



CPM Group Molybdenum Reception at the 2008 PDAC



CPM Group Molybdenum 2008

CPM Group Molybdenum March 2008

CPM Group

30 Broad Street 37th Floor New York, NY 10004 U.S.A.

| Telephone: | 212-785-8320 |
|------------|-------------------|
| Fax: | 212-785-8325 |
| E-mail: | info@cpmgroup.com |
| Website: | www.cpmgroup.com |

Copyrighted 2008 - CPM Group

Not for reproduction without written consent of CPM Group.

The information contained here has been obtained from sources believed reliable. We believe this information to be reliable, but do not guarantee its accuracy or completeness. Opinions expressed here represent those of CPM Group at the time of publication. This material is for the private use of clients. We are not soliciting any action based on it. Information contained here should not be relied on as specific investment or market timing advice. At times the principals and associates of CPM Group may have long or short positions in some of the markets mentioned in this report.

Preface

The **CPM Molybdenum Reception** marks the first year that CPM Group has organized a reception hosted by CPM Group and some of its molybdenum mining and exploration associates at the Prospectors and Developers Association of Canada annual convention in early March.

In conjunction with this **Molybdenum Reception** CPM Group has published a brief report on the molybdenum market.

We are proud to be associated with the companies sponsoring this reception.

Roca Mines Inc.

TSX-V: ROK

ROCA Mines Inc. is a mining company with a focus on the outstanding exploration and development potential in British Columbia (B.C.), Canada.

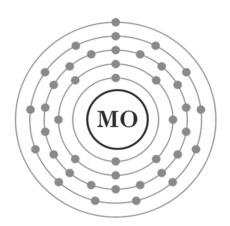
Roca's primary asset is the MAX Molybdenum Mine, which commenced production in 2007. The MAX deposit is a well-defined resource which is distinguished by significant high grade zones grading nearly 2% MoS₂. Production targets of 5 million lbs. annually are estimated for 2008-2010 with expansion opportunities to be pursued during that time. Exploration opportunities with the potential to add to the known resource at MAX are being investigated.

Molybdenum is predominantly utilized as an alloying agent in numerous types of steels with many applications used in the discovery, processing and delivery of various types of energy resources. The molybdenum ("moly") market is seen as being inelastic and a lack of re-investment in new operations has resulted in a current spot price for molybdenum oxide in the US\$32-34/lb. range, well above its historical average.

Roca is also active on a number of other exploration projects in B.C. with exposure to base metals, precious metals as well as molybdenum.

Contact Details

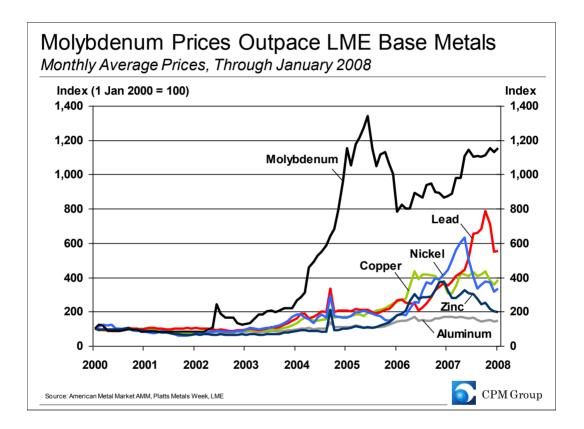
Doug Fosbrooke Investor Relations Manager dfosbrooke@rocamines.com http://www.rocamines.com



Molybdenum: The Shape of Things to Come

Molybdenum

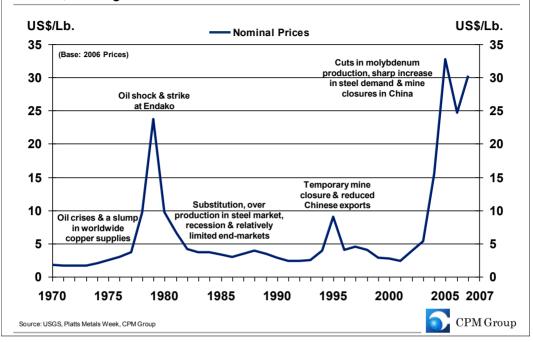
Since the start of this decade the gain in molybdenum prices has far exceeded the increases in other base metals prices. Many market participants began to take notice of molybdenum in 2004, as prices started to gain momentum. By December 2004 prices has risen nearly three and a half fold year-on-year. That trend continued into the first half of 2005, as limited roasting capacity and strong molybdenum demand moved molybdenum prices to record levels. Prices came off briefly in 2005, but by the end of the 2007, prices were up more than 11 -fold from the start of this decade.



