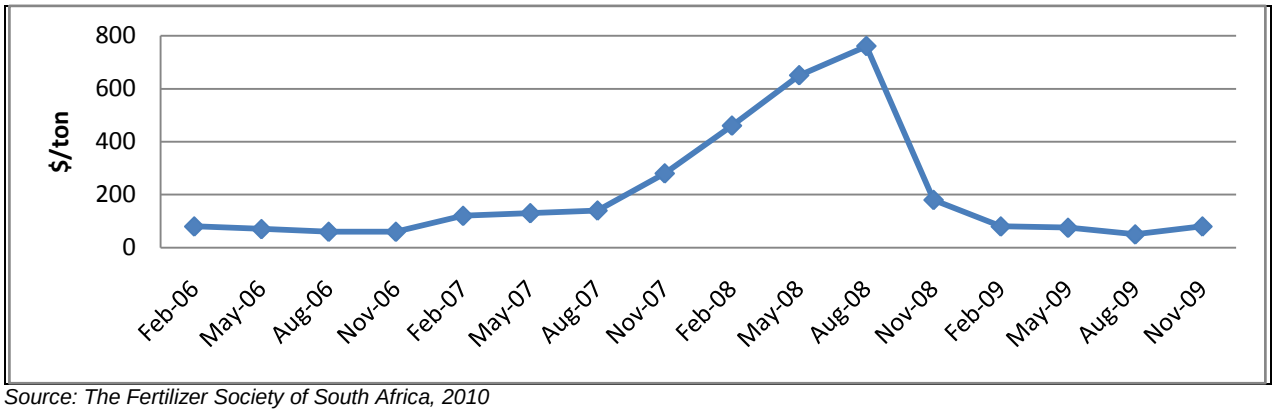
WORLD TRADE

Canada is the largest exporter of elemental sulphur, accounting for 40 percent of the world's sulphur trade. Other major exporting countries include Russia, Saudi Arabia, the United Arab Emirates, Kazakhstan, Japan and Iran. Together, these countries accounted for more than 70 percent of the global elemental sulphur exports. China, which accounts for more than one third of global sulphur trade, is the largest importer followed by Morocco, the United States, Tunisia, India and Brazil. These five countries, together accounted for more than 30 percent of global imports.

WORLD PRICES

Spot prices of sulphur started rising in August 2007 owing to the global shortage of sulphuric acid, which is used in many industrial minerals applications and for downstream beneficiation. After the spot price of sulphur, (FOB) Vancouver, reached $760/t in August 2008, prices collapsed to $180/t in November 2008 and remained low throughout the year touching the lowest price at $50/t in August 2009 (Fig. 3), as the global economy weakened and demand fell.

FIGURE 3: INTERNATIONAL SULPHUR PRICES, (US$/TON SPOT, FOB VANCOUVER), 2006-2009



Source: The Fertilizer Society of South Africa, 2010

SOUTH AFRICA

In South Africa, elemental sulphur is recovered from pyrite, sulphide smelter gases, coal and crude oil. Most elemental sulphur is converted to sulphuric acid.

South Africa's production of SAF decreased by 6.1 percent to 536 kt in 2009, compared with 571 kt in 2008 (Table 1). Sulphur recovery from oil refineries registered a 9.7 percent decrease to 291 kt in 2009, owing to a sharp reduction in oil demand, which directly affected sulphur production levels in the short term and constraints in production. Sulphur was recovered as a by-product from one oil refinery/ synthetic fuels producer, one gold mine, fifteen platinum mines, two zinc mines and one copper mine.

TABLE 1- SOUTH AFRICA'S PRODUCTION OF SULPHUR IN ALL FORMS, 2008-2009

SOURCE	2008		2009	
	Mass		Mass	
	t	%	t	%
Oil refineries / Synthetic fuels	322 662	57	291 222	54
Gold mines	61 278	11	60 244	11
Copper mines	114 507	20	92 240	17
Zinc mines	44 777	8	55 441	10
PGM mines	28 270	5	36 956	7
	571 494	100	536 103	100

Source: DMR, Directorate Mineral Economics

Production of pyrite from gold mines decreased by 1.7 percent to 60 kt in 2009, due to the closure of shafts influenced by seismic events as well as mechanical failures of machinery. Sulphuric acid production from the copper mine, Palabora Mining Company (PMC) decreased by 19.4 percent to 92 kt in 2009, as a result of lower output of copper. Sulphuric acid production from PGM mines increased by 30.7 percent to 37 kt, due to increased output from newer mines.

Local sales tonnage of SAF decreased by 10.5 percent to 348 kt while export sales mass declined by 44.1 percent to 62 kt in 2009 as the global economy weakened and demand plummeted (Table 2). Production mass, which amounted to 536 kt of SAF, was greater than total sales mass (local and export sales mass), 410 kt, since sulphur used for internal purposes (captive production) is not reflected in sales figures. Local sales value declined by 46.6 percent to R293 million, while revenue from export sales decreased by 92.3 percent to R27 million, as a result of weaker prices and lower sales volumes. Average annual local and export prices plunged by 51.5 percent and 86.4 percent to R843/t and R436/t respectively, attributed to weak demand for sulphur in fertiliser manufacturing.

TABLE 2 – SOUTH AFRICA'S PRODUCTION AND SALES OF SULPHUR IN ALL FORMS, 2000-2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
	Mass	Mass	Value		Mass	Value	
kt	kt	kt	R'000	R/t	kt	R'000	R/t
2000	452	282	148 803	528	37	20 140	543
2001	388	287	181 972	633	67	33 408	498
2002	532	324	168 233	520	43	22 993	533
2003	614	480	237 783	495	32	21 799	671
2004	633	390	201 706	517	69	47 677	692
2005	776	481	231 118	481	103	65 592	638
2006	643	351	181 450	517	124	77 919	630
2007	642	358	212 258	593	125	96 571	770
2008	571	315	548 705	1 740	110	351 860	3 190
2009	536	348	293 105	843	62	27 913	436

Source: DMR, Directorate Mineral Economics

South Africa's imports of crude sulphur decreased by an estimated 33.6 percent to 525 kt in 2009 compared with 791 kt in 2008, as a result of weaker demand (Table 3).

