

# Australia's 'New' Nickel

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POSEIDONNICKEL

### Windarra is funding ready



### ■ Poseidon's Windarra Project (100%) is ready to implement

- All permits in place and current
- Documentation for financing prepared
- Brown field, low risk, market compatible

### Low operating cost (C1) at the 36th percentile globally

- Operating costs US\$3.35/lb, payable cash costs <US\$5.00/lb</li>
- Most new nickel around the world will be above the 50th percentile

### Low capital intensity

- Windarra capital intensity is circa US\$8 per annual pound nickel
- Range for known new projects is \$10 \$50 per pound\*

### ■ Recent drilling programme has far demonstrated potential for continued life extension

- Added 0.8Mt resources, \$60m of EBIT value for \$4m cost and IRR of over 100%
- Results can be repeated

#### Significant project blue sky identified

- Mt Windarra still expanding resources
- Cerberus the only 1<sup>st</sup> regional discovery
- South Windarra extension promising

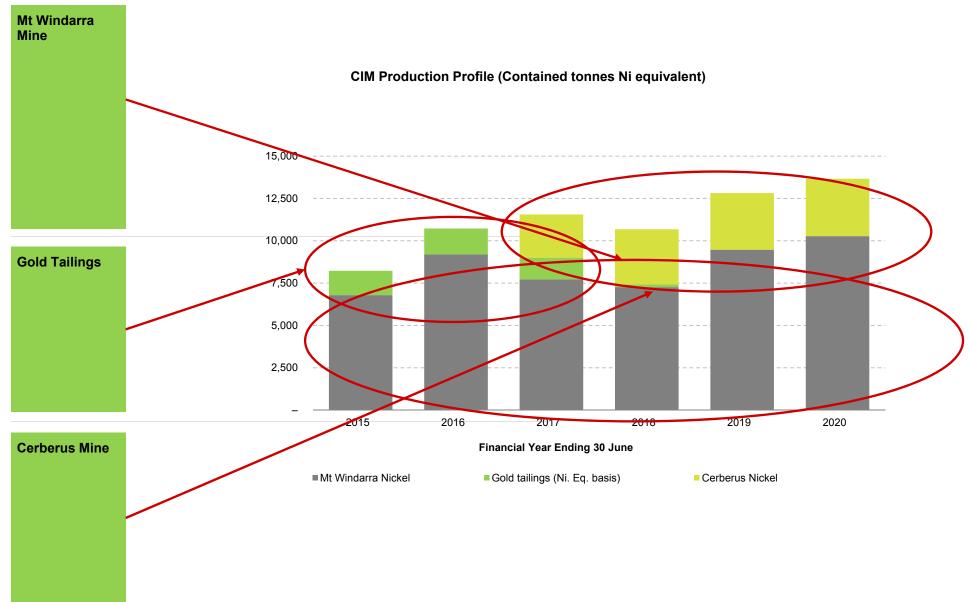
### ■ Consensus Economics sees strong upside to nickel price

Consensus predicts 49% increase in nickel price by 2018 (circa \$9.70/lb)