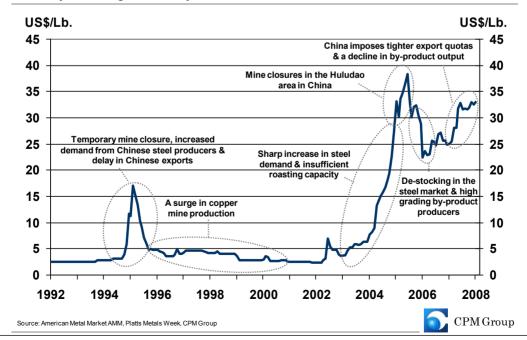
Structural shifts in the supply and demand of molybdenum have brought life back into the molybdenum market after nearly a decade of depressed fundamentals. Many of the underlying themes that drove prices sharply higher in 2004 are still present in the market.

Unlike many of the exchange-traded commodities, there is far less transparency in the molybdenum market because prices are determined in negotiations between producers, trading houses, and end users, with supply and demand fundamentals in the backdrop. Going forward, molybdenum prices may to continue to reflect the tight supply situation, which has been compounded by robust consumption. After all, molybdenum demand has become relatively inelastic in its principal end-markets as well as in many industries that have sought to develop new materials that benefit from molybdenum's alloying properties.

A Historical Look of Nominal Molybdenum Prices Annual, Through 2007



The Recent Climb in Molybdenum Oxide Prices Monthly, Through January 2008



Previous rallies in molybdenum prices were triggered by temporary shocks to supply or demand. Prices corrected, retreating back to the \$2 to \$4 per pound range, following each of these supply disruptions or short-term surges in demand.

Historical Overview

The 1979 oil crises led to the first spike in molybdenum prices. This was due to the Iranian Revolution, which resulted in a roughly 4% drop in global crude production. A surge in exploration and development throughout the oil industry prompted an increase in demand for drilling stem pipe containing molybdenum alloys. This was compounded by a shortfall in molybdenum mine production. In 1979 employees at Endako began a roughly nine-month strike. By June 1979, prices briefly climbed toward \$33 a pound.

In the early 1980s demand for steel declined during the recession in the United States. At that time, molybdenum end-uses were preliminarily limited to rather conventional applications in the steel industry. Demand for molybdenum was price sensitive as the end-uses of molybdenum-bearing products were relatively undeveloped compared to today and did not employ all of molybdenum's robust physical properties. Some substitution and weak demand pressured prices lower.

In 1994 and 1995 prices briefly spiked higher due to increased steel demand in China as well as from supply shocks. However, this was short-lived and a surge in copper production in 1996 continued to weigh on molybdenum prices through 2001.

Increased global demand for steel in conjunction with insufficient roasting capacity started to pull prices higher in 2002. By December 2004, monthly molybdenum prices averaged \$27.50 per pound, a more than 10-fold increase from prices at the start to 2002.

In February 2005, the Chinese government closed molybdenum mines in the Huludao area due to both tax fraud and safety concerns following several fatal coal mine accidents. The shutdown resulted in a more than 40% loss in total Chinese molybdenum mine production. During June 2005 prices climbed to test \$40 a pound.

In the second half of 2005, prices declined as stainless steel fabricators entered a destocking period and as additional supplies from by-product producers made their way to the market. By-product producers had been targeting high grades of molybdenum in response to the rise in molybdenum prices. As is commonly known, high-grading is not sustainable throughout the life of a mine and the reduced output from by-product producers began to again pull prices higher in the latter half of 2006.

During November 2006 the Chinese government imposed exports duties on molybdenum oxide and ferromolybdenum. In June of 2007 these levies were raised to 15% for molybdenum oxide and 10% for ferromolybdenum. Around that time the government also tightened its control over molybdenum products and imposed more stringent export quotas.

