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cutting through complexity

Q3 & Q4 – 2012



Nickel

Derek Melo

Commodity Lead – Nickel

KPMG in Canada

E: dmelo@kpmg.ca

Challenging times for the global nickel industry

As companies continue to re-evaluate their existing projects and options, and perform their annual impairment testing for financial reporting purposes, we continue to see signs of challenging times for nickel miners. Some nickel miners have formally announced that they are cutting production or capacity, while others have already reported significant asset impairment charges. Similar announcements are likely to continue into the first half of this year. Technical issues, high capital costs and lower nickel prices are principal reasons for the current situation.

The processing of nickel, particularly from lateritic ore, is among the most challenging of all major minerals. Further, the industry has focused on developing projects of very large size to earn economies of scale. As such, we see projects experience significant technical difficulties and other projects with slower-than-expected commercial ramp-ups. All these factors are contributing to high capital costs.

Current nickel prices continue to be impacted by the economic woes in Europe and lesser-than-average historical demand from China. Also, nickel pig iron continues to impact current nickel pricing and will likely continue to the future, especially as more-efficient facilities are added in China.

Operating within this environment, nickel miners are looking at ways to reduce their costs in all facets of their business, identify and reduce risk and, thus, improve returns. Some companies are yet to embark on this process, while others have already started a formal, robust program. In some cases, the latter has included a formal review of their capital allocation strategy.

Commodity outlook

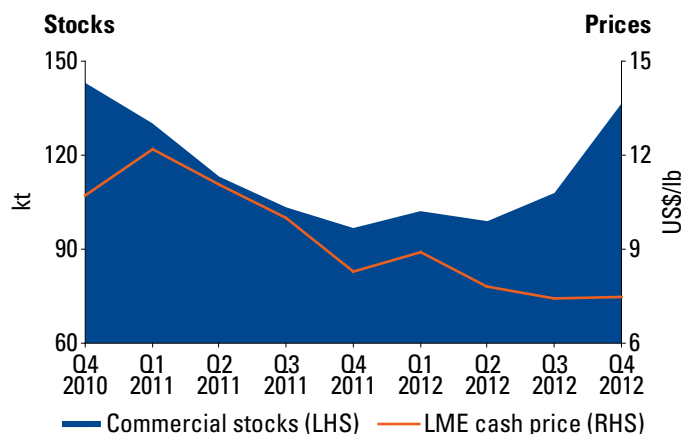
Refined nickel prices improved marginally in 4Q12 after continuously declining during the first three quarters of 2012. In 3Q12, prices of refined nickel fell 26 percent y-o-y (5 percent q-o-q) to average US\$7.41/lb on the London Metal Exchange. 4Q12 saw a slight relief caused by speculative

fund trading on the LME. As a result, prices increased marginally to average at US\$7.45/lb (a q-o-q growth of 0.5 percent). For 2012, the average prices declined 24 percent, compared with 2011, to settle at US\$7.89/lb.

The global refined nickel stocks increased during 3Q12 and 4Q12 due to production exceeding consumption, representing a q-o-q growth of 9 percent and 26 percent, respectively. This current oversupply situation in the nickel market is expected to continue and may worsen in 2013 — leading to an increase in quarterly commercial stocks to a more-than-150kt level. However, with a downward trend in prices, output is expected to fall in 2014, resulting in lower stocks during the year.

The apparent Chinese refined nickel consumption is expected to decrease in 2013, with the Chinese steel producers starting to tap into their accumulated refined nickel stocks to meet a major share of their demand. While the European Union is expected to witness limited demand recovery during 2013, the South Korean nickel industry is likely to continue its higher consumption trends during 2013 and 2014. This can primarily be attributed to steel players operating at high-capacity utilization rates; however, further growth seems unlikely unless fresh steel-making units and other large nickel-using installations are commissioned in the region. The Japanese nickel industry is expected to increase its refined nickel consumption during 2013 and into 2014 after recovering strongly in 2012, following the March 2011 tsunami. With global production continuously surpassing consumption, production cuts and nickel mine closures during 2013 are expected to restore the nickel market balance, which will likely lead to a recovery in the market growth rate in 2014. However, growth in Chinese demand will continue to be one of the primary underlying factors in bringing the nickel market back on the growth track.

