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QUARTERLY COMMODITY INSIGHTS
BULLETIN



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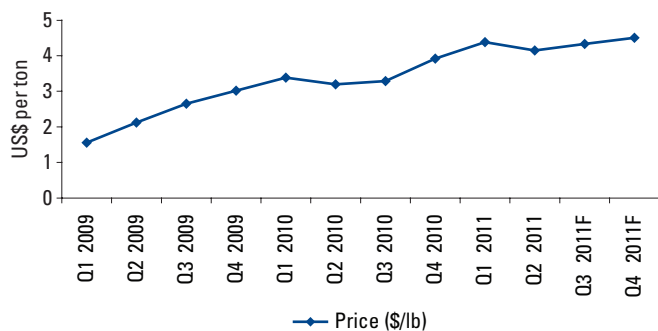
Copper

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Commodity outlook

After a good first quarter of CY 2011, copper prices declined (Figure 1) in the second quarter due to concerns over the cooling down of the Chinese economy, the Euro zone debt crisis and the rising oil and food prices. On April 1, copper opened at US\$ 4.67/lb (US\$9,335 per ton). The price rose to US\$ 4.91/lb (US\$9,822 per ton) on April 8, but ended at about US\$ 4.65/lb (US\$9,300 per ton) on June 30. The continued strikes at Codelco and Freeport mines supported the price.

Figure 1: Copper prices (refined)



Source: Economist Intelligence Unit., Last Updated 13 July 2011

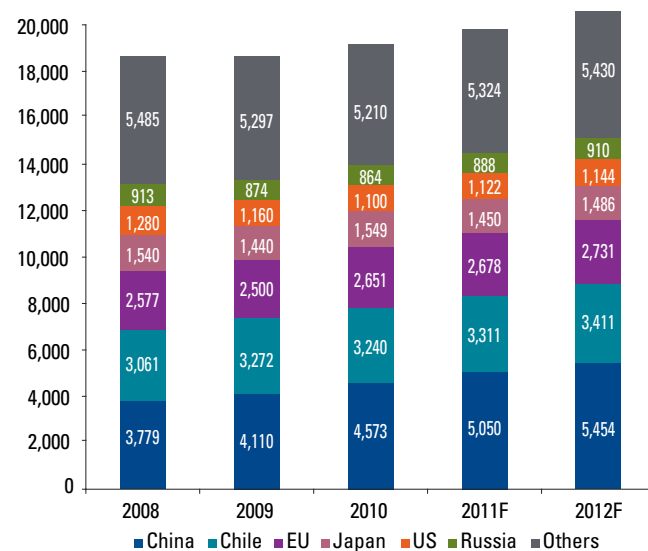
Market views on the future copper price are mixed. While some brokers estimate that the price may rise to over US\$ 5/lb (US\$10,000 a ton) in the short to medium term — owing to supply constraints, higher Chinese imports and bailouts in Europe — others feel that the fundamentals do not support a rally.

Price overview

Commodity	Q2 2011 average price (US cents / lb)	Q2 2011 q-o-q growth (%)	Q2 2011 y-o-y growth (%)	Q1 2011 average price (US cents / lb)	Q1 2011 q-o-q growth (%)	Q1 2011 y-o-y growth (%)
Copper price	↓414.5	↓5.37	↑29.71	↑437.8	↑27.08	↑29.34

Supply and demand

Figure 2: Global refined copper production ('000 tons), 2008–12F



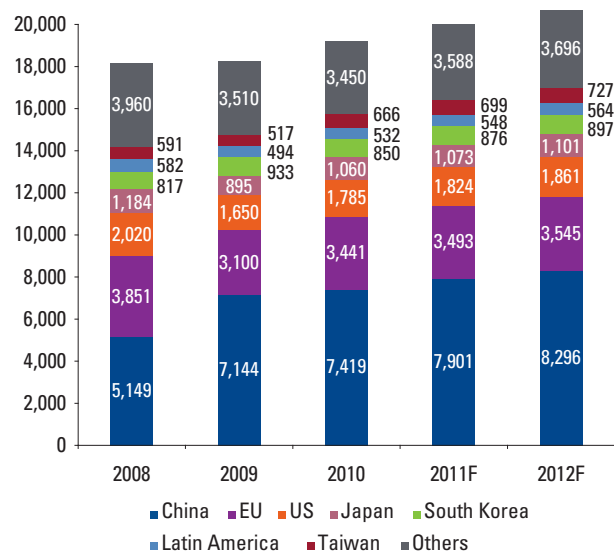
Source: WBMS, ICSG, EIU 2011

In 2012, the demand growth is forecast to be at 3.4 percent, down from 4.2 percent in 2011 while the supplies are expected to grow by 3.8 percent, up from 3.3 percent in 2011. Monetary tightening in China, stimulus withdrawal measures in the developed world and austerity measures in Europe will drive down the growth rate while new investments in primary capacity in China and Latin America are expected to increase the output. 2011 supply–demand deficit is pegged at 0.179 mmt.