These quotas continued to be tightened. In late October of last year, China's Trade Ministry announced further cut backs in the 2008 quota. These developments continued to push molybdenum prices upward. Molybdenum prices averaged \$32.38 per pound during December 2007. It should be noted that even at current prices, inflation adjusted molybdenum prices are roughly half the prices seen at the peak in 1979.

Sustainably Higher Molybdenum Prices

This year molybdenum prices may continue to trend higher. Molybdenum prices seem to have formed strong support above \$30 per pound. Unlike in previous price rallies, when temporary holdups in supply or jumps in demand led to short-term price spikes, the fundamental shifts that have occurred in molybdenum over the past four years are expected to continue to support prices for the next couple of years, at the least.

Fundamentals shifts have occurred on both the supply-side as well as the demand-side. First, there has been a restructuring in the origination of molybdenum supplies. This is largely due to the:

changing role of by-product producers,
tighter regulation on Chinese producers,
a declining portion of secondary supplies available,
and a rising cost structure.

Second, demand for molybdenum has risen because of advances in the end-markets in which it is used. An expanding energy sector, with increased exploration and development in harsh terrains and environments, has resulted in increased demand for materials able to withstand extreme temperatures and heavy exposure to corrosive elements. Substitutability has become *more* limited in these environments. Lastly, molybdenum inventories continue to diminish as the market is expected to enter into its seventh year of a supply deficit.

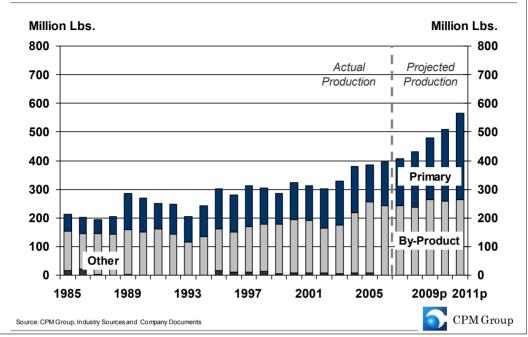
Supply

The molybdenum market is characterized by two distinct sources of mine supply, which in the long-run adhere to different market fundamentals. The majority of the world's molybdenum supply comes from copper/molybdenum deposits mostly located in the United States, Chile, Peru, and Canada. Molybdenum is typically produced as a by-product of copper production.

Primary molybdenum deposits, found in China, the United States, and Canada, make up the largest portion of the remaining total global production.

In 2007 roughly 61% of molybdenum output was sourced from by-product production. In 2008 by-product output is estimated to decline to roughly 58%. This downward trend may persist over the next few years as primary producers are expected to be the largest contributors in bringing fresh supplies online. By 2011 primary production is forecast to exceed that of by-product producers.

Increased Role of Primary Molybdenum Producers Annual, Projected through 2011p



Conflicting *long-term* goals of by-product and primary producers historically have resulted in large swings in mine production.

As mentioned earlier, in the short-run, copper producers can exploit high grade molybdenum mineralization their in copper ore bodies, or add molybdenum recovery circuits, if molybdenum prices are high enough to justify the expense. In the long-run, however, molybdenum production by copper producers is largely influenced by *copper* prices.

Primary molybdenum producers, on the other hand, have historically acted as swing producers. Depending on the price of molybdenum, primary producers have brought their operations on and off line. In the long-run, output of primary producers is solely influenced by the supply and demand fundamentals of the molybdenum market.

The combination of these factors has led to a rather volatile stream of global molybdenum production. Going forward, output may become more stable as:

- 1) the market becomes less dependent on supply from by-product producers,
- 2) there is increased regional diversification of molybdenum mine production,
- 3) the market share of dominant players declines,
- 4) and reduced supplies from China also may help smooth out production.