<sup>\*</sup>Minex consulting

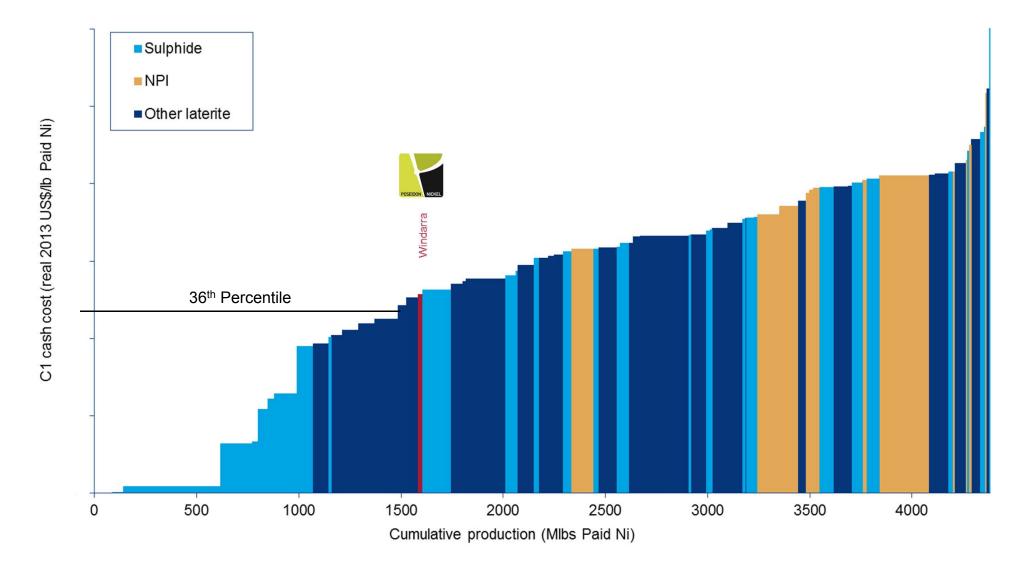
### **Base Case Production Plan**





# Independent Analysis shows low C1 cost related to low mining cost





Source: Wood Mackenzie May 2013

# Why does Windarra work at 1.7%?



■ Kambalda Mining Costs ≈ 150/t

■ Mt Windarra Costs ≈ 50/t

## Mining costs are key to understanding Windarra



- Windarra is a sub level cave (no paste fill)
- Mt Windarra ore bodies have large mineralised halo (reduces dilution effect)
- Sub level caves are generally circa \$50/t
  - Savannah
  - Lake Johnston
  - Mt Windarra
  - Mt Lyall (Cu)