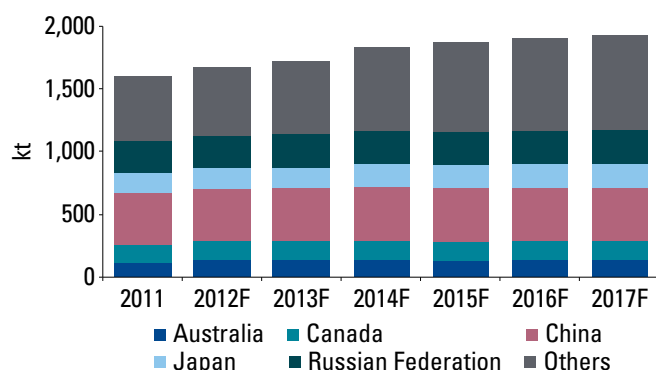
Figure 1: International refined nickel prices and stocks



Source: EIU, KPMG analysis

Supply and demand

Figure 2: Global nickel production, 2011–17F

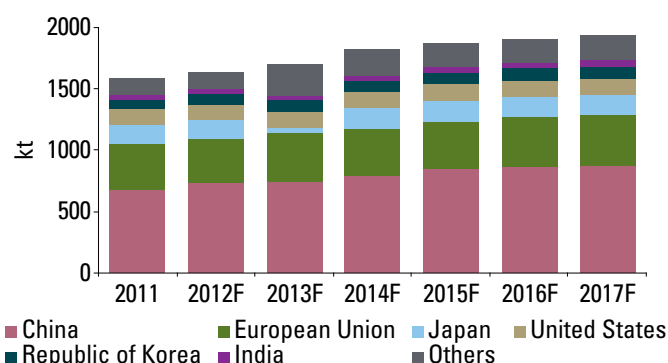


Source: BREE, RBC Capital Markets, KPMG analysis

- The global nickel mine production in 2012 is expected to have increased 3 percent from 2011 to reach 1.96Mt. Mine production is expected to increase at an average annual growth rate of 3 percent, to touch 2.3Mt by 2017.
- The global nickel mine production is forecast to increase 3 percent and reach about 2.01Mt in 2013 primarily driven by capacity expansions from projects such as Xstrata's Koniambo mine (New Caledonia), Sherritt International's Ambatovy mine (Madagascar) and other recently commissioned projects in Australia, Africa and Brazil.
- The global refined nickel production in 2012 is anticipated to have increased 5 percent to 1.68Mt, primarily driven by a 20kt increase in Australia's production (up 18 percent) and a 13kt increase in Canada's production (9 percent).
- In 2013, the global refined nickel production is expected to increase by a marginal rate (2 percent) to reach 1.71Mt, supported by increase in-mine production from upcoming operations in Madagascar and New Caledonia. Growth in China's nickel pig iron production this year is expected to decline with forecasted lower world nickel prices and an assumed moderation in the country's economic growth.
- China has been rapidly expanding nickel refining capacity through NPI and registered a 56.5 percent increase in 2011. However, the growth in NPI in 2013 is expected to

decline with forecasted lower world nickel prices and an assumed moderation in the country's economic growth. Also, Indonesia's tax on ore exports is likely to reduce the cost advantage of using NPI and can further lower China's exports of austenitic stainless steel.

Figure 3: Global refined nickel consumption, 2011–17F



Source: BREE, KPMG analysis

- The Eurozone crisis, slowdown in US demand and lower industrial growth in China reduced Nickel consumption during 2012 compared to 2011. As a result, nickel consumption is forecast to have increased at a slower growth rate of 3 percent in 2012, to reach 1.63Mt in 2012, compared with 2011 that registered a 7 percent growth in consumption.
- In 2013, the growth rate is expected to slightly improve, helping consumption to grow at 4 percent to reach 1.70Mt.
- Over the medium term, consumption is expected to grow due to an increased demand for stainless steel in the emerging economies of China, India and Asian countries. Expansion of urban infrastructure, housing developments and ongoing industrialization and urbanization is expected to result in increased demand. This growth will be underpinned by the current low per capita nickel consumption in these economies compared with most developed economies.

Key developments

Ownership changes

The total deal valuation for the nickel industry announced during 3Q12 and 4Q12 stood at US\$0.07 billion and US\$0.12 billion, respectively. This represented a sharp y-o-y quarterly deal valuations decline of 9 times and 10 times in 3Q12 and 4Q12, in that order (Refer to Figure 4). Out of the seven reported deals in 3Q12 four were closed and of the fifteen reported deals in 4Q12 seven were closed.

