



# New Zealand Steel Analyst Site Visit

Ross Murray  
President  
New Zealand Steel & Pacific Islands  
5 - 6 June 2008

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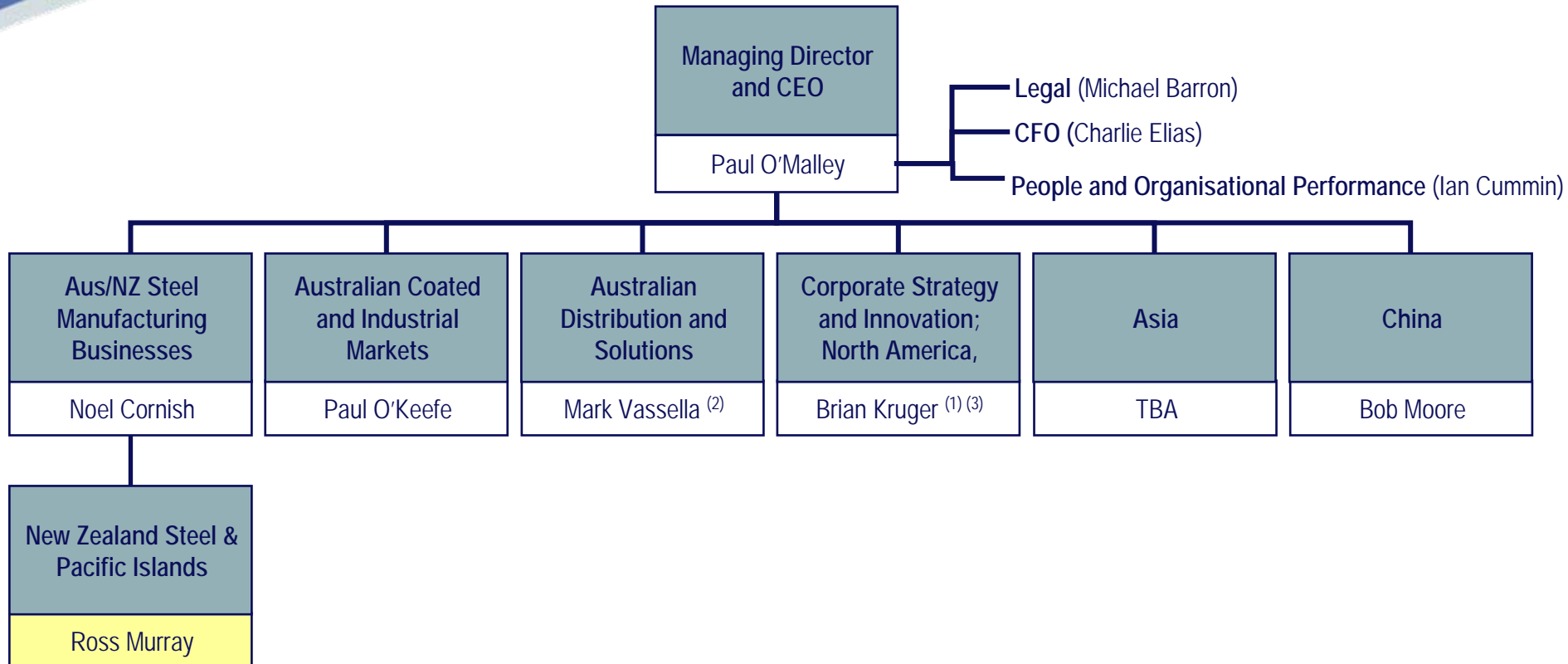
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# Presentation

- Introduction
  - Safety Message
  - Organisation
- Safety
- Environment & Sustainability
- History
- Blueprint
- Operations & Financials
- Marketing & Sales
- Summary



# BlueScope business structure



**Note:**

(1) Mark Vassella will be succeeding Brian Kruger as President of the North American businesses

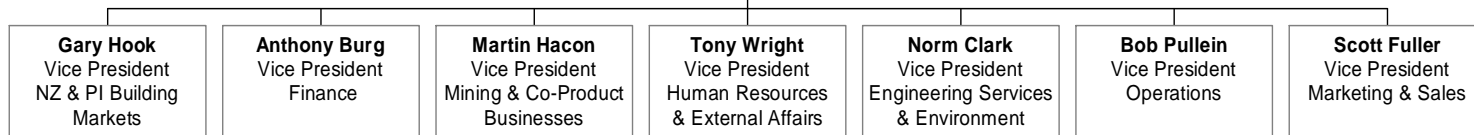
(2) Mark Vassella's current responsibilities – TBA