TABLE 3 – SOUTH AFRICA'S IMPORTS OF SULPHUR, 2005 – 2009

YEAR	CRUDE/UNREFINED			SUBLIMED & OTHER[+]			TOTAL		
	Mass	Value (FOB)		Mass	Value (FOB)		Mass	Value (FOB)	
	kt	R'000	R/t	kt	R'000	R/t	kt	R'000	R/t
2005	531	230 610	434	97	57 517	593	628	288 127	459
2006	681	295 453	434	41	50 178	1 224	722	345 631	479
2007	599	365 921	610	78	87 705	1 124	677	453 626	670
2008	791	3 436 560	4 344	173	754 037	4 358	964	4 190 597	4 347
2009	525	354 611	675	46	10 141	220	571	364 752	639

Source: RSA, Commissioner for South African Revenue Service, 2005 – 2009
Notes: [+] All forms of sulphur other than those specifically referred to
[r] Revised

OUTLOOK

World production of elemental sulphur is expected to increase by 8 percent to 67.1 Mt in 2014, driven by demand for natural gas. The natural gas industry has the potential to significantly change the nature of the sulphur industry. The amount of world sulphur produced as a by-product of natural gas processing exceeds the volume produced from other sources. Over half of the expected increase in elemental sulphur will come from processing of natural gas in the next four years.

In recent years the use of chemical fertilizers has grown rapidly, owing to the rapid developments of the agriculture and chemical industry. Increasing consumption of sulphuric acid in the manufacture of phosphoric acid-based fertilizers will drive the global consumption of elemental sulphur which is expected to grow at an annual rate of 6 percent, reaching 62.1 Mt in 2014.

World consumption of sulphuric acid, which accounts for 84 percent of total sulphur demand, is expected to grow at an annual rate of 5 percent beyond 2019, as a result of the projected increase of 4.5 percent in the manufacturing of fertilizers.

Sulphur prices are expected to increase beyond 2010, as a result of reduced availability of sulphur in the market. Although prices are projected to increase more as the global economy improves, they will probably not achieve the levels seen in 2008.

The sulphur market will reach a balance in the medium term, given the strength of recovery in the phosphate sector and the shortfall in production from announced projects in the sulphur industry. A moderate surplus of 2 to 2.3 Mt is expected in 2011 and 2012, assuming new supply from delayed projects come online.

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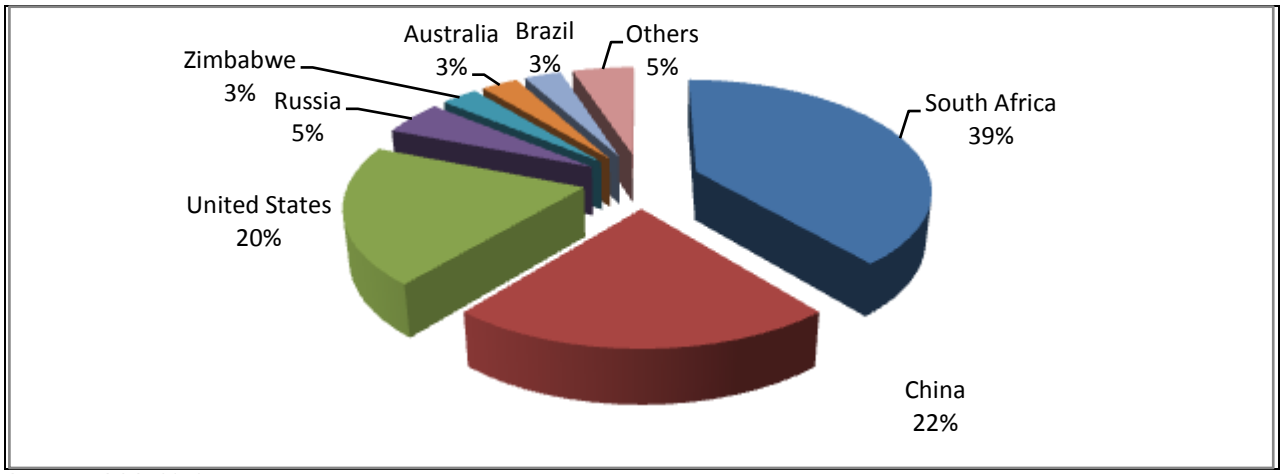
VERMICULITE

L Ramane

WORLD SUPPLY

World vermiculite production increased by 6.7 percent to 555 kt in 2009 compared with 520 kt in 2008. South Africa remained the dominant producer, accounting for 39 percent of total world output, followed by China's 22 percent and the United States' 20 percent (Fig. 1).

FIGURE 1: WORLD PRODUCTION OF VERMICULITE BY COUNTRY, 2009



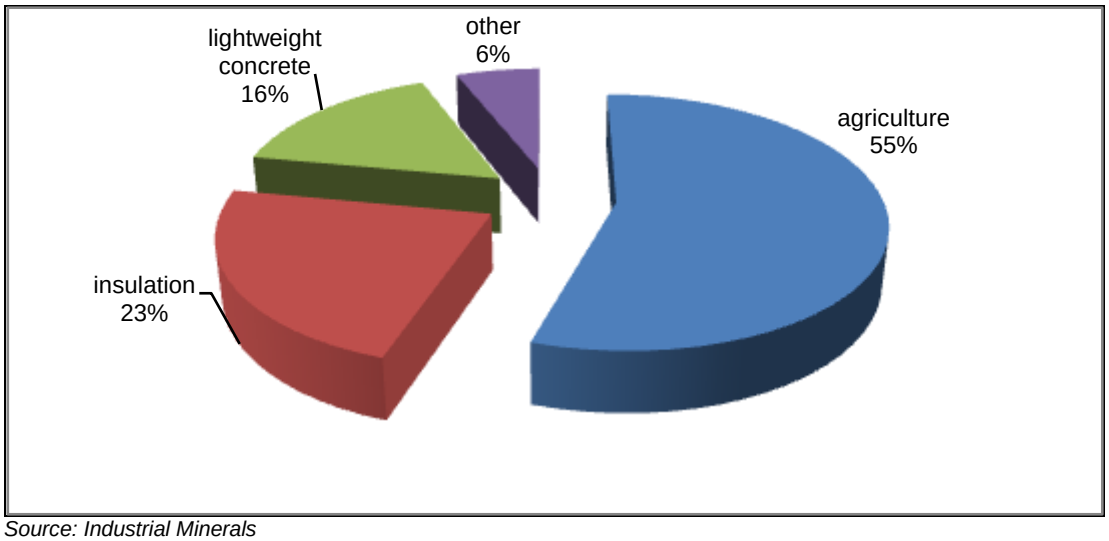
Source: USGS, 2010

Palabora Mining Company (PMC), a member of the Rio Tinto group, is the sole vermiculite producer in South Africa and the largest producer in the world. It is followed by the Imerys group, a French company, which controls mines in Australia, China and Zimbabwe.