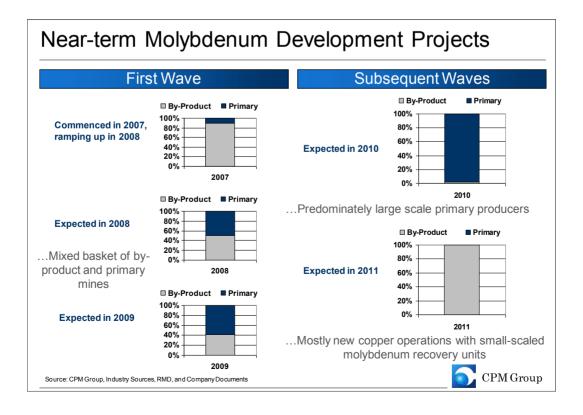
Future Molybdenum Mine Production

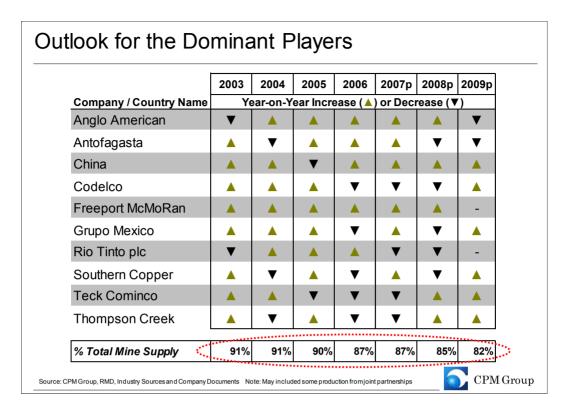
Historically, mining operations in the United States and in China have controlled the largest portions of primary output. During the first seven years of this decade, these two countries accounted for roughly 91% of total primary output. This is expected to shift over the next few years, with increased primary output from other regions of the world. Regional diversification of molybdenum mines production is expected to help decrease the volatility in mine production.

Over the next two years there is expected to be a mixed basket of by-product and primary mines coming online.

One thing the molybdenum market will not see is a flood of fresh supplies coming from new copper mines in Africa. Over the next few years, some of the largest new copper mines are expected to come on stream in the Congo and in Zambia. These are copper/cobalt deposits that do not have recoverable mineralization of molybdenum. These projects account for a significant portion of fresh copper output in coming years, which in turn limits potential molybdenum supplies from new copper producers.

In 2010, predominately large scale primary producers will begin to come online. The following year, the majority new developments are expected to be new copper operations with small-scaled molybdenum recovery units.





The molybdenum concentrate market is heavily influenced by a handful of mining companies, which has led to large swing in mine production in the past. Ten companies accounted for over three-fourths of global production in 2006. The concentration of dominant players is expected to be diluted over the next ten years because the molybdenum market may become both less centralized and more dependent on primary production.

Looking forward, by 2016 it is estimated that the top ten mining companies at that time could control 57% of the total molybdenum market. However, this does not account for any consolidation among these companies.

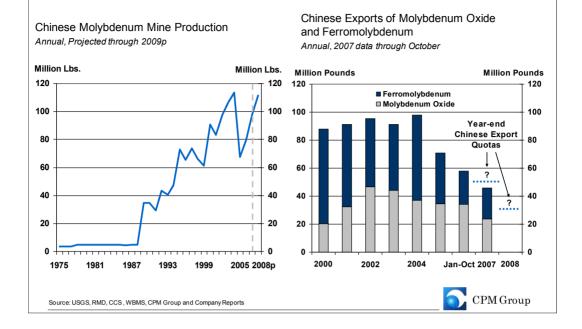
Chinese Production

In recent years, output from China has been a growing source of volatility in the global molybdenum market.

The Chinese government has been tightening regulation and control not only over molybdenum production and trade, but other mineral resources as well. Environmental and social causes have been attributed to these policies, but the leading impetus backing the restructuring for both molybdenum mining and roasting operations in China has been state-imposed rationing of minerals. China's production of high quality finished steel products and its domestic consumption provide strong internal demand for molybdenum.

China is the world's third largest producer of molybdenum. It also is a large and growing consumer of molybdenum and a major source of metal for the international market. Both

China: The Wild Card



governmental and cultural differences make it difficult to gauge future molybdenum production, as the transparency is different from the market economies.

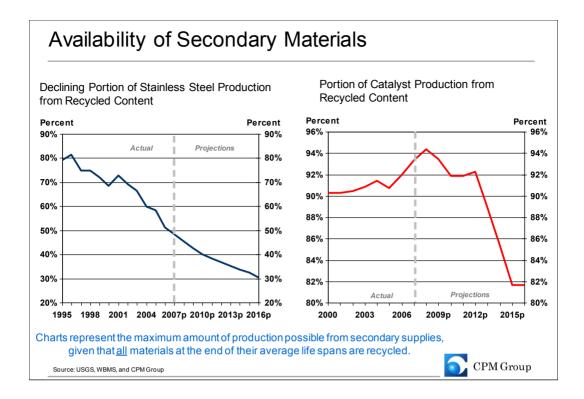
In late 2006 China's government stated that approvals of new operations or expansions at existing molybdenum mines or smelters are prohibited, except for projects that are upgrading to meet government standards.

