

## Iron ore and coal sectors respond to rising demand

by Ellsworth Dickson

Like many other industries, the iron ore sector had to respond to the economic downturn that began in late 2008. With demand now on the upswing, iron ore producers respond once again, but this time the news is good.

Marcus Mueller is an independent consultant for **Advanced Exploration Inc.** [AXI-TSXV; AE6-FWB], a junior resource company that is exploring iron ore projects in Nunavut, northern Canada. Mueller has over 15 years of experience in the steel industry as a senior manager for the Canadian subsidiary of Kloeckner & Co. and as Vice President of Balli Kloeckner Canada Ltd. In 2005, Marcus founded Tradinghouse Worldwide Corp. specializing in the trade of steel and steel related products, such as iron ore, metallurgical coal and additives as well as base metals. He has for years been involved in exploring new technologies (ITmk3 of Midrex, Cicofer of Outotech and others) that make the processing of iron ore greener and more efficient.

In an interview, Mueller said that due to the economic crisis, steel makers saw a large reduction in their own credit facilities, which also affected their customers and they were forced to reduce manufacturing capacity to sometimes less than 40% and, therefore, bought less raw materials including iron ore and coal.

In other words, steel makers adjusted their production to fit the prevailing economic circumstances. This is contrary to historical markets in North America and Europe in the late 1990s and even the 1980s when steel makers around the world did not see difficult economic conditions developing. They basically said, we will produce come hell or high water leaving most of the steel mills in North America

with too much inventory.

However, that's not the case this time around, with steel makers increasing capacity gradually, so not to overload the markets. With the turnaround in demand, Mueller said iron ore producing companies have been doing very well in the last four months.

"Most of the demand was created by the implementation of stimulus packages around the world, as well as a Chinese economy, that does not seem to be slowing down at all. That in itself did not translate immediately into the rise in production, but what we have found in the last six to eight weeks is that Indian and Australian iron ore companies, which are very large suppliers to the Chinese steel industry, have seen price gains by about 15%-20% since August. Prices were testing the US \$110/tonne C&F Chinese port at the end of November," said Mueller.

Iron ore products come in different forms. There are fines or concentrate, as well as pellets, DRI, HBI, pig iron, etc. Each has a different grade, qualities and attributes; fines usually range from 56%-63.5% Fe iron up to 67%-68% for DRI pellets. The next level is products like HBI (hot briquetted iron), which go all the way up to the high 80% Fe level or low 90% Fe level. Then there is pig iron, the intermediate product of smelting iron ore with coke. Pig iron has carbon content, typically 3.5%-4.5%.

"The iron ore that India is shipping to China is largely being used for China's stimulus package, which is US \$680 million," said Mueller. The Chinese government has planned many infrastructure projects. These medium and large size infrastructure projects will see investment by the government including 1,500 coal-fired power plants in the next five years and about 48,000 kilometres of railways within the next two years. The infrastructure projects also foresee the construction of 1,400 to 1,500 airports in the next five to 10 years. All these projects require an enormous amount of construction steel as well as copper, aluminium, cement, plastics, etc. not all of which China is

capable of producing. Much of these raw materials have to be imported from other countries. That makes up for the lack of demand in North America and Europe for the time being.

India is also seeing internal demand for iron ore growing. Normally we say India is about five years behind China. Unlike China, India has a multi-layer of bureaucracy, making it sometimes difficult to bring new projects into production quickly, said Mueller.

In addition to China and India, iron ore suppliers prepare themselves for a run at this commodity from consumers in countries like Russia and Brazil, as well as the Middle East.

Mueller said North America has seen a slump and has not recovered so far, although production capacity has risen steadily in the last four to five months from less than 50% to 65%-70% and in some cases 75%. However, U.S. steel companies, such as US Steel Corp., Steel Dynamic Inc., Nucor and others will most likely see a very big upswing within the next 24 months, since the USA stimulus package stipulates about US \$110 million in infrastructure programs. Mueller added that Europe has a hard time maintaining their production output due to the lack of demand on the consumer side. In Europe, as well as in the U.S., stimulus packages are not as strongly infrastructure oriented. So, for Europe and the U.S., their markets are not as robust as the Asian market. Asian markets are not only China, but include Japan, Korea, Malaysia, Indonesia, India and, of course, Australia, noted Mueller.

Baosteel, China's largest steel producer is working at 95% capacity in the automotive and white goods industry (fridges, washing machines, etc) – none of which is exported. That means the Chinese consumer is replacing the American consumer, and so fuelling and kick starting world economic growth.

Scrap and recycled base metals also play an important role in the supply chain, according to Mueller. Integrated steel mills use mostly iron ore fines and pellets and certain amounts of scrap, whereas electric

arc furnaces (EAF's) use mainly scrap from recycling. The U.S. exports much scrap iron. Turkey is a large consumer of scrap to feed their electric arc furnaces as well as Italian mills.

Mueller continues, "A word regarding the future development of steel making globally. Large steel makers have long since realized that the production of steel has to be ecologically economic. That being said, many integrated steel mills (BOF, BF) face very large and costly upgrades and renewals, if they want to be ecologically compliant with the standards set out by all major governments around the globe. Many of them will shut down for good.

"This opens the door for innovative mining companies, which had and have the foresight to add value to their iron ore products. Advanced Explorations is one of them. Using technologies (such as the ITmk 3 of Midrex / Kobestee) that produce iron nuggets with an iron content of > 96% Fe (highest Fe content worldwide), these companies will be the suppliers of choice to EAF's, which, by default, will inherit the market share of integrated steel mills that had to shut down."

"Regarding coal, we have to differentiate between thermal and metallurgical coal," explained Mueller. "Metallurgical coal has a very high calorific value and is used for steel making. The four main ingredients for making steel are metallurgical coal, limestone, natural gas and iron ore. Metallurgical coal prices have exploded in the last four months due to the fact that steel demand, especially in Asia, is outpacing supply. We have offers from North America and South America for US \$130-140/tonne FOB port for the first quarter 2010."

Mueller said thermal coal is mainly used to produce electricity and is also seeing a rising demand. Again, most of the demand comes from China, but in India and even Vietnam this type of coal is in short supply. "They have a huge energy demand and anyone who has lignite or thermal coal is almost destined to become a supplier to the Asian market," said Mueller.

According to CNBC-TV18, India will face

a coal shortage of over 70 million tonnes by 2012, which translates into import requirements of about 50 million tonnes in 2012. Thermal coal today sells for about US \$68/tonne, FOB port for 5,500 kcal/kg.

Mueller is bullish for both iron ore and coal and forecasts demand picking up further in the second quarter of 2010 after a slight dip for the end of this year and a stable first quarter 2010. ■