(3) Corporate Strategy and innovation - TBA

# New Zealand Steel & Pacific Islands

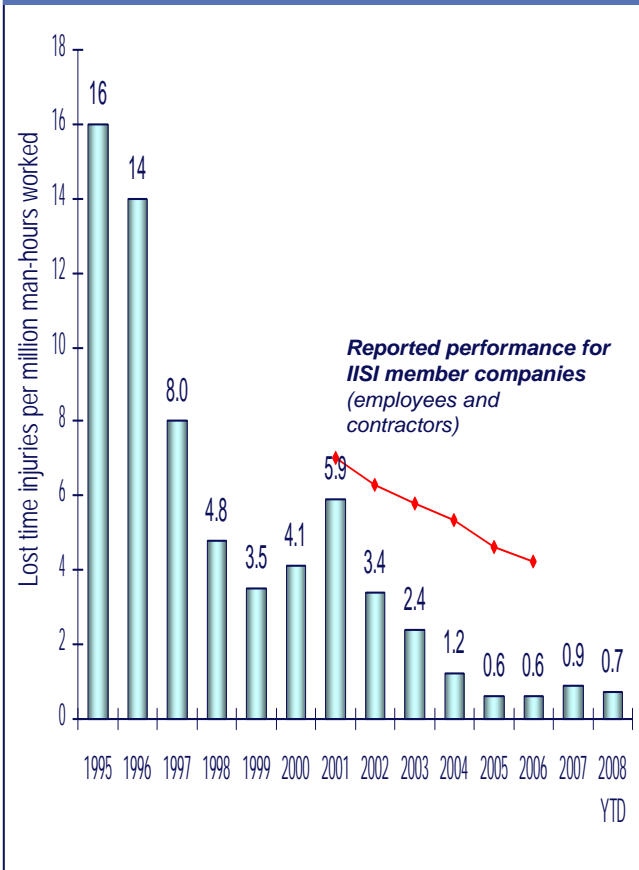


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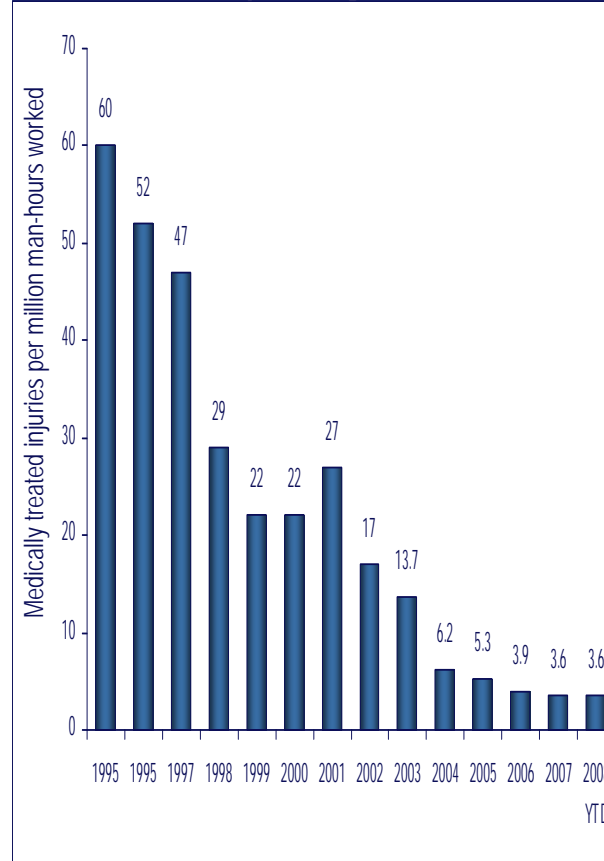


# Safety

## Lost Time Injury Frequency Rate



## Medically Treated Injury Frequency Rate



## Highlights

- Site-wide open access safety and operational incident reporting system implemented 2007
- Alcohol and other drugs testing regime implemented site-wide in 2007
- Five BlueScope Steel Codes of Practice implemented
- Capital works of \$13m invested in hazard elimination between 2005 - 2008
- Site security upgraded in 2007
- National award for Safety and Injury Prevention in the work place and community in general

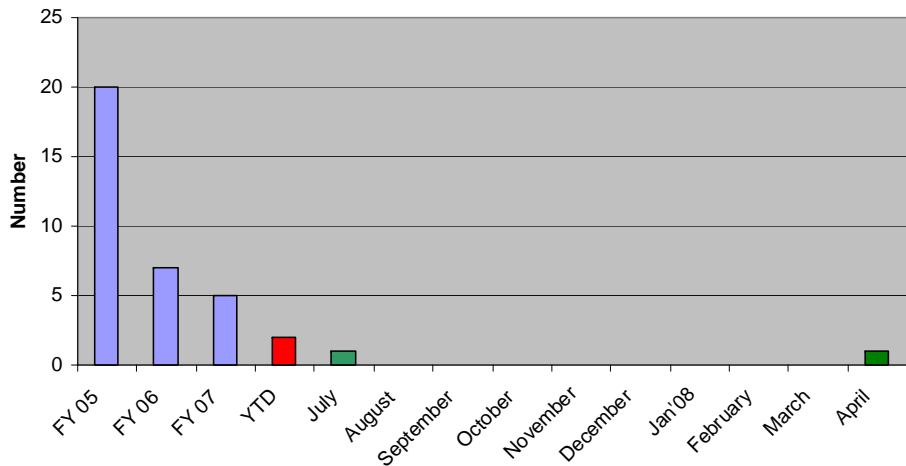
**Mission :** Relentlessly reduce workplace injury

**Core Elements :** Felt Leadership, employee engagement, training, accountability

- Includes Contractor performance from 2004

# Environmental

## Non-compliance



## Key Issue

- Climate Change and New Zealand Government's proposed Emissions Trading Scheme (ETS)

## Highlights

- Clean and Green initiative – continued landscaping industrial site and key riparian zones in NZS farmland. Future work planned for both Glenbrook and Taharoa as mitigation measures for consented activities.
- Environmental Management System – ISO14001 certification for 3 operating sites since 2003; accountability driven to plants.
- Zero Waste initiative – Investigating further options for waste diversion, including material recovery for internal and external use and segregation of materials for recycling.
- Monitoring systems and measurement – Rigorous environmental monitoring (~1300 measurements taken monthly) with new resource consents implemented recently on 2 sites
- Community focus – support local environmental initiatives with schools and landcare group
- Capital focus – new fish pass on Taharoa mine water supply dam.
- Energy – Greenhouse Gas Inventory and Worlds Best Practice Study completed by Hatch in 2007.
- Energy improvement plans in place

# Proposed Emissions Trading Scheme

## Proposed New Zealand Government Emission Trading Scheme

- All gasses and eventually all sectors
- Steel sector in scheme from December 2010
- 90% free credits (2005 base) to 2018
- Zero credits by 2030 (rate of credit removal for trade exposed industry tested in 5 yearly rests from 2018)