DEMAND

World vermiculite demand increased by 10.3 percent to 590 kt in 2009, compared to 535 kt the previous year, due to the lack of coarser grades. The world vermiculite market is mainly dominated by the agricultural sector for horticulture, soil conditioning and as a packaging material or filler for plastics used in fertiliser applications (Fig. 2).

FIGURE 2: VERMICULITE CONSUMPTION BY SECTOR, 2009



Source: Industrial Minerals

TRADE

South Africa and China are the major exporters of vermiculite. South Africa's exports amounted to 164.6 kt in 2009. More than 90 percent of South Africa's output was exported to North America, Japan, and Europe.

PRICES

Prices of South African vermiculite, bulk material, FOB Rotterdam increased by 27 percent to $280-450/t in 2009 compared with $220-355/t in 2008. Strong demand will continue to put pressure on prices, as a result of shortages of certain grades, particularly coarse grades.

SOUTH AFRICA

South Africa's production of vermiculite declined by 3.3 percent to 193.3 kt in 2009 compared to the previous year (Table 1), owing to a decline in coarse grades vermiculite output. The production of superfine and medium grades was also low.

Local sales tonnage decreased by 11.2 percent to 9.5 kt while export tonnage decreased by 19.5 percent to 164.6 kt in 2009. The value of local and export sales declined by 7 percent and 12.8 percent to R10.2 million and R238.3 million respectively, as a result of declining sales and stronger exchange rate for exports.

TABLE 1: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF VERMICULITE, 2000 – 2009

YEAR	PRODUCTION	LOCAL SALES			EXPORTS SALES		
	Mass	Mass	Value (FOR)		Mass	Value (FOB)	
	kt	kt	R'000	R/t	kt	R'000	R/t
2000	208.8	5.7	3 191	555	195.0	132 501	680
2001	157.0	5.9	3 686	624	154.0	125 096	814
2002	210.0	6.5	4 498	692	170.0	205 681	1 208
2003	182.8	6.5	5 114	784	163.3	144 759	886
2004	196.9	7.3	6 229	855	178.8	150 944	844
2005	209.9	6.9	6 368	923	163.7	188 402	1 151
2006	197.8	7.6	7 087	927	166.7	170 029	1 056
2007	198.5	9.1	8 896	981	173.2	195 577	1 129
2008	199.8	10.7	11 002	1 026	204.5	273 239	1 336
2009	193.3	9.5	10 236	1 073	164.6	238 295	1 448

Source: DMR, Directorate Mineral Economics

OUTLOOK

After slightly depressed markets in 2009, sales are expected to increase and demand is forecast to remain firm beyond 2010. Vermiculite demand is growing, especially for insulation and sound proofing end markets, partly driven by eco-trends. Demand in South Africa is underpinned by the construction industry, which is expected to continue growing in the next three years, following government spending of R846 billion on infrastructural programmes.

South Africa's production of vermiculite is forecast to increase from 194 kt in 2009 to 231 kt in 2012, as a result of an increasing demand for finer grade vermiculite. Prices are expected to rise to an average of $335/t in the next three years, as shortage of certain grades becomes more severe particularly coarse grades. However, a slight relief might come from planned and recently commissioned operations in Uganda's Gulf Resources, which are expected to introduce an additional 20kt of vermiculite including some of the coarse grades required in the market.

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STATISTICS FOR OTHER INDUSTRIAL MINERALS

L Ramane, M Modiselle and R Motsie

NOTE: The following applies to all tables.
** Withheld for reasons of company confidentiality
* Nil

1. NATURAL ABRASIVES

TABLE 1: SOUTH AFRICA'S IMPORTS OF NATURAL ABRASIVES, 2000–2009

YEAR	Mass	Value (FOB)	
	t	R'000	R/t
2000	923	3 472	3 762
2001	1 090	3 696	3 390
2002	1 590	7 695	4 840
2003	1 750	8 010	4 577
2004	1 554	5 573	3 586
2005	1 706	3 610	2 112
2006	1 311	4 888	3 728
2007	1 282	6 095	4 654
2008	1 183	5 198	4 394
2009	1 208	7 419	6 141

Source: RSA, Commissioner for South African Revenue Service, 2000–2009

2. BARYTES

TABLE 2.1: SOUTH AFRICA'S PRODUCTION AND LOCAL SALES OF BARYTES, 2000–2009

YEAR	PRODUCTION	LOCAL SALES		
	Mass	Mass	Value (FOR)	
	t	t	R'000	R/t
2000	1 628	4 577	3 083	674
2001	*	353	155	438
2002	*	470	183	391
2003	*	355	149	420
2004	*	275	116	420
2005	*	146	61	420
2006	*	126	52	420
2007	*	535	225	420
2008	*	432	181	420
2009	*	284	119	420

Source: DMR, Directorate Mineral Economics

TABLE 2.2: SOUTH AFRICA'S IMPORTS OF BARYTES, 2000–2009

YEAR	Mass	Value (FOB)	
	t	R'000	R/t
2000	2 423	3 196	1 319
2001	2 254	3 722	1 651
2002	2 925	5 329	1 822
2003	3 245	4 352	1 341
2004	3 056	7 008	2 293
2005	2 013	7 748	3 849
2006	2 736	7 908	2 890
2007	3 114	14 921	4 792
2008	3 568	14 106	3 953
2009	2 823	13 805	4 890