## Why does Windarra work at 1.7%?



■ Kambalda Mining Costs (ave)
≈ 150/t

■ Mt Windarra Costs ≈ 50/t

■ \$100/t ≈ 1.6% of grade

■ Windarra effective grade ≈ 3.3%

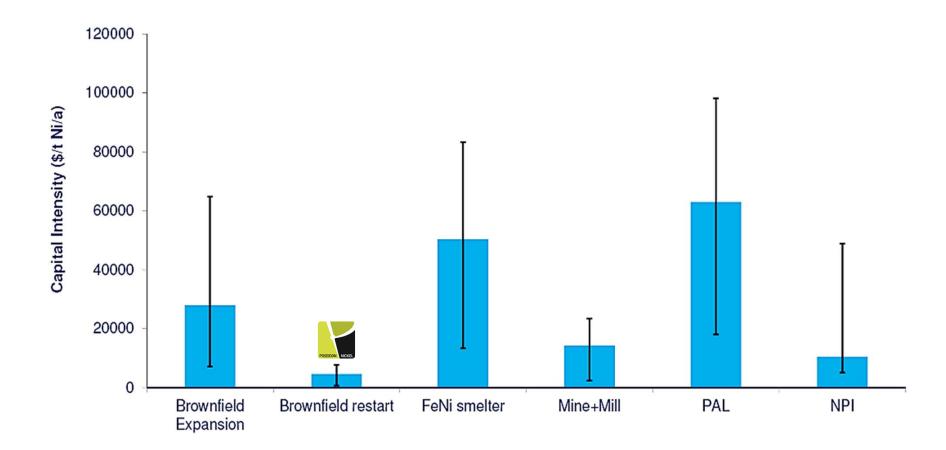
■ Kambalda average grade ≈ 3.2%

<sup>\*</sup> Source: Paterson's Perth

# **Brownfields sulphide gives Poseidon a low Capital Intensity**



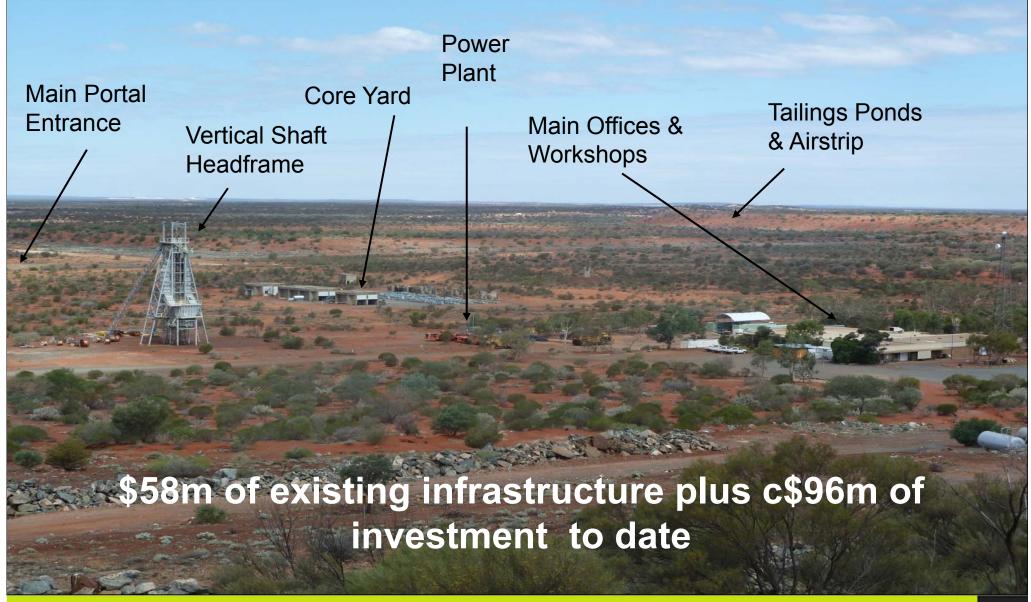
### **Capital Intensity**



Source: Wood Mackenzie

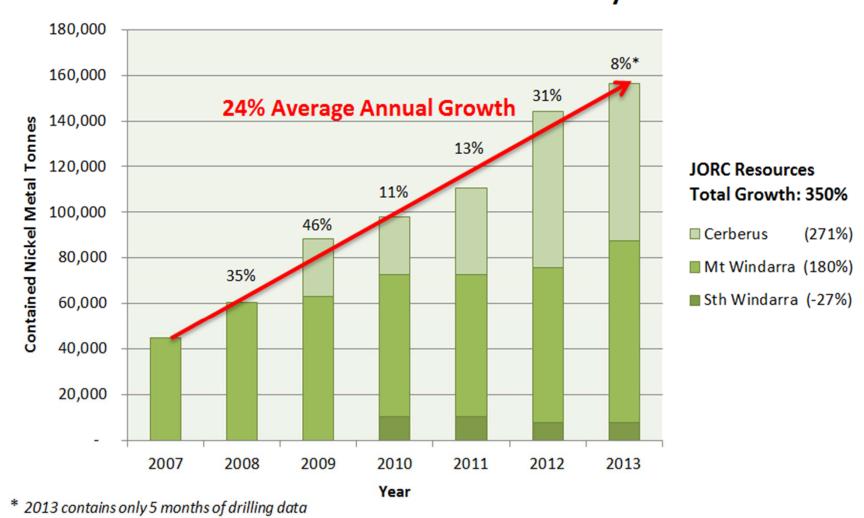
# Mt Windarra Mine Site includes significant existing infrastructure