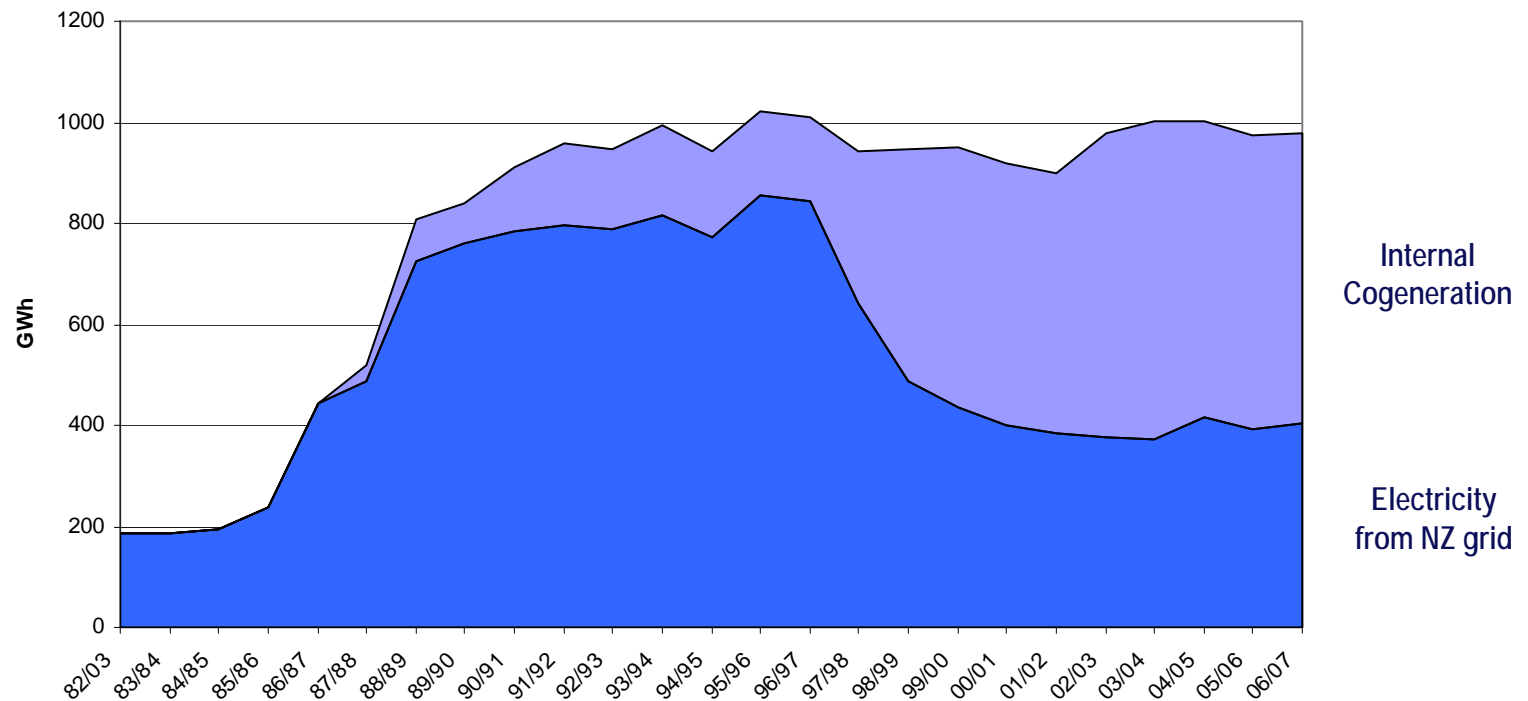
### New Zealand Steel

- New Zealand Steel is seeking to be excluded from the Scheme or granted 100% free credits





# New Zealand Steel and sustainability – benefits of cogeneration



- \$200 million already spent to reduce energy demand.
  - 60% of our New Zealand operations electricity needs produced on-site by co-generation from captured process gasses since mid '90's

# New Zealand Steel's history

## **The beginning of an era (1950s - 1960s)**

- New Zealand Steel Investigating Company set up by the New Zealand government
- New Zealand Steel Limited formed as a private company
- Commenced commercial operations using imported steel coil with a Galvanising Line in 1968

## **Pioneering new technology (1970s)**

- Pioneering Iron and Steel making facilities commissioned based on local ironsand and coal
- Hollow Sections Plant commissioned

## **Expansion during turbulent times (1980s)**

- Commissioned a Continuous Slab Caster, Hot Mill, Cold Mill and Paint Line commissioned
- New Zealand government acquired 90% shareholding following a capital reconstruction
- Acquired by Equiticorp on the eve of the 1987 stock market crash
- Acquired by Helenus Corporation (Fisher & Paykel, Steel & Tube, ANZ Bank and BHP)

## **Consolidation and operational stability (1990s)**

- BHP takes a controlling interest and forecasts closure of steelmaking facilities by 2007

## **A "boutique steel mill" creating shareholder value (2000s)**

- New Zealand Steel reports its first ESVA positive annual result 30 June 2004
- Positioned to realise the competitive advantage of our unique process and abundant natural resources
- Achieving new records in safety, production, quality, environment and financial performance

# Today

- Integrated mill with 625,000 tonnes of steel making capacity with metal coating, painting, hollow sections, plate and structural beam facilities
- Mastered a unique direct reduction process based on local ironsands
- Ownership of ironsand resource
- Captured a niche market position as New Zealand's only producer of value added flat products
- Continued focus on operational efficiencies and reliability improvements
- Educated and engaged workforce
- Envable safety, environmental and community record
- The single largest employment site in New Zealand with exports worth more than \$300m and total economic contribution to New Zealand of nearly \$2b (2007).
- Playing an important role in BlueScope Steel's portfolio



# New Zealand Steel & Pacific Island Blueprint

## CORE OBJECTIVES

8 BLUEPRINT BASICS	BUSINESS PERFORMANCE
1. INCREASE CUSTOMER AND MARKET FOCUS	<ul style="list-style-type: none"> <li>Satisfy our customers' quality, delivery and cost expectations profitably throughout the business cycle</li> <li>Partner with our customers and others to grow the domestic market</li> <li>Continue customer and product profitability initiatives</li> <li>Promote and influence the sustainable use and manufacture of steel vs alternative materials to market and government</li> </ul>
2. IMPROVE PRODUCTIVITY YEAR ON YEAR	<ul style="list-style-type: none"> <li>Improve equipment reliability</li> <li>Improve process capability to meet specifications and minimise the cost of product losses</li> <li>Focus on improving cost control</li> <li>Adopt Lean tools and processes to improve productivity</li> </ul>
3. OPTIMISE RETURN ON CAPITAL	<ul style="list-style-type: none"> <li>Optimise capital requirements – fixed and working</li> <li>Review low returning businesses to determine "go/no go position"</li> <li>Support the development of NZS(A), Pacific Islands and Steltech businesses</li> <li>Increase coated steel capacity via manufacturing excellence initiatives and brownfield growth</li> </ul>
	CAPABILITY ENHANCEMENT
4. BUILD AN INTEGRATED OPERATING SYSTEM	<ul style="list-style-type: none"> <li>Adopt and apply authorised systems that contribute to business efficiency</li> <li>Comply with internal and external standards, policies and procedures</li> <li>Benchmark processes and skills to identify and address technology and performance gaps</li> </ul>
5. DEVELOP ORGANISATION CAPABILITIES	<ul style="list-style-type: none"> <li>Develop a competitive advantage through engaged employees</li> <li>Develop high performance teams</li> </ul>
	STEWARDSHIP
6. SAFETY	<ul style="list-style-type: none"> <li>Operate safety at the highest standards, ensuring acceptable risk to Personnel, Plant and Community</li> </ul>
7. SUSTAINABILITY	<ul style="list-style-type: none"> <li>Deliver environmental performance within regulatory limits and position ourselves to meet evolving community expectations</li> <li>Implement cost effective Zero Waste initiatives</li> </ul>
8. SHAREHOLDER VALUE	<ul style="list-style-type: none"> <li>Develop alternative business models for Taharoa or disposal of asset</li> <li>Finalise assessment of downstream Vanadium businesses</li> <li>Appraise commercialisation options for Titania business</li> </ul>

## KEY INITIATIVES

- NZ Steel has a unique iron making process based around its significant low cost iron sand resources, producing a wide range of quality steel products and high value co-products servicing complex and competitive domestic and export markets
- The NZ Steel Blueprint provides focus as we operate, maintain, develop and improve the performance of New Zealand, Australian and Pacific Island assets on behalf of BlueScope Steel shareholders
- Safety (Zero Harm) is a core value and our No. 1 priority. We believe we have a responsibility to address the environmental impacts of our operations, including those relating to Climate Change and our objective is to continuously improve our environmental footprint.

