

STRATEGIC METALS

Your monthly guide to the latest information on the world's strategic metals

Got Physical Silver?

According to the annual report released by metals consultancy GFMS Limited for The Silver Institute, the annual industrial demand for silver will grow from about 487.4 million ounces recorded in 2010 to 665.9 million ounces in 2015. While emerging technologies are expected to contribute significantly to this demand, it is apparent that established uses will still be the major demand driver.

The highest end users of silver in 2010 were the thick film photovoltaic industry, the automobile industry, and the PCs and laptop manufacturing industry. Cell phones, PDPs, and button batteries were the other significant users of silver. Most of the new uses of silver are not new discoveries but are still termed 'new' since they have only begun to prove their commercial feasibility.

Silver electrodes are used in the LEDs and OLEDs of semiconductors used in solid-state lighting (SSL). The technology is already being used in traffic lights and some car headlamps, but technology to use it in signage, backlighting and other high performance applications such as televisions are still under development. Features such as dimming and uneven lighting are better performed by silver than by other alternatives.

Nanosilver is another material that is finding a growing number of uses, from textiles to medical devices. Catalysts, conductive/antistatic composites, silver impregnated water filters, silver algicides, and pigments are some of the applications already using nanosilver. The anti-bacterial and anti-fungal properties that certain refrigerators have are also because of nanosilver. New uses of nanosilver are in plastics, medical articles and devices, coatings and textiles. Some of the uses of nanosilver are still waiting for regulatory approval, which if granted, would increase the use of nanosilver in medical devices and electrical applications. The antibacterial properties of silver have already made the use of

nanosilver a reality in the manufacture of sportswear, hospital gowns, bedding, and counter tops.

The increasing demand for power worldwide has forced engineers to consider superconductors for power transmission given their higher capacity and smaller volume in comparison with conventional cables. The technology can also be used in applications that require electrical energy to create a powerful magnet that can, for example, turn a motor. Superconductors can consequently be used in applications as wide ranging as hard disks to ships, from medical equipment to magnetic levitation trains. In this technology, silver is not used only for its excellent conducting properties but as a carrier metal. Besides offering fast heat diffusion, silver being a noble metal, will not react with the conducting material. The technology is still at a nascent stage with only Japan ready to begin operations by 2015 but it holds great promise.

Another potentially large-scale use of silver in future is in supercapacitors, which are similar to batteries but which have the additional property of being able to release and recoup energy very quickly. They can capture energy from various sources such as wind power or solar power. Supercapacitors can also be charged and completely discharged with no loss in performance. The role of silver in this technology is as electrodes in the form of printed silver. Although the awareness about the properties of nanosilver may limit the potential of this technology, it still has the capacity to achieve commercial success. Given the still unclear status of nanosilver, the chances of this technology succeeding are big.

In terms of price, silver is expected to continue rising this year. The price drivers are expected to originate from the investment industry and growth in industrial demand. Although the comparative high price of silver has made users look at viable alternatives, the transition is expected to take time and until then, silver will rule.

To sign-up and receive this report via e-mail each month, visit www.CriticalStrategicMetals.com

STRATEGIC METALS

Your monthly guide to the latest information on the world's strategic metals

Demand for Steel Continues to Rise

Massive infrastructure growth in the developing nations and a more modest growth in developed nations promise to push global steel demand by 6.5–7% this year. Lakshmi Mittal, the chief executive of ArcelorMittal recently said that the demand for steel is expected to continue rising in 2011. In 2010, global steel demand rose by 10% from 2009 levels and touched a record high of 1.4 billion tons.

By 2020, over 250 million people in the developing nations are expected to move to urban areas and that would create a huge demand for housing and other infrastructure. Mittal hopes the strong growth curve continues to rise over the next five years and the steel industry reaches pre-financial crisis levels by 2015.

Chairman of the World Steel Economics Committee, Daniel Novegil, said, "2010 saw a steady recovery of steel demand which began in the second half of 2009 driven by stimulus packages globally, the resilience of emerging economies and an overall market recovery. In 2011, we expect to see a further 5.9% growth in world steel demand."

Developments in China, which is the world's largest consumer of steel, have been a major driver of this meteoric rise in demand. China's demand for steel is expected to grow by 5% this year as well as in 2012, and reach 635 million tons in 2012.

India is another major contributor to the growing steel demand. In 2010, India produced the fifth highest quantity of steel in the world. According to the last World Steel Association (worldsteel) report, India is expected to see the world's highest growth in steel demand this year, a massive 13.3%. In 2014, demand in India is expected to grow by 14.3% and touch 79 million tons per year. However, an important question put forward by an analyst asks, "The question is how much of this demand growth will be met by the local steel mills and how much will be met by imports?"