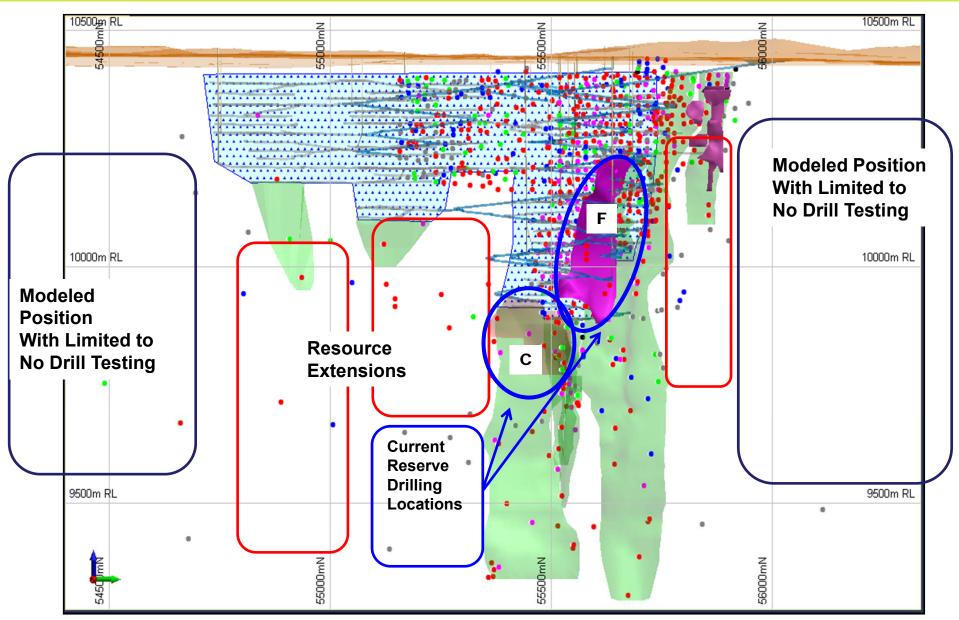
# **Windarra Nickel Project**

**Annual Resource Growth History** 



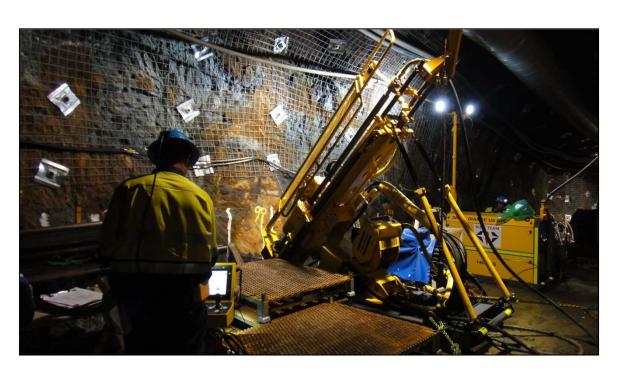
# **Exploration Upside and Near Mine Targets**





# First Underground drilling for 20 years

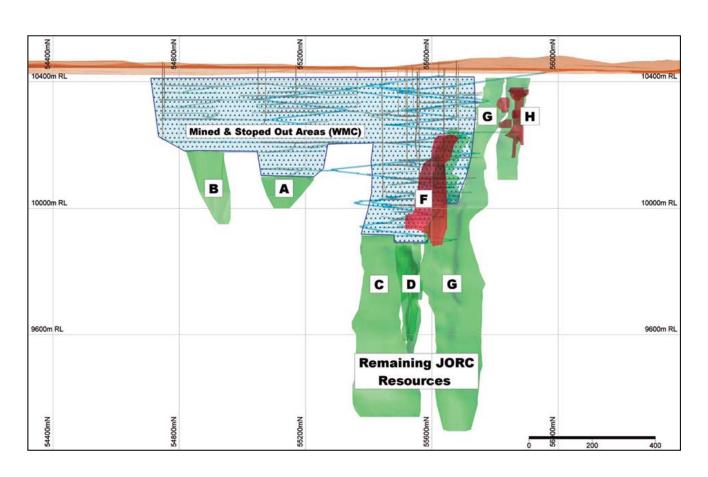




- Mt Windarra surface drilled by Poseidon
- Aim to increase reserves primarily
- 2 Rigs full time for 7 months
- Trialled Wasarra drill system

### Mt Windarra Shoot Locations

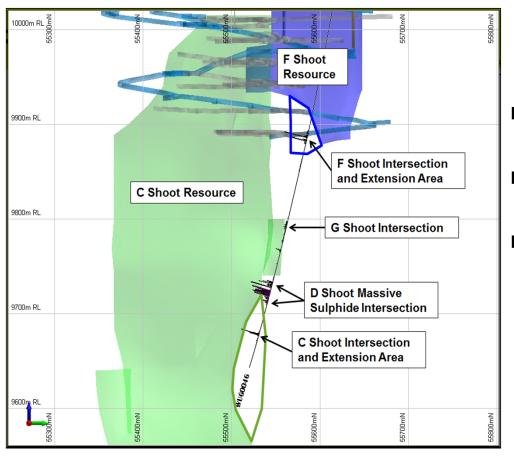




- Reserves increase by 121%
- Added 12,000 tonnes nickel to resource base
- Discovered a new mineable ore body at F Shoot
- Doubled tonnes per vertical metre
- Increased Reserve grade to 1.78%
- IRR of drilling over 100%