- There has been a dip in production in Chile, the largest producer of copper, following the damage caused by severe winter storms, earthquakes, power outages, strikes, accidents and heavy rains.
- China, the largest consumer, uses about 40 percent of the total production. In 2011, its demand for copper is expected to be around eight percent, down from the double digit growth in 2010. However, the country's demand is expected to shoot up again in Q3 and Q4 2011 due to heavy destocking in 2011. This increase in demand may subsequently increase the metal price.

- The deteriorating sovereign debt issues in Europe and the downgrade in the US may dampen the global demand for copper. However, this might be overcome by demand from emerging economies, such as China and India, and Japan as it undertakes post-tsunami development. Further, the Chilean Copper Commission predicts that India will become the second largest copper consumer by 2020, ahead of many industrialized nations.
- With the US and Australia ramping up production facilities, copper production is expected to increase in 2012–13. By 2015, its global demand is expected to reach 24.82 mmt.

Figure 3: Global refined copper consumption ('000 tons), 2008–12F



Source: WBMS, EIU 2011

Table 1: Top deals (completed) in Q2 2011

Date announced	Target	Target nation	Acquirer	Acquirer nation	Status	Value of transaction (US\$ million)
April 25, 2011	Equinox Minerals Ltd	Australia	Barrick Canada Inc	Canada	Completed	7,359.23
April 17, 2011	Far West Mining Ltd	Canada	Capstone Mining Corp	Canada	Completed	590.20
June 30, 2011	Yunnan Copper Ind (Grp) Co Ltd	China	Chinalco	China	Completed	193.00
April 20, 2011	Cloncurry Copper Project-Exco	Australia	Mount Margaret Mining Pty Ltd	Australia	Completed	187.15
June 2, 2011	Capstone Mining Corp	Canada	KORES	South Korea	Completed	178.67
May 31, 2011	Keshiketengqi Fengchi Mining	China	-	-	Completed	7.00
April 1, 2011	Xilingol Yinxi Mining Ind Co	China	Xiamen Eagle Mining Group Co	China	Completed	3.36
May 4, 2011	Walford Creek Project	Australia	Aston Copper Pty Ltd	Australia	Completed	2.68
April 20, 2011	CuOro Resources Corp	Canada	HudBay Minerals Inc	Canada	Completed	2.57
June 16, 2011	INV Metals Inc-Lansdowne House	Canada	Anglo Swiss Resources Inc	Canada	Completed	1.49

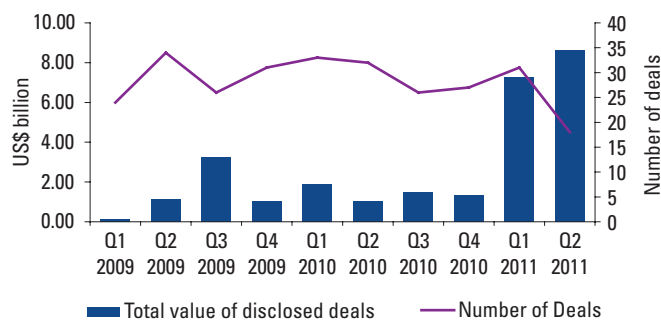
Source: Thomson One Banker sourced on July 28, 2011

Key developments

Ownership changes

In terms of deal value, 2011 has been excellent for the copper industry. The total value of completed deals in the second quarter of 2011 was US\$8.62 billion, up 18.76 percent from the first quarter. While Canada and Australia have signed most of these deals, Chilean copper reserves continue to attract investors.

Figure 4: Value of completed deals



Source: Thomson One Banker sourced on July 28, 2011

- In the second quarter of 2011, over 87 deals were initiated, of which 18 were completed, 36 are pending and about 30 are intended.
- Canada-based Barrick acquired the Australian copper mining firm Equinox Minerals for US\$7.36 billion. It outbid Hong Kong-based Minmetals Resources' offer of US\$6.36 billion. Equinox's primary assets comprise the Lumwana mine in Zambia and the Jabal Sayid deposits in Saudi Arabia.

- Glencore International of Switzerland will acquire a 93 percent stake in Kazzinc, a Kazakhstan-based copper and zinc mining company, for US\$3.2 billion.
- In the second quarter of 2011, Canadian companies entered into many merger and acquisition deals. They participated in 42 deals worth about US\$8 billion.
- Mainly as a result of the Equinox transaction, Australia became the most preferred target country in the second quarter of 2011. Overall, it was involved in deals worth

US\$7.77 billion — three of which were completed, one of which is pending and one intended.

Regulatory updates

The copper industry is regulated by several laws, including the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Toxic Substances Control Act, the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulations and others.

List of recent regulations for copper industry:

Country	Regulation	Description
Chile	Copper Law	<ul style="list-style-type: none"> • Chile's government has proposed legislation that would abolish the Copper Law, which states that 10 percent of the earnings of the government-owned company Codelco should be given to the armed forces. The proposal, which is subject to approval by both houses of Congress, directs those funds to the Ministry of Finance, to be included in the national budget.
China	Scrap metal import tax	<ul style="list-style-type: none"> • China's Nonferrous Metal Industry Association has requested that the government cancel the 17 percent value added tax on scrap metal, which covers both copper and aluminum. • As the economy slows, this will help firms cut costs. • The association also asked the government to lift the restrictions on the tolling trade for scrap copper.
US	The Export Control (Prohibition of Scrap Metal and Copper) Regulations, 2011	<ul style="list-style-type: none"> • The act prohibits the export of any scrap metal from the Bahamas. <ul style="list-style-type: none"> – This is broadly to control the rampant theft of scrap metals. • Previously, Jamaica too had banned the trade to reduce theft.