Present policy makes it impossible, or at the least very difficult, for any sizable new mine or expansion to obtain the necessary mining permits to come online. Some regional governments may choose to ignore the national policy and issue new permits. However, these would be smaller projects that could slip under the radar of the National Development and Reform Commission.

This year an increase in output from China's two recent IPOs and restructuring at some existing mines is expected to pull up domestic mine production by more than 15%.

The Chinese government is believed to be yielding to heavy lobbying pressure by China's rapidly expanding steel industry. Steel producers are trying to increase domestic molybdenum supplies to curb rising molybdenum prices domestically. At the start of this year, the Chinese government doubled the export tax on ferromolybdenum, bringing it to 20%.

This year the export quota on molybdenum contained in ferromolybdenum and in molybdenum oxide could stand at roughly 32 million pounds, which is approximately one-third less than last year's quota. However, these levels are dependent on the amount of molybdenum contained in this material.

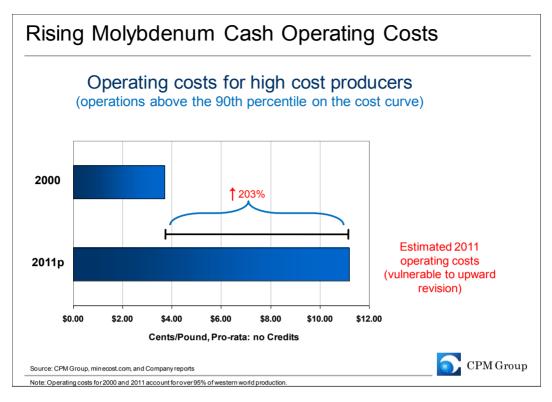


Secondary Supplies

The potential amount of recycled molybdenum sourced by stainless steel fabricators is declining. In 2009 this downward trend will also hold true for catalyst manufacturers.

Catalyst recycling could peak in 2008 as spent catalysts will be in the recovery phase from high demand in 2005, which triggered from new sulfur emissions standards. Beginning in 2009, this portion is expected to trend lower.

The amount of old scrap that could be recycled is determined by past production and growth rates. However, it should be noted that the charts above represent the maximum amount of production possible from secondary supplies, if you were to assume that <u>all</u> materials at the end of their average life spans are recycled.

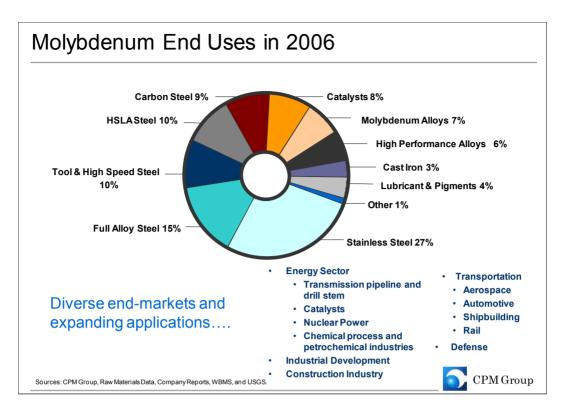


Operating Cost

Cash operating costs have risen for both primary and by-product producers, as miners seek to develop deposits that once were not economically viable. This, in fact, is one of the key reasons that molybdenum prices are unlikely to decline to levels seen at the start of this decade.

Operating costs for the highest cost producers, those operations lying above the 90th percentile on the cost curve, are estimated to rise more than three-fold to average roughly \$11.20 in 2011, up from roughly \$3.70 in 2000.

Cost estimates for new projects are sourced from the companies involved. For the most part, these are reasonable estimates as they are supplied from those who are most familiar with the project. However, these costs are, by the nature of the business, more veered toward revealing a positive cost structure for the company opposed to a negative one. Additionally, these relatively favorable cost estimates are just estimates and costs may exceed the companies' expectations.