### We saved the best 'til last!





■ WUG37

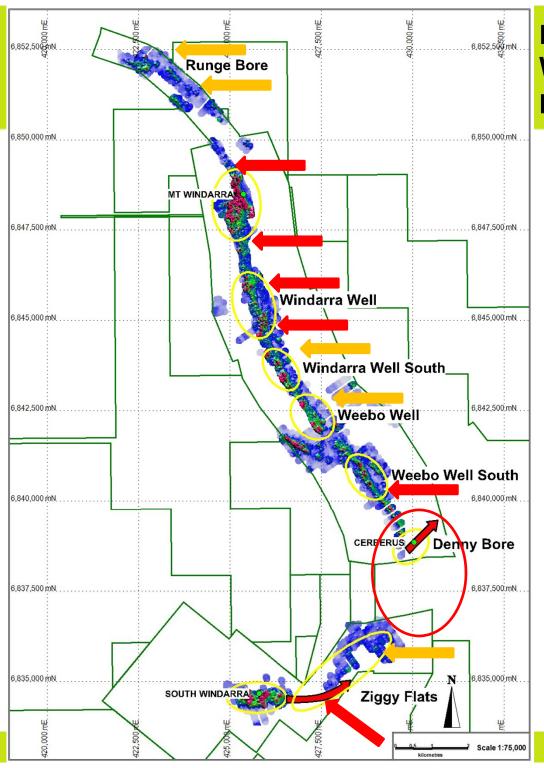
5.92m@ 2.14% C Shoot

■ WUG45

12.5m @ 2.36% C Shoot

■ WUG46

6.1m @2.77% F Shoot 28.5m @ 3.52% D Shoot 1.9m @ 5.54% C Shoot



# Regional Exploration Suggests Windarra is hosted in a nickel province

### **Priority 1 Targets**

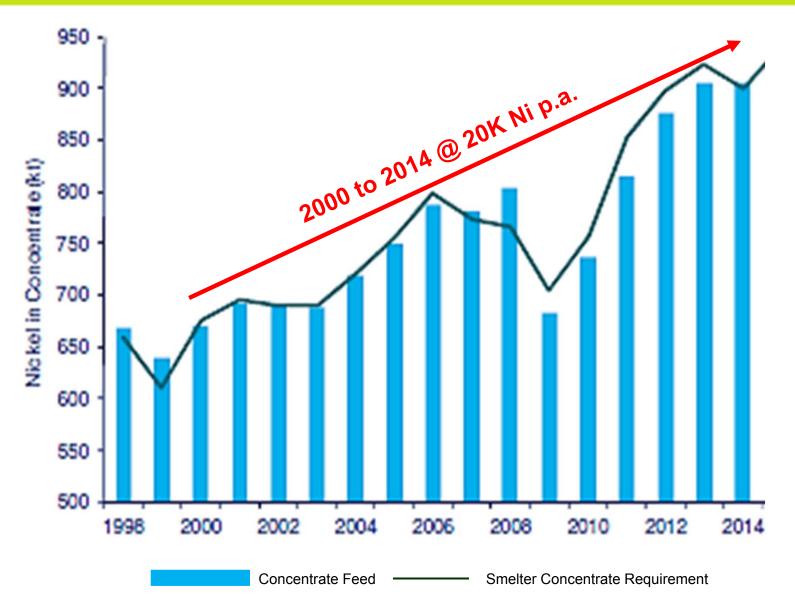
- N & S of Mt Windarra
- Windarra Well
- Weebo Well South
- Denny Bore/Cerberus Area
- Ziggy Flats/Sth Windarra Extension

### **Priority 2 Targets**

- Windarra Well South
- Weebo Well Denny Bore/Cerberus Area
- Area north of Ziggy Flats
- Runge Bore