India was a net importer of steel in 2010 and since no significant capacity addition is expected in 2012 either, the country is likely to remain a net importer in 2014 as well.

Central and South America is another leading steel market and consumption in the region is expected to grow by 6.6% and 8.3% in 2011 and 2012 respectively. Consumption this year is expected to reach almost 49 million tons.

In the Western world, the US is expected to lead the demand curve with a 13% growth this year. Consumption of steel in the EU is forecast to increase by almost 5% this year. Germany and France are expected to lead the demand growth with countries such as Spain, Portugal, Ireland and Greece following slowly.

Japan is the world's largest exporter of steel and business in Japan is almost back at levels before the devastating tsunami and earthquake of March 2011. However, all reports quickly point out that given the current trend of rising prices, the expected growth in the global steel industry may not happen as early or as consistently as expected.

For example, in China, domestic prices of steel have been falling sharply and the government's power rationing policy is worsening the situation with steel makers having to reduce production. While Q1 and Q2 of 2010 saw record production figures, Q3 and Q4 are expected to be the exact opposite. Housing projects will continue to demand steel rebar but China is more often than not, short of the product causing further price hikes.

India too is witnessing a fall in demand because of increasing interest rates, which is affecting demand for houses and automobiles. Further, delays in land acquisition and environment clearances are holding up projects. In fact, the growth of the domestic steel industry is expected to fall from 10% to 8% year-on-year by end September.

To sign-up and receive this report via e-mail each month, visit www.CriticalStrategicMetals.com

CRITICAL

Volume 2 - Issue #7 July ~ 2011

STRATEGIC METALS

Your monthly guide to the latest information on the world's strategic metals

Prices for 3M's Continue Upward

The International Manganese Institute has reported that the global production of manganese in 2010 was 47 million tonnes on net weight basis, which was about 32.4% higher than the output of 2009. China was once again the largest consumer of manganese. The country produces as well as imports manganese and in 2010, China imported 5.1 million tons and produced about 3.1 million tonnes of the ore, both on manganese content base.

We have written earlier about the stocks of manganese ore on Chinese wharves and that had increased to 3.95 million tonnes in mid-May this year. The stocks went down to 280,000 tonnes at the end of May and that indicates that 2011 will see a decrease in China's huge stocks. In the first half of 2011, manganese mines of the world twice reduced the price of ore sold to China and that resulted in June shipments being priced at a mere \$5.3 per manganese 1% CIF.

Shrinking ore bodies may however result in a sudden drop in China's production of electrolytic manganese. Zeng Xianbo, the general secretary of China's Sodality of Manganese Plant Directors said: "China may lose 500,000-700,000 tonnes a year of metal capacity in the next three-five years if no new resources are found." Such a reduction in supply will naturally result in higher prices, and analysts expect China to take measures to protect their resource.

The demand for high quality manganese is still high and both China and India are now looking at Africa for future supplies. The primary reason for the growing demand is the fact that in addition to the steel industry, emerging technologies are demanding manganese supplies as well. Larry Reaugh, CEO of American Manganese Inc. recently said, "The annual demand for electrolytic manganese dioxide is currently around 270,000 tonnes. The rise of electric vehicle sales to approximately 10 million units per year, which according to industry projections could occur between 2015 and 2020, could increase the annual

demand for EMD to about 5 million tonnes."

The US Geological Survey reported that in the first quarter of 2011, US exports of magnesium fell by 36% from 2,030 tons to 1,300 tons. Demand for magnesium has been quite strong in the US with the improvement of the aluminum industry.

After increasing in April, the global magnesium price has been on the decline since May. Reduced exports from China to Japan because of low domestic supply in China is often considered to be a major cause for such a price decline in the region. In late April, Chinese exports to Japan were priced at \$3,370-3,420 per tonne while in May, prices ranged from \$3,320-3,350 per tonne.

In the last six months, the LME price of molybdenum has fallen to \$35,200 per tonne. The economic struggles of the US and Europe are believed to have caused this decline. Analysts however, are of the opinion that the molybdenum market will have surplus supply this year. In spite of the forecast, many molybdenum companies have not changed their plans regarding opening new mines or increasing their output. The long-term prospects for steel are also very promising and consequently, those of molybdenum.

Ken MacDonald, vice president of Business Strategy and CFO of Erdene Resource Development said, "All of the projections we are seeing are indicating that molybdenum consumption is around the 400 million pound range, increasing by 2020 by 300 million pounds." He added, "That means that there will have to be one to two world class moly mines coming into production in each of the next 8-9 years to meet demand."

Molybdenum prices this year have remained quite stable although it has not met the growth expected in 2011-11. The existing and new demand for molybdenum from the steel industry is expected to boost the long-term price of molybdenum.

To sign-up and receive this report via e-mail each month, visit www.CriticalStrategicMetals.com