# Operations – New Zealand

## Glenbrook

- Iron and Steel production
- Hot and Cold Rolling Mills
- Dual Pot Metal Coating Line
- Paint Line
- Plate Line
- Hollow sections plant

## Waikato North Head Mine

- Concentrated iron sand slurry pumped to Glenbrook

## Taharoa Mine

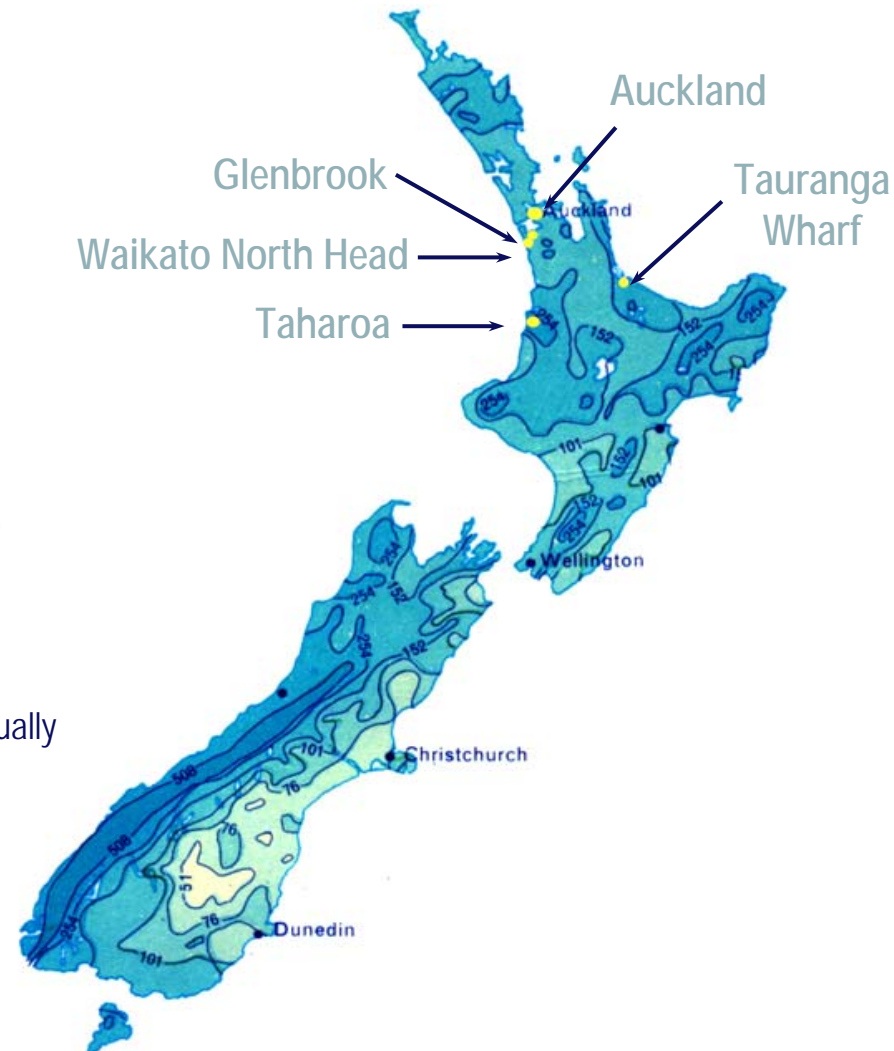
- Approximately 1mt concentrated iron sand shipped to Asia annually

## Auckland

- Structural Beam plant

## Tauranga Wharf

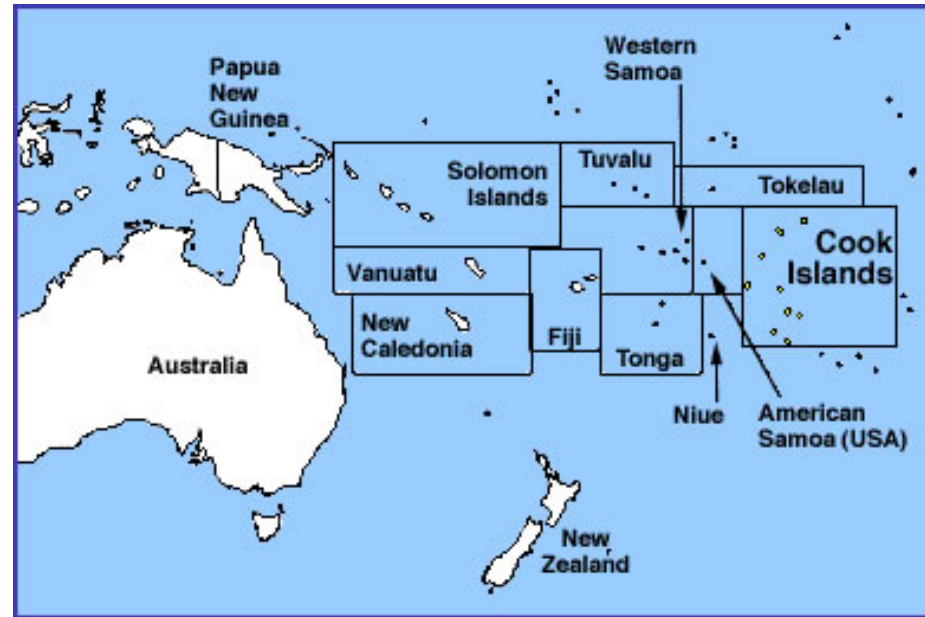
- Deep sea export facilities



# Operations – Pacific Islands & Australia

## Fiji

- Components business
  - Roll formed roofing and cladding products plus accessories
  - Operate in two locations, Suva and Lautoka
  - FY07 sales of 4,500t
- PEB capability including in-house design, engineering, structural steel supply and fabrication
  - Capacity of 1,500t per annum
- Total FY07 sales of 5,500t
- Business materially impacted by November 2006 coup



