



CURRENT IMPACT OF THE FINANCIAL CRISIS ON THE NICKEL INDUSTRY

This fourth INSG Insight in the series examines the impact of the financial crisis on current nickel production capacity and future nickel projects. This paper will look at how the financial crisis has affected nickel capacity since the middle of 2008 to the end of January 2009. The objective of the paper is to report some of the more important announcements of changes in capacity affecting the nickel market in the short to medium term.

Introduction

The nickel price continued to remain supported for most of the first half of 2008 and nickel production remained at a high level. Due to the very high nickel price in 2007 and also high prices for several years before that, many brownfield nickel capacity expansions and also many new greenfield nickel projects were initiated during this period.

It was expected that nickel demand would increase in the second half of 2008 as finished product stocks of stainless steel were deemed to be low and it was anticipated that replenishment would take place.

However, stainless steel demand did not increase in the second half and demand for nickel began to turn down during that period. At the same time nickel prices started to rapidly decline and nickel demand weakened during the last few weeks of 2008. The nickel price has recently been relatively stable around a range of US\$10-12 000/t.

Primary nickel production and usage in the second half of 2008

Preliminary data indicate that primary nickel production held up well in the second half of 2008, compared with the first half, even though usage started to decline as early as July.

Primary nickel production in the first half of 2008 was 714,000 t and production in the second half has been calculated at 692,000 t, a decrease of 22,000 t, or 3.1%. It is possible nickel producers had anticipated a recovery in nickel demand at the end of 2008, or in early 2009. Interestingly, the only geographical area with an

increasing production was Asia, where the difference was the tonnage produced in Korea Rep. since October.

With the low nickel price and weak nickel demand many nickel plants were operating below cash cost and profitability was suffering. Nickel producers began to review current and new nickel projects in the second half of 2008.

Nickel usage was relatively high in the first half of 2008 at 691,000 t, but declined to a calculated figure of 586,000 t in the second half. The reduction was 105,000 t, or 15.2%. The main reason for this decline was the large reduction in stainless steel production starting in China and Korea in September/October and followed in Europe, the Americas and other areas of the world in October/November. There was no geographical area that recorded an increase in the second half.

The above developments resulted in an accumulation of stocks over the year of over 100,000 t. This stock increase can to a great extent explain why a number of nickel producers have recently announced decisions to idle capacity and delay new projects.

Nickel projects

Over recent months a number of notifications of reduced production, delayed project completions and ramp-ups, and outright project closures have been made. The following is a listing of current capacity that have been closed down temporary, projects with delayed start up and stretched out ramp up period, and also projects that have been basically cancelled, or pushed out in time so much that they will have no impact on the nickel market in the next five years. Due to the large number of small projects not all have been listed here, while in other cases insufficient information is available. It is clear from the list below that the effect on the nickel industry has been severe and that a large number of known projects in 2008 have now been either delayed, or indefinitely delayed, written off, or cancelled.

The reported developments have been divided into three sections: 1) Current production capacity that has been reduced, or taken out completely for an undisclosed time: 2) Projects that have not yet been completed, but will be delayed and/or have an extended ramp up period: 3) Projects that have been either cancelled or pushed out so much in the future that they will have no impact on the nickel market in the near to medium term.

1. Established nickel capacity that has been taken out of production since the middle of last year

Plant	Location	Capacity in tpa	Date of closure	Comments
Xstrata: Falcondo	Dominican Rep.	FeNi: 30 000	Aug. 2008	No restarting date
Norilsk: Cawse	Australia	Semi: 10 000	4Q 2008	No restarting date
PT Inco	Indonesia	Semi: 79 000	4Q 2008	Reduction: 20%
PT Antam	Indonesia	FeNi: 24 000	4Q 2008	Reduction: 50%
Belvedere	Finland, Hitura	Conc.: 3 000	4Q 2008	No restarting date