# **Today's Nickel Market hit by 3 effects**





<sup>\*</sup> Source: Brook Hunt - A Wood Mackenzie Company

## Laterite Production Took Off as Shortages developed

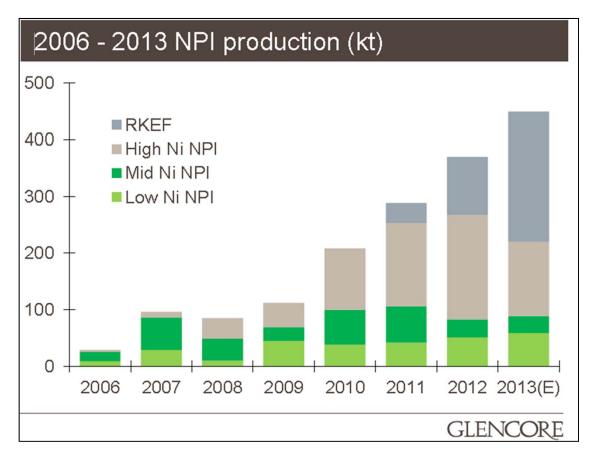


- Ravensthorpe
- Onca-Puma
- Ramu
- Ambatovy
- Goro
- Barro Alto

# 250K Ni entering market

## NPI Responded to high priced nickel & looming shortages



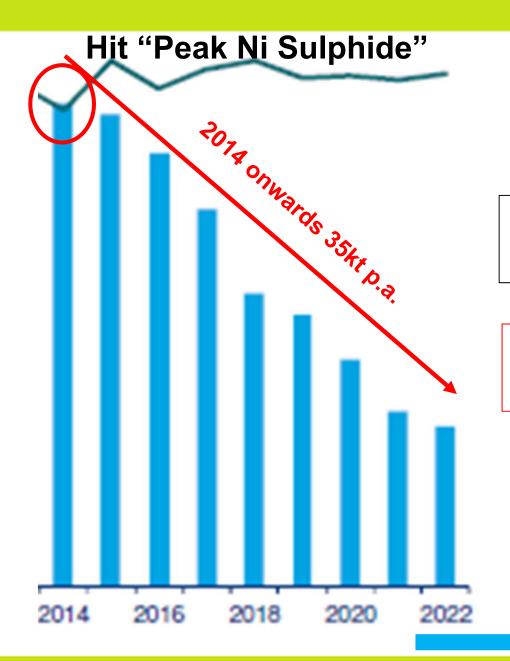


2006 to 2014 ≈ 60kt p.a.

NICKEL MARKET GROWTH FORWARD ≈ 95kt p.a.

## **Future Story is different**



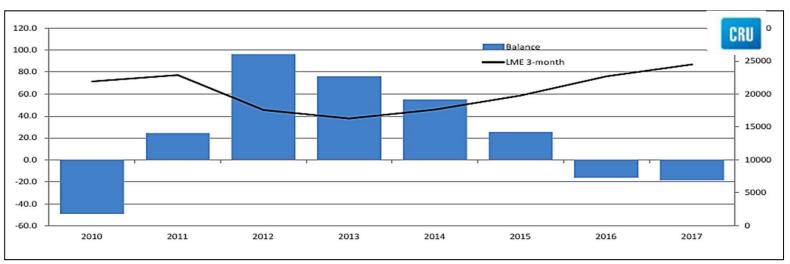


# NO NEW NON NPI LATERITE PROJECTS WORLDWIDE?

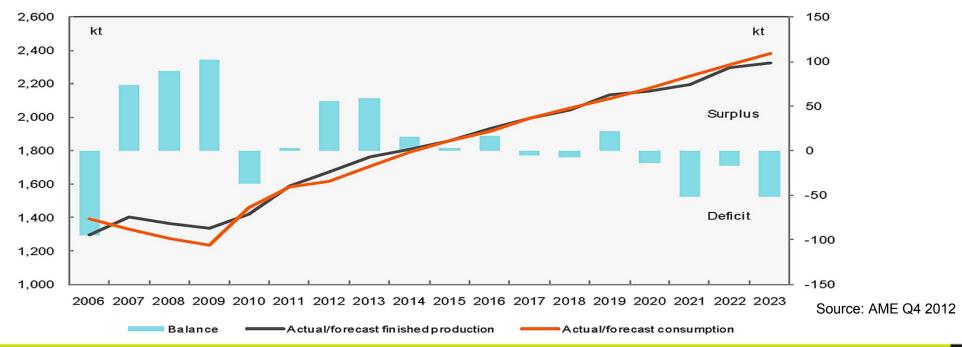
ONLY SUPPLY RESPONSE IS NPI TO 95kt p.a. DEMAND