## New Caledonia

- Components business
- FY07 sales of 5,700t

## Vanuatu

- Components business
- FY07 sales of 570t

## Australia

- New Zealand Steel (Australia)
  - Sales of between 80-200ktpa
  - Complementary to Australian business
  - Next best margin for New Zealand Steel after domestic and helps combat other imports into Australian market

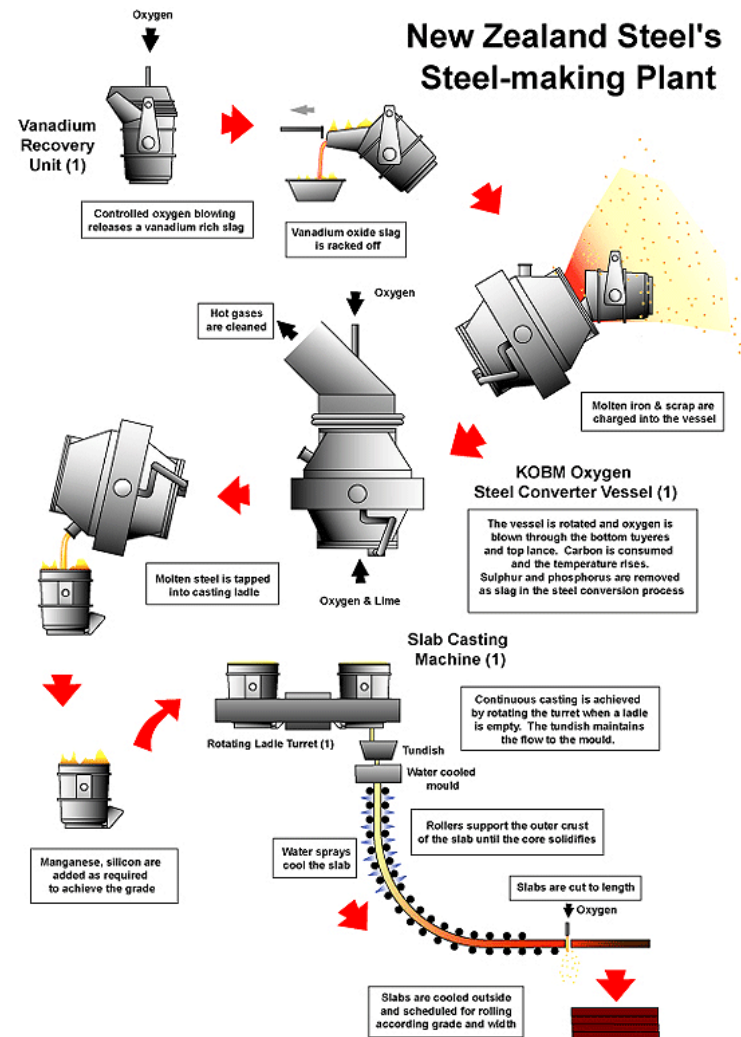
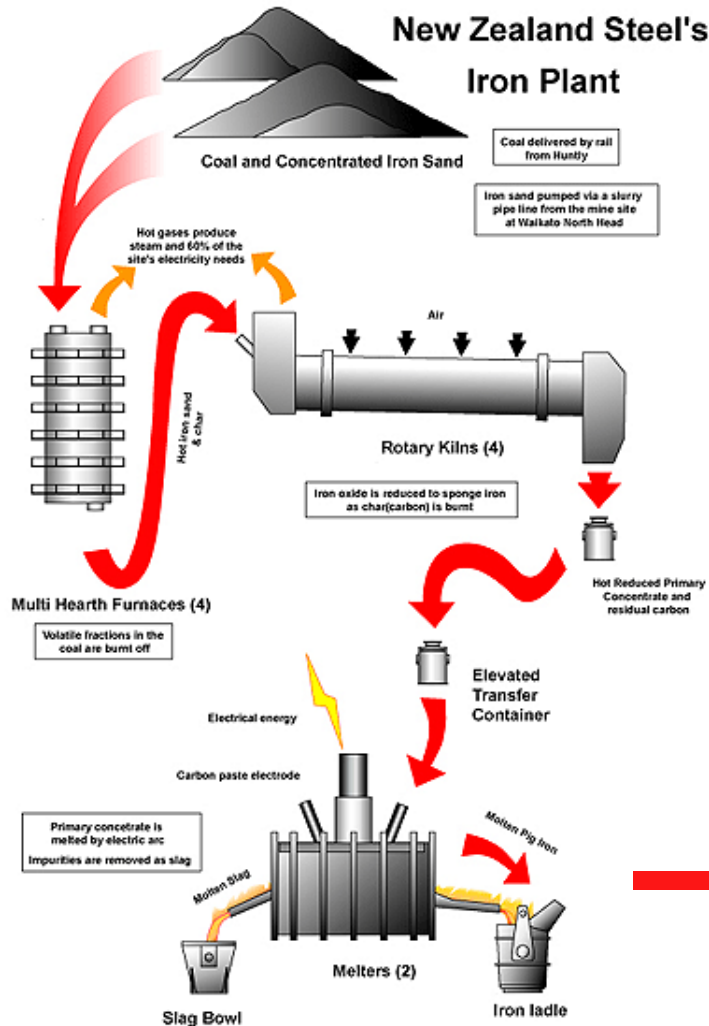
# Production Process

Attached link takes you to full New Zealand Steel Production Process

<http://www.bluescopesteel.com/index.cfm?objectid=4C8AE684-F795-D7AC-0477497D4DD97727>



# Unique direct reduction process





# Raw materials

## Iron Sand Concentrate (Waikato North Head Mine)

- Iron sand mined and concentrated on site - 58.5% Fe
- 13mt of contained product in probable reserves and 13mt of contained product in proven reserves
- Additional 591mt of inferred resource
- Concentrate is slurry pumped 18km underground to Glenbrook

## Coal

- Thermal coal predominantly from Solid Energy
- Approximately 0.8mt transported by rail to Glenbrook each year
- Historically had long term contract with Solid Energy. Currently in negotiation for a new contract but have concerns re Solid wanting to move away from previous arrangements (including pricing). Currently contract expires 30 June 2008. Considering range of options. Will update market when final details are available.
- Importing approximately 60ktpa Indonesian coal