Source: RSA, Commissioner for South African Revenue Service, 2000–2009

3. DIATOMACEOUS EARTH (KIESELGUHR)

TABLE 3: SOUTH AFRICA'S IMPORTS OF DIATOMACEOUS EARTH, 2000–2009

YEAR	Mass	Value (FOB)	
	t	R'000	R/t
2000	4 272	9 572	2 241
2001	3 772	11 857	3 144
2002	4 788	20 406	4 262
2003	5 002	14 975	2 994
2004	4 594	10 670	2 323
2005	5 318	12 944	2 434
2006	5 032	14 321	2 846
2007	4 828	18 930	3 921
2008	5 539	23 205	4 189
2009	3 930	16 075	4 090

Source: RSA, Commissioner for South African Revenue Service, 2000–2009
Note: Production statistics are not published because there is only one producer

4. FELDSPAR

TABLE 4.1: WORLD PRODUCTION OF FELDSPAR, 2009

COUNTRY	Mass		
	kt	%	Rank
China	2 000	11	3
Czech Republic	420	2	9
France	550	3	7
Italy	4 700	25	2
Japan	600	3	4
Korea, Rep.	340	2	11
Mexico	370	2	10
Spain	580	3	5
Thailand	580	3	5
Turkey	5 000	26	1
USA[#]	530	3	8
Other	3 230	17	
TOTAL	18 900	100	

Source: USGS Mineral Commodity Summaries, 2010: www.usgs.gov
Note: [#] Includes weathered granite, feldspar

TABLE 4.2: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF FELDSPAR, 2000–2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES[+]		
		Mass	Value (FOR)		Mass	Value (FOB)	
	kt	kt	R'000	R/t	kt	R'000	R/t
2000	67.0	52.2	20 686	397	0.8	825	1 091
2001	66.1	70.6	27 016	382	1.2	1 665	1 333
2002	66.6	61.0	26 334	432	0.5	822	1 591
2003	57.7	57.4	29 943	521	*	*	*
2004	53.7	66.4	37 477	565	*	*	*
2005	57.5	75.2	44 256	588	*	*	*
2006	75.4	85.2	54 649	641	0.2	218	903
2006	75.4	85.2	54 649	641	0.2	218	903
2007	90.2	106.8	62 080	581	*	*	*
2008	105.8	70.1	49 260	702	*	*	*
2009	101.4	72.9	55 248	758	*	*	*

Source: DMR, Directorate Mineral Economics
Note: [+] Exports are largely of the potassium type and consist almost entirely of ground material

5. GRAPHITE

TABLE 5: SOUTH AFRICA'S IMPORTS OF NATURAL GRAPHITE, 2000–2009

YEAR	Mass	Value (FOB)	
	t	R'000	R/t
2000	2 423	3 196	1 319
2001	1 940	7 602	3 918
2002	1 533	7 751	5 056
2003	1 447	4 926	3 404
2004	1 427	4 879	3 419
2005	1 270	3 909	3 078
2006	1 220	5 193	4 257
2007	1 008	8 207	8 142
2008	1 003	20 101	20 041
2009	921	8 657	9 400

Source: RSA, Commissioner for South African Revenue Service, 2000–2009

6. GYPSUM

TABLE 6.1: WORLD PRODUCTION OF GYPSUM, 2009

COUNTRY	Mass		
	kt	%	Rank
Australia	4 000	3	11
Canada	5 500	4	7
China	42 000	28	1
France	4 800	3	9
Iran	12 000	8	2
Italy	5 400	4	8
Japan	5 800	4	6
Mexico	4 500	3	10
Spain	11 500	8	3
Thailand	8 000	5	5
USA	9 400	6	4
Other	39 100	26	
TOTAL	152 000	100	

Source: USGS Mineral Commodity Summaries, 2010: www.usgs.gov

TABLE 6.2: SOUTH AFRICA'S PRODUCTION, LOCAL SALES, AND CONSUMPTION OF NATURAL GYPSUM, 2000–2009

YEAR	PRODUCTION	LOCAL SALES			CONSUMPTION
		Mass	Value (FOR)		FOR CEMENT[+#]
	kt	kt	R'000	R/t	kt
2000	413	426	17 239	40	346
2001	383	381	17 651	46	369
2002	422	438	20 014	46	369
2003	394	427	20 832	49	410
2004	524	459	18 783	41	452
2005	547	503	18 690	37	500
2006	557	370	30 605	83	550
2007	627	388	33 517	86	543
2008	571	393	33 666	86	519
2009	598	397	36 598	92	**

Sources: Cement and Concrete Institute
DMR, Directorate Mineral Economics
Notes: [+] Based on cement sales and assuming 38,5t gypsum/1 000t cement.
[#] Includes synthetic gypsum.
*** Not available*

TABLE 6.3: SOUTH AFRICA'S IMPORTS OF GYPSUM AND GYPSUM PLASTERS, 2000–2009

YEAR	GYPSUM			GYPSUM PLASTERS		
	Mass	Value (FOB)		Mass	Value (FOB)	
	t	R'000	R/t	t	R'000	R/t
2000	2 565	5 633	2 196	5 669	5 018	885
2001	1 741	2 039	1 171	5 422	7 809	1 440
2002	1 861	2 909	1 564	4 893	7 021	1 435
2003	1 931	2 732	1 415	5 256	6 560	1 248
2004	2 624	3 039	1 158	4 761	6 365	1 337
2005	1 971	2 218	1 125	4 268	5 704	1 337
2006	2 408	3 703	1 537	5 313	8 827	1 661
2007	3 007	4 555	1 515	17 205	15 004	872
2008	1 939	3 343	1 724	11 290	14 303	1 267
2009	3 427	8 379	2 445	3 790	8 200	2 164

Source: RSA, Commissioner for South African Revenue Service, 2000–2009

7. MAGNESITE

TABLE 7.1: SOUTH AFRICA'S PRODUCTION AND LOCAL SALES OF MAGNESITE AND DERIVED PRODUCTS, 2000–2009

YEAR	PRODUCTION	LOCAL SALES		
		Mass	Value (FOR)	
	kt	kt	R'000	R/t
2000	63.0	92.4	20 156	218
2001	36.5	70.2	26 979	384
2002	87.2	113.6	25 379	223
2003[#]	86.1	131.3	33 165	253
2004	65.9	122.9	25 513	208
2005	54.8	103.4	31 327	303
2006	73.3	110.8	35 104	317
2007	80.7	117.4	42 323	360
2008	83.9	111.1	51 864	467
2009	47.6	72.3	43 234	598