# Forecast long term nickel supply shortages





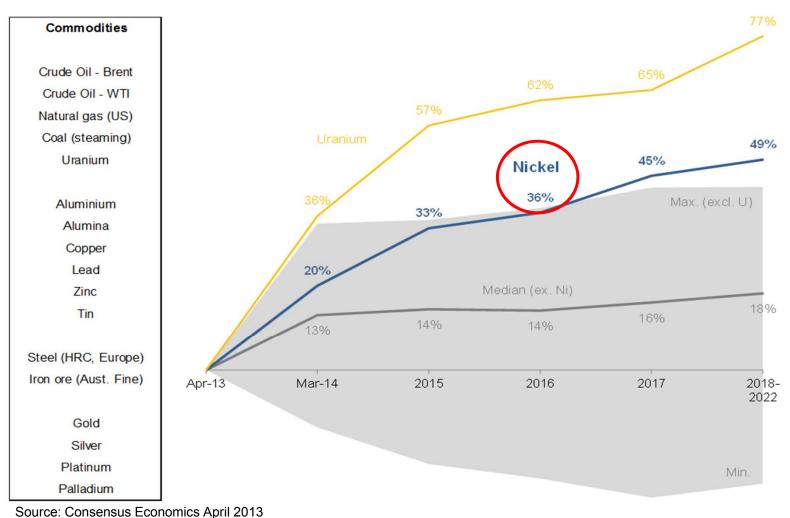
Source: CRU May 2013



# Consensus Economics Predicts a Bright Future for Nickel (Pain today!)



# Consensus Forecasts - Implied Changes from Spot 15 April 2013



Institutions (nickel) Barclays Capital CIMB Group **RBC Capital Markets** Wilson HTM Commonwealth Bank Euromonitor International Morgan Stanley BREE **BNP Paribas** BIPE Invested Liberium Capital Oxford Economics IHS Global Insight Standard Bank BoA Merrill Lynch Macquarie Bank Societe Generale **HWWI** UBS Credit Suisse China Int'l Capital Corp Prometeia Deutsche Bank Econ Intelligence Unit

### **Innovation**





**Wassara Drilling System** 



**Mining Road Headers** 



Renewable Energy

# **Innovation**





**In Pit Tailings** 



**Nickel Tailings Retreatment** 

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### **Resources and Reserves**



### **Nickel Sulphide Ore**

The current JORC nickel sulphide resource for Mt Windarra and Cerberus is as follows:

Nickel Sulphide – JORC Indicated and Inferred Mineral Resources				
	Ore (kt)	Grade (%)	Ni (kt)	
Mt Windarra	4,770	1.68	80.2	
Cerberus	4,551	1.51	68.6	
South Windarra	0.772	0.98	7.5	
Total Resources	10,093	1.55	156.3	

A JORC probable reserve has also been defined for Cerberus & Mt Windarra:

Nickel Sulphide – JORC Probable Ore Reserve				
	Ore (kt)	Grade (g/t)	Ni (kt)	
Cerberus	1,221	1.3	15.9	
Mt Windarra	498	1.78	8.8	
Total Reserves	1,719	1.44	24.7	

### **Gold Tailings**

 JORC gold resources and reserves estimates for North Dam, Central Dam and South Dam are as follows:

Gold Tailings – JORC Mineral Resources and Ore Reserves				
	Ore (kt)	Grade (g/t)	Au (koz)	
Probable reserves	10,430	0.52	173.1	
Indicated resources	10,990	0.52	182.5	

### **Nickel Tailings and Oxide Stockpiles**

- The following JORC resource has been estimated for the Windarra nickel tailings, the South Windarra oxide dumps and Woodline Well oxide deposit resource.
- Probable Reserves have been estimated for Central Dam & Sth Windarra

Nickel Tailings and Oxide – JORC Indicated and Inferred Mineral Resources				
	Ore (kt)	Grade (%)	Ni (kt)	
Central Dam Tailings	9,600	0.34	32.6	
South Windarra Dumps	2,976	0.41	12.2	
Woodline Well	344	1.25	4.3	
Total Resources	12,920	0.38	49.1	
Probable Reserves	12,310	0.34	42.2	

Note: The information in this report relates to Exploration Results and Mineral Resources based on information compiled by Mr N Hutchison, General Manager of Geology at Poseidon Nickel, who is a Member of The Australian Institute of Geoscientists and Mr I Glacken who is a Fellow of the Australasian Institute of Mining and Metallurgy as well as a full time employee of Optiro Pty Ltd. Mr Hutchison and Mr Glacken both have sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' Mr Hutchison and Mr Glacken have consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.