## Lime (McDonalds Lime - 28% NZS owned)

- 34ktpa lime (oxide and chip) quarried and processed at Otorohanga
- Railed and trucked to Glenbrook

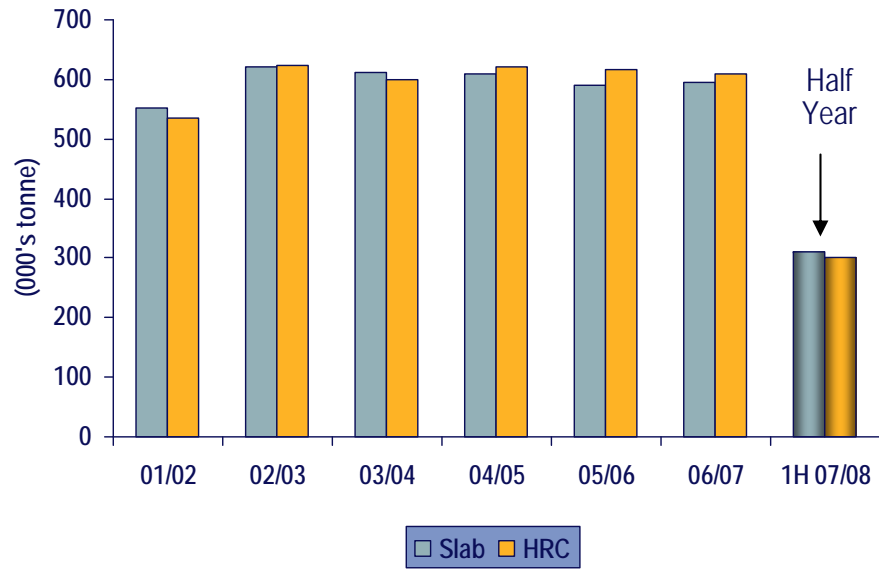


## Export Iron Sand Concentrate (Taharoa Mine)

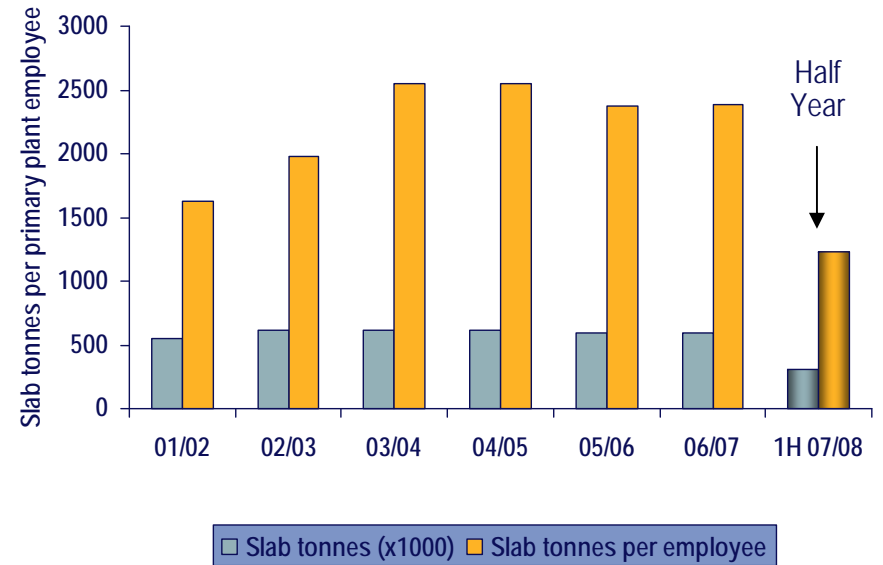
- Iron sand mined and concentrated on site - 57% Fe
- 9mt of contained product in probable reserves and 22mt of contained product in proven reserves
- Approximately 1mt of concentrate is slurry pumped to a buoy 2.5km offshore to a dedicated slurry vessel and shipped to China and Japan annually

# Steelmaking production & productivity

## Production

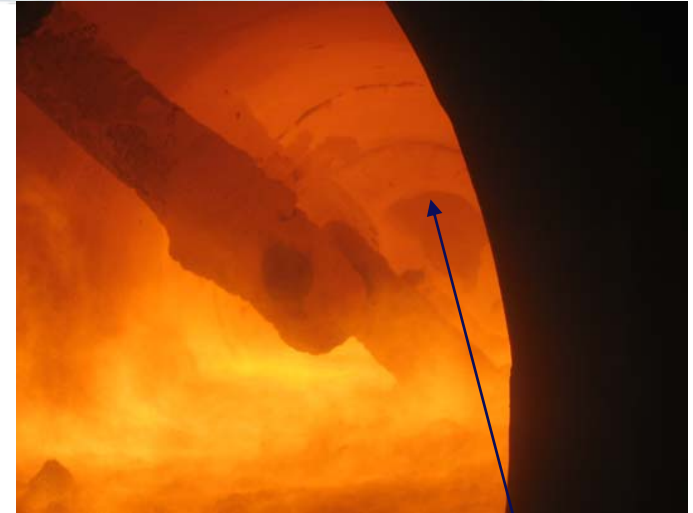
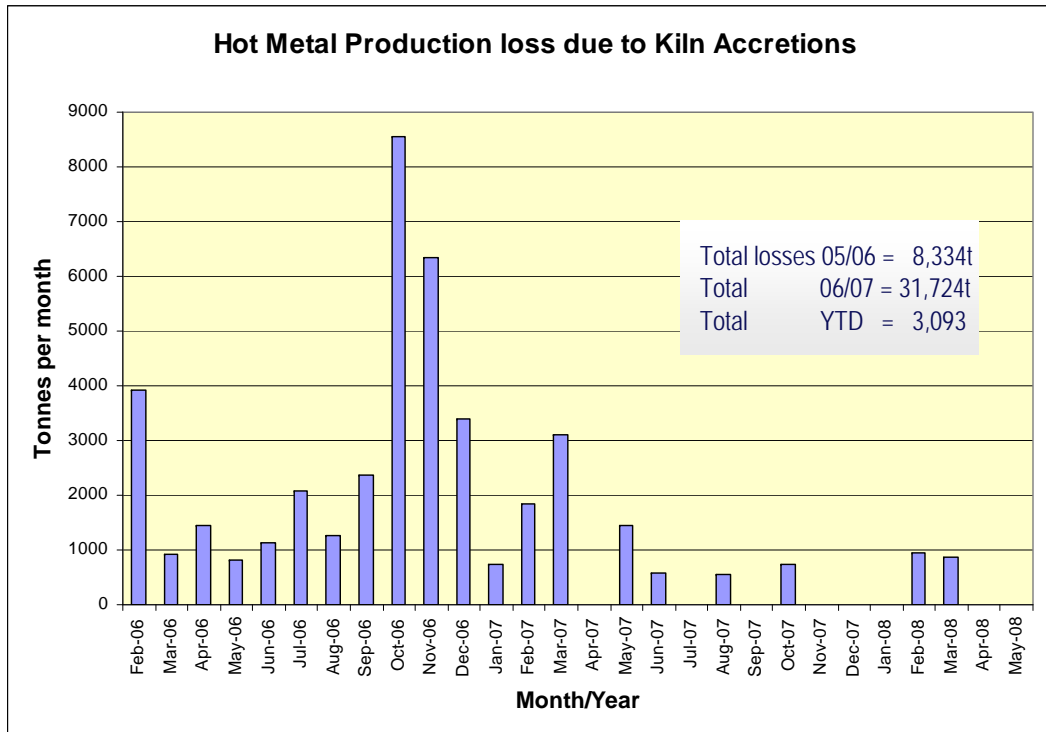