Figure 4: Deals in nickel industry



Source: Intierra, Mergermarket, Capital IQ

Table 1: Nickel deals in 4Q12 and 3Q12

Date announced	Target	Target nation	Acquirer	Acquirer nation	Status	Value of transaction (US\$ million)	Stake (%)
20-Dec-12	Northeastern Lion Limited	Indonesia	China Hanking Holdings Ltd	China	In progress	50.00	70.0
17-Dec-12	Melkior Resources Inc., Riverbank Claims	Canada	Zara Resources Inc.	Canada	In progress	0.07	100.0
14-Dec-12	Metals X Limited sells 2.8 percent stake in Independence Group NL	Australia	NA	NA	Closed	NA	2.8
11-Dec-12	MMC Norilsk Nickel	Russia	Millhouse Capital UK Ltd	Russia	In progress	9.14	5.9
26-Nov-12	Croxall Properties in the Shaw Dome Nickel area	Canada	Liberty Mines Inc	Canada	Closed	NA	100.0
19-Nov-12	Asian Mineral Resources Ltd	Vietnam	Pala Investments Ltd and Lion Selection Group Ltd	Switzerland and Australia	Closed	1.56	9.7
13-Nov-12	Poseidon Nickel Ltd	Australia	Jeffries Bank	USA	Closed	NA	NA
08-Nov-12	Urban Minerals Pty Ltd	Australia	Ferrowest Limited (ASX:FWL)	Australia	In progress	0.11	100.0
24-Oct-12	Nickeline Resource Holdings	Philippines	DMCI Mining Corporation	Philippines	In progress	6.50	31.0
24-Oct-12	Toledo Mining Corporation Public Limited Company	United Kingdom	DMCI Mining Corporation	Philippines	Closed	5.43	17.0
09-Oct-12	National Minerals Pty Limited	Australia	Pioneer Resources Limited	Australia	In progress	0.46	75.0
28-Sep-12	Lake Johnson Pty Ltd., Lake Johnston Project	Australia	Audalia Resources Limited	Australia	Closed	0.10	100.0
27-Sep-12	Ashbrook (Pty) Ltd.	South Africa	Jubilee Platinum plc	UK	In progress	0.42	51.0
24-Sep-12	PT. Citra Lampia Mandiri	Indonesia	geoLOGIC systems Ltd.	Canada	In progress	41.50	85.0
23-Sep-12	Palawan Properties	Phillipines	DMCI Mining Corporation	Philippines	Closed	13.20	44.0
31-Aug-12	12 Exploration Claims Containing Two Nickel Resources in Espedalen	Norway	Drake Resources Ltd	Australia	Closed	NA	100.0
23-Aug-12	Geomark Exploration Ltd.	Canada	Pine Cliff Energy Ltd.	Canada	Closed	53.52	100.0
8-Aug-12	ENK PLC	UK	D & A Income Limited, DMCI Holdings, Inc.	UK, Philippines	Closed	NA	88.0
01-Aug-12	Royal Nickel Corporation, Dumont Nickel Project	Canada	Ressources Quebec	Canada	Closed	12.09	2.0
10-Jul-12	Golden Ridge Project	Australia	Pioneer Resources Limited	Australia	In progress	0.70	NA
6-Jul-12	Treasure Developments Ltd, Copper-Nickel-Gold Mining Interests in Cyprus	Cyprus	Motopia Limited	Australia	In progress	1.65	100.0
4-Jul-12	Berong Nickel Corporation	Philippines	Toledo Mining Corporation Public Limited Company	UK	In progress	6.55	19.0

Source: Capital IQ, Intierra, Mergermarket, Company reports

Regulatory updates

The global regulatory sentiment for 3Q12 and 4Q12 saw an increased emphasis on enhancing nickel mine and NPI production. Regulations were also brought in to support environment conservation.

Table 2: Recent regulations in nickel industry

Country	Regulation	Description
Brazil	Extraction tax reduced by two thirds	Brazil's northern state of Para has reduced the extraction tax on mining activity from three UPF's (Standard tax unit) to one UPF for each extracted tonne of ore.
Philippines	Ban on mining in agricultural or tourism-related lands	The Philippines has published new regulations that ban mining in areas used for agriculture or tourism.
China	Electricity subsidies	Government of Inner Mongolia (China) has announced discounts on electricity fees for NPI producers in the region.

Future projects (near-term, significant)

Table 3: Major Nickel Projects

Project	Country/ Region	Operators/Owners	Potential start year	Nickel production (ktpa)
Koniambo Laterite Nickel Mine	New Caledonia	Xstrata plc (Operator)	2013	60.0
Ambatovy Laterite Nickel Mine	Madagascar	Sherritt International Corporation (Operator)	2012	60.0
Mindoro Laterite Nickel Project	Philippines	Intex Resources ASA (Operator)	NA	52.7
Long Harbour Hydrometallurgy Nickel Smelter	Canada	Vale S.A. (Operator)	2013	50.0
Minago Nickel Project	Canada	Victory Nickel Inc. (Operator)	2014	11.0
Honeymoon Well Nickel Project	Australia	OJSC MMC Norilsk Nickel (Operator)	2016	40.0
Taganito HPAL Nickel Refinery	Philippines	Sumitomo Metal Mining Co., Ltd. (Operator)	2013	30.0
FeNi Haltim Nickel Project	Indonesia	PT Antam Tbk (Operator)	2014	27.0
Acoje Laterite Nickel Mine	Philippines	ENK plc (Operator)	2014	24.5
Fenix Laterite Nickel Operation	Guatemala	Solway Group (Operator)	2014	24.3
Sheba's Ridge PGE/Nickel/Copper Project	South Africa	Aquarius Platinum Limited (Operator)	2014	23.9
Agata Laterite Nickel Project	Philippines	TVI Pacific Inc (Operator)	NA	NA

Source: Company data, Intierra

Note: Project names are hyperlinked to source links