Talvivaara	Finland	Semi: 20 000	4Q 2008	Reduction: 25%
Avebury	Australia	Conc: 5 700	Jan 2009	No restarting date
Vale Inco	Canada	Several: not known	2009	No restarting date
Ufaleynickel	Russia	FeNi: 14 000	4Q 2008	No restarting data
Yuzhuralnikel	Russia	FeNi: 15 000	3+4Q 2008	No restarting date
Bindura	Zimbabwe	Metal: 4 000	4Q 2008	No restarting date
Eramet	France & New Cal.	Metal & FeNi	Jan 2009	Reduction: +20%
FNX: Levack	Canada	Conc.: not known	End Oct. 2008	No restarting date
First Nickel: Lockerby	Canada	Conc: not known	4Q 2008	No restarting data
Mincor: Mittel	Australia	Conc: 3 000	Jan 2009	No restarting date
Pacific Metals	Japan, Hachinohe	FeNi:	4Q 2008	Reduction: +20%
Anglo American: Loma de Niquel	Venezuela	FeNi: 17 000	1Q 2009	No restarting date
Nickel Pig Iron	China P.R.	Many: not known	1H 2008	Stop/Start
China, including Jinchuan	China P.R.	Several: not known	2H 2008	No restarting date

2. Nickel projects which have been delayed and/or start up and ramp up has been stretched out

Plant	Location	Capacity in tpa	Date	Comments
Sherritt: Moa	Cuba	Semi: 22 000	4Q 2008	Delayed
Anglo American: Barro Alto	Brazil	FeNi: 36 000	4Q 2008	Delayed
Vale Inco: Onça Puma	Brazil	FeNi: 58 000	4Q 2008	Delayed
Vale Inco: Copper Cliff	Canada	Conc: 8 000	4Q 2008	Delayed
Anglo American: Platinum	South Africa	Metal: 11 000	4Q 2008	Delayed
Vale Inco: Goro	New Caledonia	Uilty: 35 000	4Q 2008	Slower ramp up
Mirabela, Vale Inco: Santa Rita	Brazil	Conc.: 20 000	2H 2009	Slower ramp up
Ambatovy	Madagascar	FeNi: 60 000	2 H 2008	Delayed
Taganito	Philippines	Conc.: 30 000	2 H 2008	Delayed
Çalda	Turkey	Semi: 20 000	2008	Delayed
Ban Phuc	Vietnam	Conc.: 4 000	2008	Delayed
Minara	Australia	Semi: 2 000	2008	Delayed
Ravensthorpe	Australia	Semi.: +50 000	1Q 2009	Closed down
BHP Billiton: Yabulu	Australia	Metal: + 30 000	1 Q 2009	Written down
Nickel Pig Iron	China P.R.	Many: not known	1H 2008	Delayed
Several	Philippines	Many: not known	2H 2008	Delayed
Several	China P.R.	Many: not known	2H 2008	Delayed

3. Nickel projects that have been cancelled and/or indefinitely delayed

Plant	Location	Capacity in tpa	Date	Comments
Vale Inco: Níquel do Vermelho	Brazil	FeNi: 46 000	4Q 2008	Delayed/Postponed
Canadian Royalties	Canada	Conc. 12 000	2H 2008	Delayed/Postponed
Vale Inco: São João do Piauí	Brazil	FeNi: 30 000	2008	Delayed/Postponed
Independent Nickel: Lynn Lake	Canada	Conc: 5 000	2008	Delayed/Postponed
Hard Creek Nickel: Turnagain	Canada	Conc. 25 000	2008	Delayed/Postponed
HudBay Minerals: Fenix	Guatemala	FeNi: 11 000	2008	Delayed/Postponed

It is clear from the above tables that projects in all areas around the world have been affected. This is also true for the size of companies involved, from the largest diversified mining companies to small independent prospecting companies. The process appears to be ongoing and it is likely that more announcements will be made during 2009.

Conclusion

Nickel producers and companies with nickel projects have responded to low prices and weak demand and have rapidly reduced current and future production levels, with more reductions likely before production again increases. This is also true for new nickel projects where current nickel prices are too low and companies have reduced, delayed and/or stretched out developments to conserve their cash resources.

From the above tables it can clearly be seen how producers are now reducing production to match current demand levels as at the beginning of 2009. It is also clear that nickel projects in the pipeline are subject to review to match with future demand to achieve a realistic return on capital employed.

Comments or Questions

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