## Productivity



# Ironmaking – resolution of Kiln accretion issues

- Accretion growth on the kiln lining damages refractories, blocks discharge system and disturbs process gas flows
- Resolved by improved control of silica levels in ironsand feed at minesite



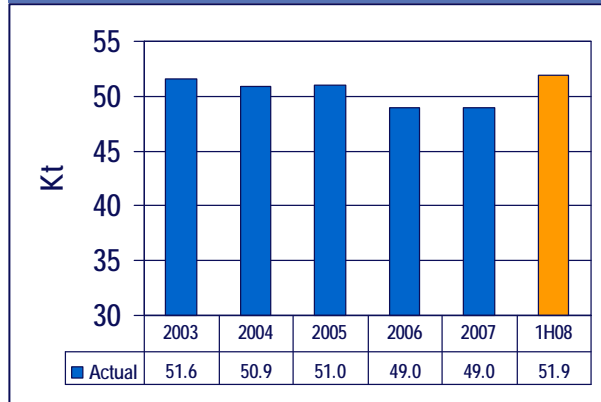
Typical accretion ring



Rotary kiln

# Production (monthly)

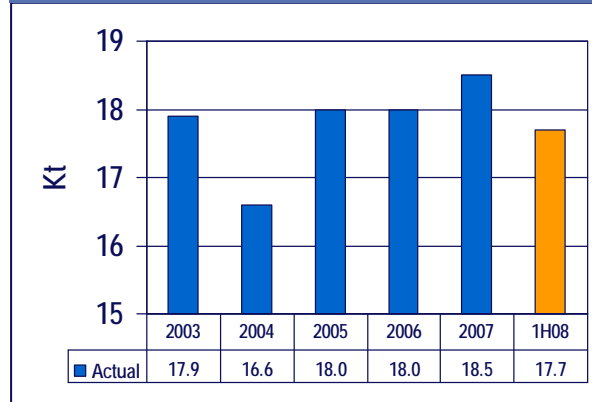
## Slab Caster



### Slab

- Improved preventative maintenance strategies have increased reliability
- Accretion formation in rotary kilns has reduced since Attritioner installed at Waikato North Head

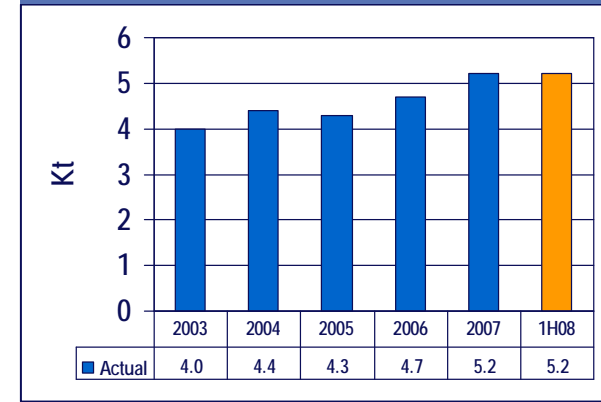
## Metal Coating Line



### Metal Coating Line

- Reliability focus
- Benefits of the furnace upgrade realised
- Reduced market demand late in 1H08

## Paintline



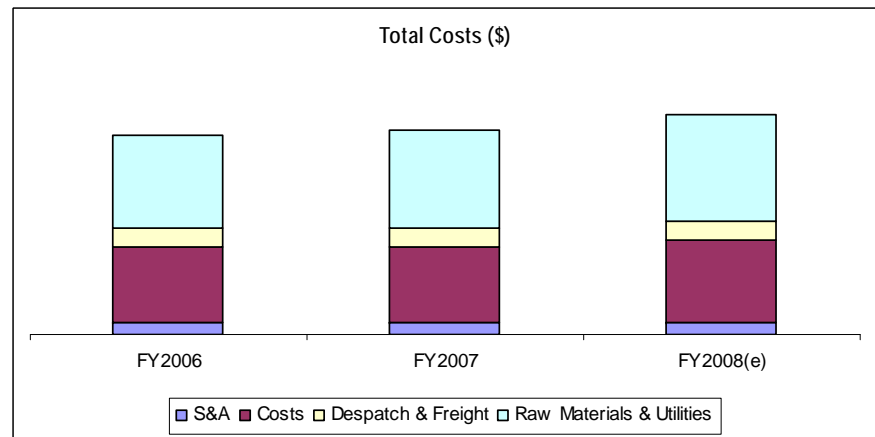
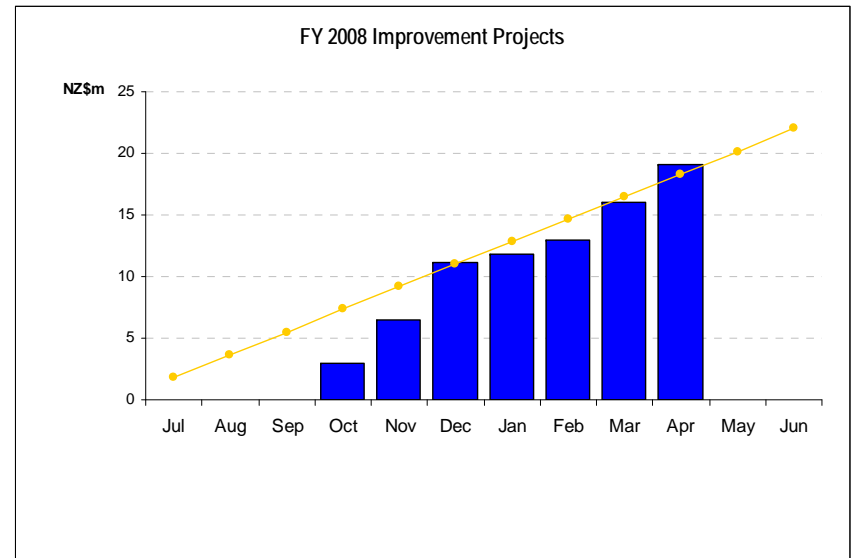
### Paintline