Source: DMR, Directorate Mineral Economics
Note: # Exports amounting to 1 406 tons valued at R1 509 380 were recorded

TABLE 7.2: SOUTH AFRICA'S IMPORTS OF MAGNESITE AND MAGNESIA, 2000–2009

YEAR	MAGNESITE			MAGNESIA		
	Mass	Value (FOB)		Mass	Value (FOB)	
	kt	R'000	R /t	kt	R'000	R/t
2000	2.7	3 857	1 436	55.8	6 467	1 158
2001	2.9	5 561	1 922	50.8	74 292	1 462
2002	13.4	18 243	1 363	46.4	95 144	2 052
2003	15.3	17 030	1 116	40.0	64 898	1 624
2004	11.6	15 007	1 202	42.1	62 299	1 480
2005	13.4	24 599	1 840	38.6	58 729	1 521
2006	11.2	15 444	1 379	36.2	61 115	1 688
2007	24.9	51 790	2 080	48.0	91 115	1 898
2008	15.3	39 509	2 582	36.2	136 071	3 759
2009	25.5	10 850	4 254	41.8	139 175	3 328

Source: RSA, Commissioner for South African Revenue Service, 2000–2009

8. MICA

TABLE 8.1: WORLD PRODUCTION OF MICA, 2009

COUNTRY	Mass		
	kt	%	Rank
Canada	17	4	6
Finland	70	19	3
France	20	5	5
Korea, Rep	40	11	4
Russia	100	26	1
USA	90	24	2
Other	41	11	
TOTAL	378	100	

Source: USGS Mineral Commodity Summaries, 2010: www.usgs.gov

TABLE 8.2: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF SCRAP AND FLAKE MICA, 2000–2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value (FOR)		Mass	Value (FOB)	
	t	t	R'000	R/t	t	R'000	R/t
2000	525	1 188	2 005.3	1 688	488	2 193.7	4 495
2001	937	960	**	**	664	**	**
2002	880	390	**	**	481	**	**
2003	1 003	470	**	**	470	**	**
2004	285	55	**	**	766	**	**
2005	922	*	*	*	856	**	**
2006	828	254	1 136.7	4 480	327	2 070.0	6 331
2006	828	254	1 136.7	4 480	327	2 070.0	6 331
2007	437	201	870 727	4 329	261	1 679.8	6 428
2008	426	179	**	**	232	**	**
2009	299	245	**	**	106	**	**

Source: DMR, Directorate Mineral Economics

TABLE 8.3: SOUTH AFRICA'S IMPORTS OF MICA, 2000–2009

YEAR	Mass	Value (FOB)	
	t	R'000	R/t
2000	214	543.3	2 539
2001	313	882.2	2 818
2002	270	1 286.0	4 763
2003	375	1 021.3	2 720
2004	495	846.6	1 709
2005	581	1 073.2	1 847
2006	901	1 365.0	1 515
2007	865	1 667.4	1 928
2008	296	1 103.1	3 727
2009	358	933.8	2 608

Source: RSA, Commissioner for South African Revenue Service, 2000–2009

9. MINERAL PIGMENTS

TABLE 9: SOUTH AFRICA'S PRODUCTION AND SALES OF MINERAL PIGMENTS, 2000–2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value		Mass	Value	
	t	t	R'000	R/t	t	R'000	R/t
2000	568	1 954	870	445	*	*	*
2001	852	2 116	860	406	126	180	1 430
2002	282	1 023	446	435	*	*	*
2003	764	1 080	678	628	*	*	*
2004	512	1 027	769	749	20	44	2 181
2005	510	801	554	692	226	472	2 091
2006	590	811	751	927	*	*	*
2007	232	737	769	1 043	*	*	*
2008	39	288	94	327	*	*	*
2009	183	119	40	339	*	*	*

Source: DMR, Directorate Mineral Economics

10. POTASH

TABLE 10.1: WORLD POTASH RESERVES AND PRODUCTION, 2009

COUNTRY	RESERVES			PRODUCTION		
	Mt K_2O	%	Rank	kt K_2O	%	Rank
Belarus	750	8.9	3	3 850	15	2
Brazil	300	3.5	5	500	2	10
Canada	4 400	52.0	1	6 500	26	1
Chile	10	0.1	13	600	2	9
China	200	2.4	6	2 750	11	4
Germany	710	8.4	4	2 300	9	5
Israel	40	0.5	8	2 000	8	6
Jordan	40	0.5	8	1 100	4	7
Russia	1 800	21.3	2	3 600	14	3
Spain	20	0.2	12	400	2	11
UK	22	0.3	10	400	2	11
Ukraine	25	0.3	10	10	0	13
USA	90	1.1	7	840	3	8
Other	50	0.6		na		
Total	8 457	100		25 000	100	

Source: USGS Mineral Commodity Summaries, 2010: www.usgs.gov

TABLE 10.2: SOUTH AFRICA'S IMPORTS OF POTASH, 2000–2009

YEAR	POTASSIUM CHLORIDE		POTASSIUM SULPHATE		POTASSIUM NITRATE		TOTAL	
	kt	R'000	kt	R'000	kt	R'000	kt	R'000
2000	299.6	245 063	18.6	26 136	32.1	65 531	350.3	336 730
2001	243.5	231 835	25.8	42 257	40.5	94 951	309.8	369 043
2002	304.9	362 295	25.3	55 835	39.0	101 411	369.2	519 541
2003	245.8	197 952	31.2	47 621	35.2	80 245	312.2	325 818
2004	276.8	253 155	22.6	30 776	40.0	99 972	339.4	383 903
2005	198.3	241 859	39.0	58 400	30.1	85 496	267.4	385 755
2006	260.4	381 811	40.2	79 892	20.6	79 737	321.2	541 440
2007	255.4	409 632	38.8	93 446	26.0	79 083	320.2	582 181
2008	271.4	1 546 452	46.1	330 639	26.2	281 162	343.7	2 158 253
2009	139.6	618 360	24.0	129 297	14.8	101 451	178.4	849 108