Global market volatility

- **Effect of US downgrading on copper prices**
After S&P downgraded the US credit rating from AAA to AA+, copper prices fell about 4 percent. On Comex, the August delivery (futures) contracts dropped by 15.55 cents, to US\$3.96 per pound, as investors began moving to safe havens such as gold.

- **European debt crisis**

A Citibank analyst predicted that the European debt crisis will be a source of continual dips in copper prices throughout 2011. Since Europe is the second largest consumer of copper, under-recovery may well soften copper demand. Copper futures are being driven lower by concerns over the crisis spilling over into Italy and Spain and over the possible subsequent destabilization of the EU.

Future projects

Table 2: Major greenfield projects

Project name	Country	Operators	Commodity	Potential start year	Metal production (kt/annum)
Resolution	USA	Rio Tinto (55%), BHP Billiton (45%)	Copper	2020	600
La Granja SxEx project	Peru	Rio Tinto	Copper	2017	500
Oyu Tolgoi Project	Mongolia	Ivanhoe (66% - Rio Tinto has 19.6% stake in IVN) Mongolian Govt. (34%)	Copper	2013	500
El Teniente New Mine Level Project	Chile	Codelco	Copper	2017	445
Las Bambas	Peru	Xstrata (100%)	Copper	H2 2014	400
Mina Ministro Hales	Chile	Codelco	Copper	2013	170
Cristalino	Brazil	Vale	Copper	H2 2014	90
Salobo	Brazil	Vale (100%)	Copper, Gold	H2 2011	100
Konkola North	Zambia	Vale (50%), African rainbow Minerals (50%)	Copper	2013	45
E1 and Monakoff	Australia	Xstrata (100%)	Copper, Gold	2012	30

Source: Company data

Table 3: Major brownfield projects

Project name	Country	Operators	Commodity	Potential start year	Metal production (kt/annum)
Escondida Ore Access	Chile	BHP Billiton (57.5%), Rio Tinto (30%) and JECO (12.5%)	Copper	Q2 2012	54,000
Los Bronces (Expansion)	Chile	Anglo American(100%)	Copper	Q4 2011	278 (3 year average)
Cerro Verde (Expansion)	Peru	Freeport (53.56%), SMM Cerro Verde Netherlands B.V (21%), Compania de Minas Buenaventura S.A.A (19.3%), shares (6.14%)	Copper	-	New concentrator facilities of 240Kt / day
Salobo II	Brazil	Vale (100%)	Copper	H2 2013	200
Antapaccay(Extension)	Peru	Xstrata (100%)	Copper	H2 2012	160
Lomas Bayas II (Extension)	Chile	Xstrata (100%)	Copper	H2 2012	75
Ernest Henry Underground (Extension)	Australia	Xstrata (100%)	Copper	H2 2013	50
Antamina expansion	Peru	Xstrata (33.75%), BHP Billiton (33.75%), TeckCominco Ltd. (22.5%) and Mitsubishi Corp. (10.0%)	Copper	End 2011	40
Collahuasi Phase 1 (150 kt ore per day)	Chile	Xstrata (44%), Anglo American (44%) and Japanese consortium (12%)	Copper	H2 2011	9
Collahuasi Phase 2 (160 kt ore per day)	Chile	Xstrata (44%), Anglo American (44%) and Japanese consortium (12%)	Copper	H1 2013	9
Kidd mine (Extension)	Canada	Xstrata (100%)	Copper	H2 2011	6

Source: Company data

Note: Analysis covers major copper mining companies such as Codelco, Anglo American, Rio Tinto, Xstrata, BHP Billiton, Vale and Freeport-McMoran Copper & Gold.

- Rio Tinto has the maximum greenfield production capacity, in excess of 1,150 kilo tons per annum (kt/annum). Its Resolution project is estimated to have the world's third largest undeveloped copper reserve in the world.
- Apart from the Las Bambas and Cloncurry projects, Xstrata Copper has two major projects in the pipeline — Tampakan, Philippines, and El Pachon, Argentina, containing reserves of 450 kt and 400 kt, respectively. Both are yet to be approved and are anticipated to start production in 2016.
- Xstrata is also carrying out a number of brownfield explorations in Peru, Chile, Canada and Australia.
- BHP Billiton claims that the recent findings of 11.958 billion tons of resource in and around Escondida will confirm its position as the world's leading copper miner for decades. The copper in these reserves is estimated to increase from 52 mmt to 106 mmt.
- Like Xstrata, Anglo American has a number of projects in the pipeline — Michiquillay (155 kilo tons per annum/ktpa) and Quellaveco (225 ktpa) in Peru and Pebble (175 ktpa) in USA.