Demand

Demand for molybdenum has risen due to advances in the end-markets in which it is used. Molybdenum's uses transcend multiple sectors. It is employed widely as a component in many stainless and specialty steel alloys because of its effectiveness as a hardening agent as well as for its strength, toughness, and corrosion resistant qualities. Molybdenum alloys are resistant to extremely high temperatures as molybdenum has both a very low coefficient of thermal expansion and one of the highest melting points of all pure elements. These qualities in conjunction with molybdenum's other properties limit consumers' ability to substitute to other metals in its numerous applications.

The steel industry accounted for roughly 70% of total molybdenum demand in 2006. The combined market share of metallurgical uses, which includes steel, superalloys, cast iron, and molybdenum metals and alloys, represented nearly 86% of global consumption. Molybdenum also is utilized in nonmetallurgical applications, such as specialty lubricants, pigments, and as a catalyst for petroleum refining and plastics manufacturing.

Demand has been not only growing in its principal end uses, but demand for molybdenum has been increasing as the energy, transportation, and construction industries have been seeking to utilize molybdenum's significant alloying properties.

| Steel Full | Alloy | Stainless | Carbon | Tool | HSLA | |
|---|---|---|--|---|--|--|
| Examples of industries End-Uses heavy made | on/automotive s, shipbuilding, hinery, offshore belines | Biofuel tanks, flue gas desulphurization in coal oil burning plants, desalination plants | Construction and transportation industrie: tunnels, food storage, communication | | ng construction and | |
| CAGR (2001-2006) 8 | 3.3% | 15.4% | 3.6% | 5.5% | 7.5% | |
| Growth (07p / 08p) | 6.8% | 7.0% | 5.0% | 4.8% | 5.0% | |
| Other metallurgical: | Sup | eralloys | Cast iro | n M | o Metal & Alloys | |
| Examples of End-Uses | Superchargers, aircraft turbine engines, gas turbines, chemical and petroleum plants | | Diesel engine motor blocks and cylinder heads, mining, milling, crushing | | Automotive parts, lamp filaments, glass manufacturing, heat shields, optical coatings | |
| CAGR (2001-2006) | • | 11.8% | 9.6% | | 3.4% | |
| Growth (07p / 08p) | 5.5% | | 4.8% | | 3.0% | |
| Non-metallurgical: | Catal | /sts | Lubricants | Pigments | Other chemical | |
| Examples of End-Uses | Hydroproce hydrodesulfu crude oil, gas fuel, low-sul | rization of oi soline, jet fl | gh performance base Is, greases, synthetic uids, bond coatings, friction products | Paints, inks, plastic and rubber products, and ceramics | Smoke suppressants PV cabling, metal-based smoke suppressants | |
| CAGR (2001-2006) | 8.2 | 6 | 3.7% | 5.7% | 5.7% | |
| Growth (07p / 08p) | 7.0% | 6 | 2.3% | 3.0% | 4.0% | |

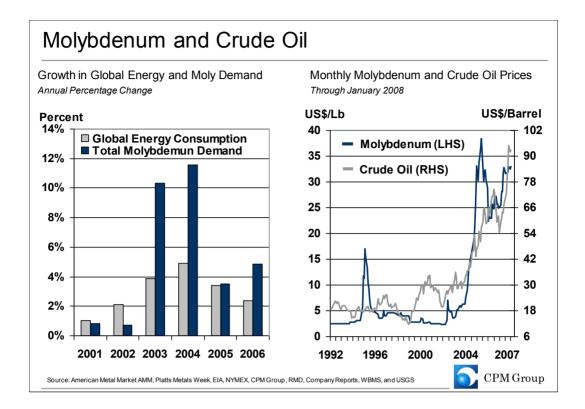
This table above shows recent growth rates in each end-use, a forecast for 2008, as well as a non-comprehensive list of examples of each end-use.

Molybdenum demand grew rapidly between 2001 and 2006. Last year, growth rates remain robust even though the stainless industry experienced a wave of destocking. In 2008 the stainless steel market is expected to recover, but this recovery may be weighed down by softness in the U.S. economy. This year molybdenum demand may increase by 5.8%. If molybdenum demand were to be higher, in line with the growth rates experienced earlier this decade, the market could expect to see an even greater supply deficit this year.