Source: RSA, Commissioner for South African Revenue Service, 2000–2009
Note: Up to 10 percent of the imports were probably for non-fertiliser uses

11. PYROPHYLLITE

TABLE 11: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF PYROPHYLLITE, 2000–2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value (FOR)		Mass	Value (FOB)	
	t	t	R'000	R/t	t	R'000	R/t
2000	**	**	14 389	**	**	25 409	**
2001	**	**	18 098	**	**	18 607	**
2002	**	**	22 965	**	**	14 584	**
2003	**	**	24 541	**	**	8 876	**
2004	**	**	34 824	**	11 683	1 266	**
2005	**	**	34 798	**	**	6 038	**
2006	**	**	34 576	**	**	52 879	**
2007	**	**	39 962	**	**	7 483	**
2008	**	**	42 230	**	**	8 438	**
2009	**	**	38 449	**	**	9 795	**

Source: DMR, Directorate Mineral Economics

12. SALT

TABLE 12.1:SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF SALT, 2000–2009

YEAR	PRODUCTION	LOCAL SALES			EXPORTS		
		Mass	Value (FOR)		Mass	Value (FOB)	
	kt	kt	R'000	R/t	kt	R'000	R/t
2000	346	487	74 543	153	1	119	113
2001	355	420	75 445	180	1	76	70
2002	429	450	82 770	184	<1	23	860
2003	441	467	84 113	180	1,2	140	114
2004	332	349	65 730	188	<1	70	168
2005	399	436	79 306	182	*	*	*
2006	405	425	89 583	211	*	*	*
2007	411	450	101 951	227	*	*	*
2008	430	437	123 537	282	*	*	*
2009	408	438	104 309	321	*	*	*

Source: DMR, Directorate Mineral Economics

TABLE 12.2: SOUTH AFRICA'S LOCAL SALES AND EXPORTS OF COARSE SALT, 2000–2009

YEAR	LOCAL SALES			EXPORT SALES		
	Mass	Value (FOR)		Mass	Value (FOB)	
	kt	R'000	R/t	kt	R'000	R/t
2000	362	31 332	86	<1	90	94
2001	299	31 161	104	1	76	70
2002	315	36 132	115	<1	23	86
2003	386	43 222	112	1	70	114
2004	349	65 730	188	<1	*	*
2005	348	42 323	122	*	*	*
2006	326	42 540	131	*	*	*
2007	354	51 221	164	*	*	*
2008	340	55 910	164	*	*	*
2009	331	59 471	180	*	*	*

Source: DMR, Directorate Mineral Economics

13. SILICA

TABLE 13.1: SOUTH AFRICA'S PRODUCTION, LOCAL SALES AND EXPORTS OF SILICA, 2000–2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value (FOR)		Mass	Value (FOB)	
	kt	kt	R'000	R/t	t	R'000	R/t
2000	2 137	2 080	119 284	57	718	591	822
2001	2 127	2 211	130 650	59	482	636	1 320
2002	2 251	2 253	158 964	71	1 038	1 742	1 679
2003	2 311	2 070	165 096	80	884	1 199	1 356
2004	2 249	1 996	187 474	94	649	1 007	1 551
2005	2 671	2 290	189 469	83	652	1 017	1 560
2006	3 231	2 884	236 296	82	424	896	2 113
2007	3 352	2 726	280 191	103	806	1 541	1 913
2008	3 342	3 059	351 474	115	959	1 486	1 550
2009	2 306	2 431	330 404	136	1 222	1 652	1 352

Source: DMR, Directorate Mineral Economics

14. TALC

TABLE 14.1: SOUTH AFRICA'S PRODUCTION AND SALES OF TALC, 2000–2009

YEAR	PRODUCTION	LOCAL SALES			EXPORT SALES		
		Mass	Value (FOR)		Mass	Value (FOB)	
	t	t	R'000	R/t	t	R'000	R/t
2000	5 600	8 869	4 541	512	40	24	588
2001	3 030	9 024	4 081	452	16	10	610
2002	2 511	12 395	4 552	367	*	*	*
2003	6 719	7 286	4 051	542	*	*	*
2004	8 141	8 094	4 163	514	*	*	*
2005	8 469	7 439	4 319	581	*	*	*
2006	10 966	7 134	4 957	695	*	*	*
2007	14 281	7 326	5 639	770	*	*	*
2008	5 145	6 591	5 606	851	*	*	*
2009	4 718	6 213	5 893	948	*	*	*

Source: DMR, Directorate Mineral Economics

TABLE 14.2: SOUTH AFRICA'S IMPORTS OF TALC, 2000–2009

YEAR	Mass	Value (FOB)	
	t	R'000	R/t
2000	4 213	8 130	1 930
2001	4 114	9 079	2 207
2002	5 522	2 519	456
2003	6 000	7 063	1 177
2004	5 480	11 713	2 137
2005	10 541	17 713	1 694
2006	9 565	20 344	2 127
2007	11 721	26 040	2 222
2008	8 142	25 114	3 084
2009	10 254	23 851	2 326

Source: RSA, Commissioner for South African Revenue Service, 2000–2009

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Telefax: (011) 339 1858

Regional Manager: Mineral Regulation – KwaZulu/Natal
Private Bag X 54307
4000 Durban

Durban Bay House
333 Smith Street
Durban

Tel: (031) 335 - 9600
Telefax: (031) 301 - 6950

Regional Manager: Mineral Regulation – Mpumalanga
Private Bag X7279
1035 Witbank

Receiver of Revenue Building
cnr Paul Kruger and Botha Avenue
Witbank

Tel: (013) 656 1448
Telefax: (013) 690 3288

Regional Manager: Mineral Regulation - Northern Cape
Private Bag X6093
8300 Kimberley

Liberty Building
29-31 Currey Street
Kimberley

Tel: (053) 807 1700
Telefax: (053) 832 5631

Regional Manager: Mineral Regulation – Limpopo
Private Bag X9467
0700 Polokwane

101 Dorp Streets
Polokwane
0699

Tel: (015) 287 4700
Telefax: (015) 287 4729

Regional Manager: Mineral Regulation - North-West
Private Bag A1
2570 Klerksdorp

Vaal University of Technology building
Cnr Margaret Prinsloo & Voortrekker Str
Klerksdorp