Growth in the relatively price-insensitive energy sector has been highly supportive of molybdenum prices. The energy industry accounts for approximately 38% of molybdenum demand.

The demand for energy in general is expected to continue to expand at above-historical rates over the coming decades. Trends in the energy sector that are positive for molybdenum demand include:

- 1) the international political climate, which has resulted in the locking up of resources. This has accelerated exploration and development in other countries,
- 2) a greater proportion of high sulfur crude produced and refined, which has been meet with increasingly strict sulfur content regulations for diesel and gasoline,
- 3) and emerging markets, driving global energy demand.



Energy Sector

The first chart above illustrates the year-on-year growth rates for both molybdenum and energy demand, while the second plots monthly molybdenum and crude oil prices.

According to the Energy Information Administration, total energy demand expanded at a 3.3% per annum rate between 2001 and 2006, nearly double the 1.8% per annum growth rate in the previous five year period. Molybdenum demand nearly doubled during the same time period.

The emergence of new industrial economies has increased the demand for crude oil, and in order to meet these demands, heavier crudes have increased as a portion of all cruse refined. This has been compounded by increasingly strict emissions standards for diesel and gaso-line. As a catalyst, molybdenum's use in the petroleum industry is in hydroprocessing and hydrodesulfurization of crude oil.

Steel Industry

Demand for molybdenum in the steel industry is relatively price inelastic. This is because molybdenum is used as an alloying additive in steel in small quantities. Nearly one-fifth of stainless steel grades contain molybdenum, typically accounting for 2% to 4% of the steel's composition.

The steel industry has changed significantly over the past 15 years, in terms of both the producers and the type of specialty products. The rapid industrialization and build-out of infrastructure in Brazil, Russia, India and China has required steel in large quantities for these economies.

Given this global environment, some of the cyclicality in one nation's economy could be smoothed by growth in another economy. The spreads between the real GDPs of advanced and emerging markets has widened over the past five years, revealing this global market phenomenon.

Stainless Steel

Stainless steels accounted for approximately 27% of world molybdenum consumption in 2006. Demand is projected to rise at a faster rate for steels that meet a specific purpose.

Duplex steel is one segment of the stainless steel industry that is advancing substantially. At the outset, duplex steel was mainly utilized in the oil and gas industry. However, the steel has found use in many new applications such as biofuel tanks, flue gas desulphurization in coal and oil burning plants, and in desalination plants. In 2006, duplex steel received approval by NSF International for its use in drinking water applications. Not only do many duplex steels have high molybdenum content, ranging from 3% to 6%, but over 90% of duplex steel grades contain molybdenum.

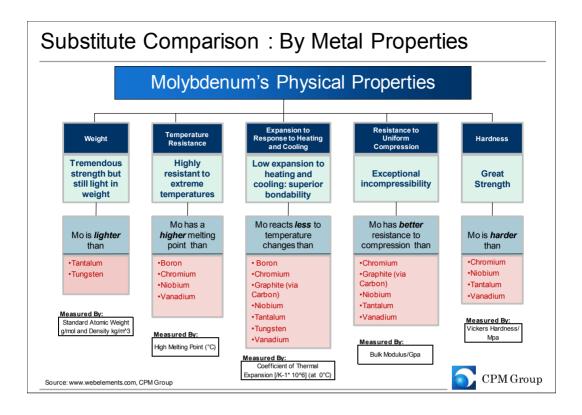
Aerospace

Forecast growth of the superalloy industry is heavily influenced by the aerospace industry as it accounts for around three-fourths of superalloy consumption. The molybdenum content of a nickel-based superalloy can be as high as 29%, which is especially bullish for molybdenum given that superalloys comprise over 50% of the weight of advanced aircraft engines, according to the Minerals, Metals and Materials Society.

Emerging markets will continue be the primary driver of the aerospace industry. According to the International Aviation and Travel Agency, international passenger traffic may grow at annual average growth rate of 5.6% through 2009, with Asian and Middle Eastern markets registering the strongest growth. Freight carriers are more successful than the passenger side in having fuel costs passed on to shippers on a regular basis through higher freight charges. Freight traffic is expected to grow by 6.3% CAGR through 2009.