Tel: (018) 487 9830
Telefax: (018) 487 9831 / 9836

Regional Manager: Mineral Regulation - Western Cape
Private Bag X9
8012 Roggebaai

9 Atterbury House
Cnr Riebeeck & Lower Brug Str
Cape Town

Tel: (021) 427 1000
Telefax: (021) 427 1046 / 1047

Regional Manager: Mineral Regulation – Rustenburg
PO Box 150
0309 Tlhabane

Tlabane House
Tlhabane Shopping Centre
Thlabane

Tel: (014) 565 6417
Telefax: (014) 565 6424

Regional Manager: Mineral Regulation – Springbok
Private Bag x14
8240 Springbok

Hopley Centre
Cnr of Van Der Stel and Van Reebuck Street
Springbok

Tel: (027) 712 8160
Telefax: (027) 712 1959

ASSOCIATED GOVERNMENT DEPARTMENTS

Department of Environmental Affairs
Private Bag X447 www.environment.gov.za
0001, Pretoria

Fedsure Forum Building
North Tower
Cnr van der Walt & Pretorius Street

Tel: +27 (0) 12 310 3911
Fax: +27 (0) 12 322 2682

Department of Rural Development and Land Reform
Private Bag X 833 www.ruraldevelopment.gov.za
0001, Pretoria

Cnr Jacob Mare & Paul Kruger Street
Pretoria

Tel: +27 (0) 12 312 8911
Fax: +27 (0) 12 312 8066

Department of Science and Technology
Private Bag X894 www.dst.gov.za
0001, Pretoria

CSIR Campus (Southgate Entrance)
Meiring Naude Road, Brummeria
Pretoria

Tel: +27 (0) 12 843 6300 / 6671

Department of Trade and Industry
Private Bag X84 www.thedti.gov.za
0001 Pretoria

DTI Campus – Block E
Cnr Esselen & Meintjies Streets 77
Sunnyside, Pretoria

Tel: +27 (0) 861 843 384
Telefax: +27 (0) 12) 394-4612 / 0517

Department of Water Affairs
www.dwaf.co.za

Sedibeng Building
185 Schoeman Street
Pretoria

Tel: +27 (0) 12 336 7500
Fax: +27 (0) 12 324 6592

Statistics South Africa Private Bag X44 0001, Pretoria	www.statssa.gov.za	170 Andries Street De Bruyn Park Pretoria Tel: +27 (0) 12 310 8911 Fax: +27 (0) 12 310 8500/8495

STATE OWNED ENTERPRISES

Council for Geoscience Private Bag X112 0001 Pretoria	www.geoscience.org.za	280 Pretoria Road Silverton Pretoria Tel: +27 (0) 12 841 1911 Telefax: +27 (0) 12 841 1221
CSIR P O Box 395 0001 Pretoria	www.csir.co.za	Meiring Naude Road Brummeria Pretoria, 0184 Tel: +27 (0) 12 841 2911 Telefax +27 (0) 12 349 1153
Eskom P O Box 1091 2000 Johannesburg	www.eskom.co.za	Megawatt Park Maxwell Drive Sunninghill Ext 1 Sandton Tel: +27 (0) 11 800 8111 Telefax: +27 (0) 11 800 4299
Mine Health and Safety Council Private Bag X63 Braamfontein 2017	www.mhsc.org.za	2nd Floor Braamfontein Centre 23 Jorissen Street Braamfontein Johannesburg Tel: +27 (0) 11 358 9180 Fax: +27 (0) 11 403 1821
Mining Qualifications Authority Private Bag X 118 Marshalltown 2107	www.mqa.org.za	74-78 Marshall Street Union Corporation Building 4th Floor Marshalltown Johannesburg Tel: +27 (0) 11 832 1022 Fax: +27 (0) 11 832 1027

Mintek Private Bag X3015 2125 Randburg	www.mintek.co.za	200 Malibongwe Drive Randburg Tel: +27 (0) 11 709 4111 Telefax: +27 (0) 11 793 2413
Petro SA Private Bag X5 Parow, Cape Town 7499	www.petrosa.co.za	151 Frans Conradie Drive Cape Town 7500 Tel: +27 (0) 21 929 - 3000 Telefax: +27 (0) 21 929 - 3144
NECSA P O Box 582 0001 Pretoria	www.necsa.co.za	Church Street, West Extension Pelindaba, Brits District Tel: +27 (0) 12 305 4911 Telefax: +27 (0) 12 305 3111
South African Agency for Promotion of Petroleum Exploration and Exploitation (Pty) Ltd Petroleum Agency SA PO Box 1174 Parow 7499	www.petroleumagencysa.com	Tyger Poort Building 7 Mispel Street Bellville, Cape Town Tel: +27 (0) 21 938 3500 Fax: +27 (0) 21 938 3520
The Industrial Development Corporation of SA Ltd (IDC) P O Box 784055 2146 Sandton	www.idc.co.za	19 Fredman Drive Sandton Tel: +27 (0) 11 269 3000 Telefax: +27 (0) 11 269 3116
South African Diamond and Precious Metals Regulator P O Box 16001 2028 Doornfontein	www.sadpmr.co.za	5th Floor, Office 501 S A Diamond Centre 225 Corner Main & Phillip Street Johannesburg Tel: +27 (0) 11 334 8980 / 6 Telefax: +27 (0) 11 334 8898

National Nuclear Regulator
PO Box 7106
0046 Centurion www.nnr.co.za Tel: +27 (0) 12 674 7100
Telefax: +27 (0) 12 663 5513

State Diamond Trader
Suite 510, 5th Floor
SA Diamond Centre
225 Main Street www.statediamondtrader.gov.za Tel: +27 (0) 11 334 2691
Johannesburg Telefax: +27 (0) 11 334 1540

OTHER MINERAL-RELATED ORGANISATIONS

Aggregate and Sand Producers Association of South Africa (ASPASA) www.aspasa.co.za
PO Box 1983
Ruimsig