Substitutes

Increased demand for materials able to withstand harsh and strenuous environments has led to a substantial transformation of the molybdenum industry. Molybdenum demand has become more inelastic in these environments. This is because molybdenum's robust properties limit consumers' ability to substitute for other metals in its numerous applications. Molyb-



denum is more resistance to higher temperature, lighter, and harder than most of its potential substitutes. In many applications the rationale may be to substitute molybdenum for other metals, even with higher molybdenum prices, due to increases in the prices of these metals, too.

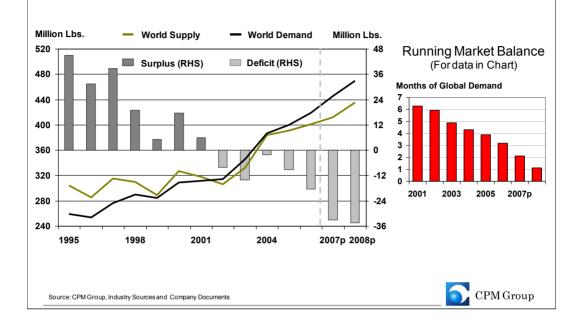
One key reason for molybdenum's price inelasticity is that molybdenum is used as an alloying additive in steel or other alloys in smaller quantities. As of 2007, about 90% of the total demand for molybdenum originated from these market segments. Although molybdenum prices have significantly increased, producers have been able to transfer increasing costs to consumers through alloy charges without a reactionary decrease in demand, due to its minute composition in products. Molybdenum is increasingly being used in applications where the performance requirements of the metal surmounts the cost.

Substitution remains a threat for a few molybdenum-bearing products, but a significant changeover to other metals is unlikely as these are not perfect substitutes for the majority of applications requiring molybdenum. In addition, many of these substitute markets cannot support a large transition from the molybdenum market, given their relative size.

Market Balance

Over the next year, the market is forecast to experience a lag in bringing new mines online. Fresh output from primary and by-product producers will begin to trickle into the market beginning in 2009. A shortfall in mine production is forecast to remain present through 2010. Additional supplies from secondary output should move the market into a narrow market surplus in 2011.

World Molybdenum Supply and Demand Balance Annual, Projected through 2008p



Prices and World Supply and Demand Balance Annual, Projected through 2008p \$/Lb. Surplus (RHS) Deficit (RHS) Million Lbs. 42 48 **Molybdenum Prices (LHS)** 36 36 30 24 12 24 18 0 12 -12 6 -24 0 -36 2001 2007p 2008p 1995 1998 2004 CPM Group Source: CPM Group, Industry Sources and Company Documents

Inventory Analysis

Molybdenum inventory data is not readily available. Since molybdenum is considered a strategic metal, physical holdings of the metal are not reported by most governments. Molybdenum oxide and ferromolybdenum from previous years of mining surplus are estimated to be held at government stockpiles, roasters, warehouses, fabricators, investors, and in the working inventories at mining companies. Most of these entities are not required to disclose their holdings.

To side-step this issue, previous market supply and demand balances help to reveal potential inventory levels. The chart on the adjacent page plots the decline in months of consumption for these potential inventory levels. Even though supply is anticipated to be less abundant, it is unlikely that this tightness will infringe on demand, as material is still available.

Outlook

The molybdenum price seems likely to continue to reflect the tight supply situation and relatively inelastic demand. In 2007 prices averaged \$30.23 per pound. Real prices, basis 2006 dollars, are forecast to reach an annual peak of \$34.00 in 2008 as demand is estimated to exceed total supply by nearly 40 million pounds.

There is sustainable upside for molybdenum, given the scope of the deficits over the next couple of years. Real spot prices could rise to exceed previous highs touched in 1979. On a short-term basis, prices potentially could break above \$50 a pound.

Molybdenum prices are sustainable because the landscape of molybdenum's supply and demand fundamentals has changed significantly. The shifting originations of molybdenum supplies, widening scope of molybdenum end-uses, and diminishing inventories have ushered in a substantial restructuring of the molybdenum industry. Present fundamentals are expected to support prices at level substantial higher than those seen in the past.



CPM GROUP

30 Broad Street 37th Floor New York, NY 10017

info@cpmgroup.com www.cpmgroup.com