Unit 8
Cornpark
Ferrero
Randpark Ridge

Tel: +27 (0) 11 791 3327
Telefax: +27 (0)86 647 7967

Chamber of Mines of South Africa
PO Box 61809 www.bullion.org.za
2107 Marshalltown

Cnr Sauer & 71 Marshall Street
Marshalltown
Johannesburg

Tel: +27 (0) 11 498 7100
Telefax: +27 (0) 11 834 1884

Copper Development Association (Pty) Ltd
P O Box 14785 www.copper.co.za
1422 Wadeville

53 Rendell Road
Wadeville
Germiston

Tel: +27 (0) 11 824 3712
Telefax: +27 (0) 11 824 3120

Federation of SA Gem & Mineralogical Societies
P O Box 17273 www.fosagams.co.za
0027 Groenkloof

584 Dune Street
Elarduspark
0181 Pretoria

Tel: +27 (0)86 677 4001

Ferro Alloy Producers Association (FAPA)
P O Box 1338 www.seissa.co.za
2000 Johannesburg

Metal Industries House
42 Anderson Street
Johannesburg

Tel: +27 (0) 11 298 9400
Telefax: +27 (0) 11 298 9500

South African Mining Development Association (SAMDA)
PO Box 2057 www.samda.co.za
2121, Parklands

The Riviera Road
606 Oxford corner North Avenue
Ground Floor, Block 3, Office 2
2196, Rosebank

Tel: +27 (0) 11 486 0510
Telefax: +27 (0) 11 486 3194

Steel and Engineering Industries Federation of SA (Seifsa)
P O Box 1338 www.seifsa.co.za
2000 Johannesburg

Metal Industries House
42 Anderson Street
Johannesburg

Tel: +27 (0) 11 298 - 9400
Telefax: +27 (0) 11 838 1522

The Institute of Mine Surveyors of SA
P O Box 62339 www.ims.org.za
2107 Marshalltown

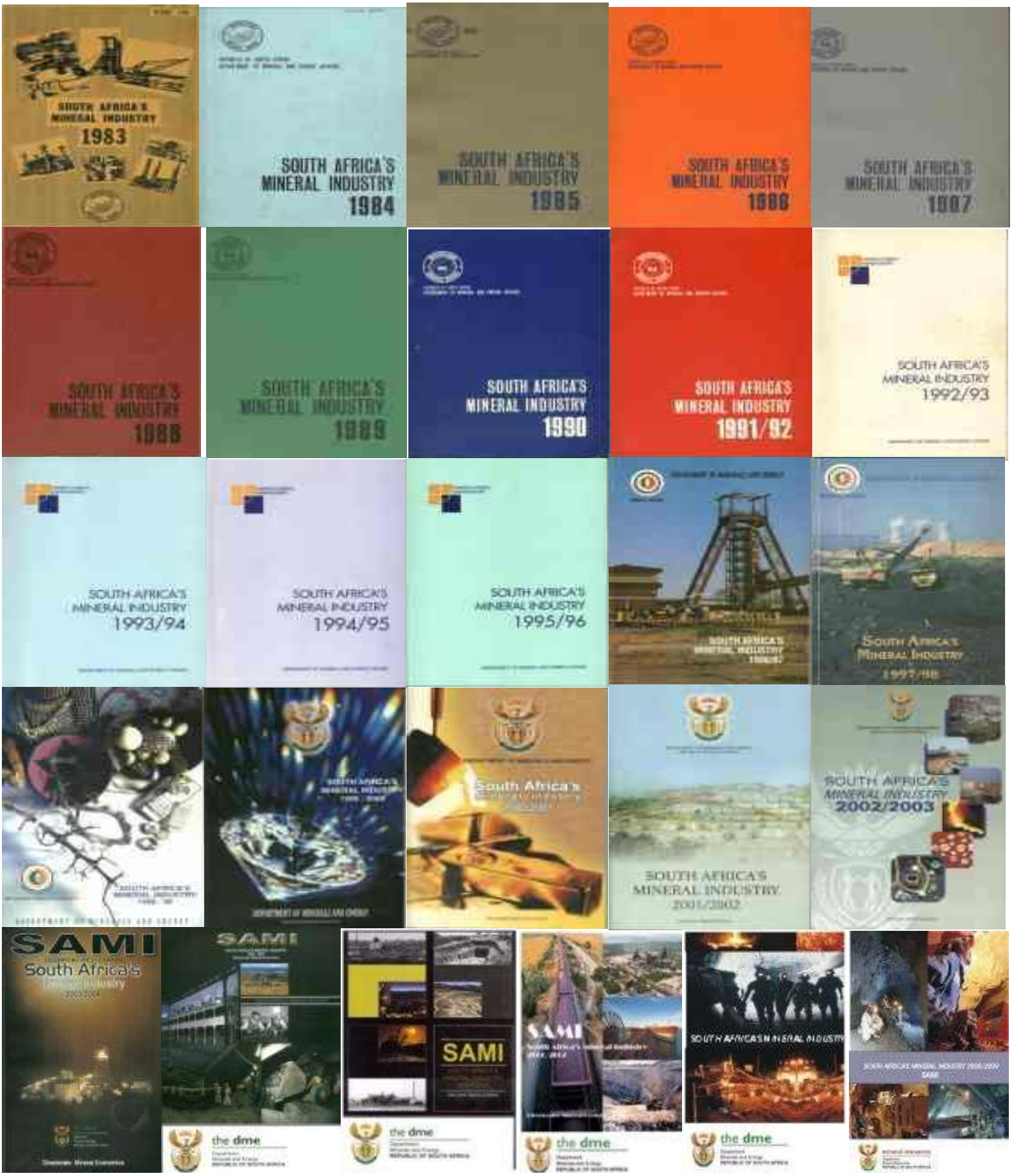
Chamber of Mines Building, Room 509
5 Hollard Street
Marshalltown

Tel: +27 (0) 11 498 7682
Telefax: +27 (0) 11 498 7681

The South African Institute of Mining and Metallurgy
P O Box 61127 www.saimm.co.za
2107 Marshalltown

Chamber of Mines Building, 5th Floor
5 Hollard Street
Marshalltown

Tel: +27 (0) 11 834 1273
Telefax: +27 (0) 11 838 5923/ 833 8156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