- Benefits of capital investment in oven replacement realised
- Improvement project to increase line speed under way
- Delivery performance key driver for the unit

# Relentless cost control

Examples of 2008 improvement projects include:

- Introduction of universal primer
- Reduction of breakouts
- Procurement savings
- Additional attritioner benefits
- Additional slab production
- Additional scrap and vanadium sales
- Inventory reduction (held coil reduction)



# Capital

Average capital invested 1998 – 2008 approximately A\$23m per annum

Commissioned	Project	Capex (A\$m)
1998	Melter 1 Reline	\$24.0m
2002	Melter 2 Reline	\$15.5m
2004 – 2005	Metal Coating Line Upgrade Paint Line Upgrade SAP ERP	\$14.0m \$3.0m \$12.0m
2006	HSM Computer Upgrade Waikato North Head Tailings System Upgrade Primary Operations Plant & Equipment Rolling Mills Plant Upgrade	\$8.0m \$2.0m \$8.0m \$6.0m
2007	6 Hi Shape Control Attritioner	\$3.0m \$3.0m
2008	Metal Coating Line Drive Upgrade Tapping Floor Automation (complete June 2010)	\$4.5m \$11.0m

# Financial Performance – NZ & Pacific Steel Products

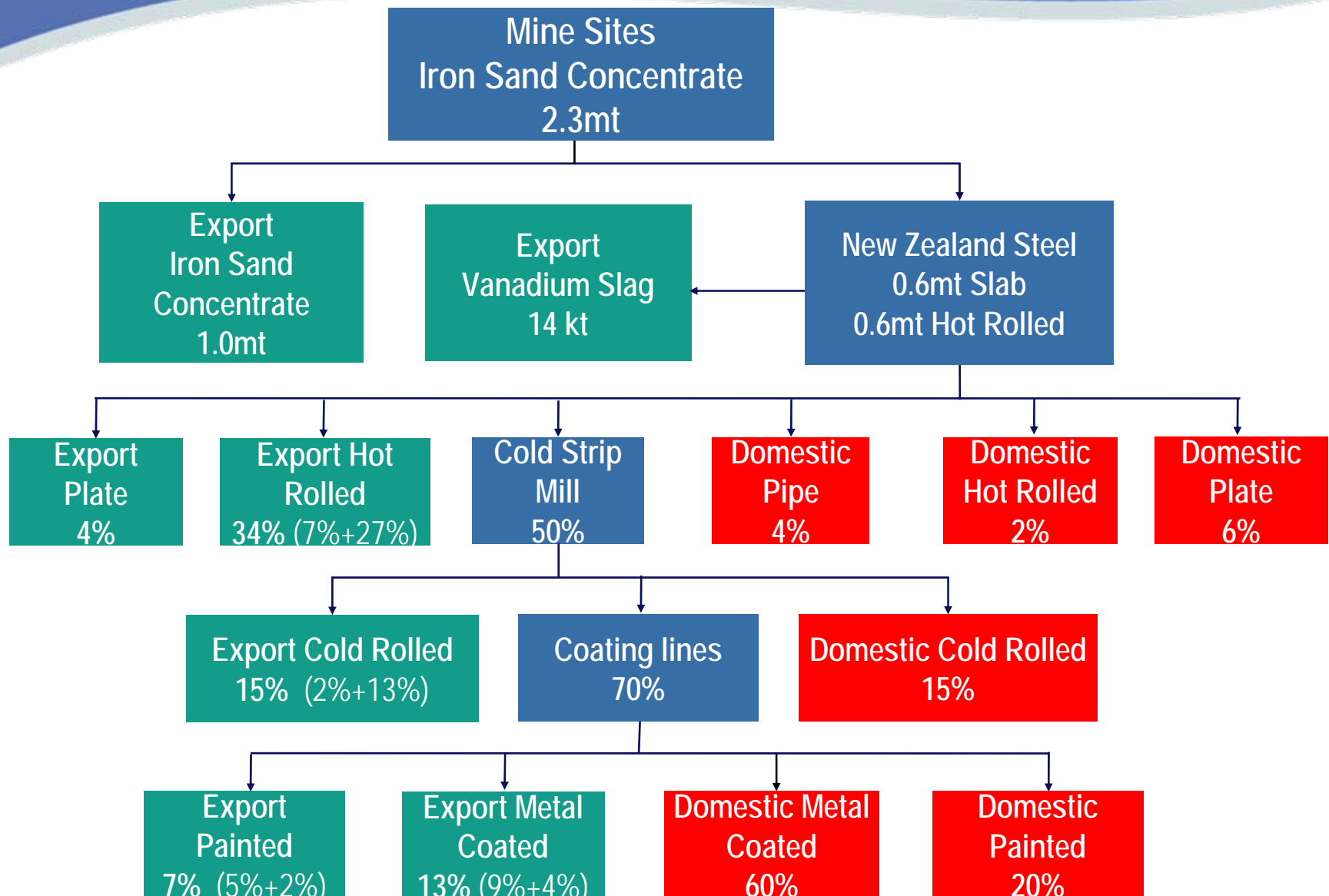
Fiscal Year	2000	2001	2002 <sup>1</sup>	2003	2004	2005 <sup>2</sup>	2006	2007			2008
								1H	2H	FY	1H
Raw Steel (kt)	555	602	552	620	611	610	589	293	301	594	312
Sales Revenue \$A	495	501	497	567	581	746	709	364	364	728	341
EBITDA \$A	80	76	45	87	98	217	132	56	63	119	59
EBIT \$A	49	46	13	49	62	189	105	42	48	90	44
Capital Expenditure \$A	6	14	23	23	23	36	55	21	18	40	9
External Sales Volume (kt)											
Regional Domestic*	202	254	260	267	272	315	278	162	140	302	144
Export	373	298	284	205	239	276	300	121	140	261	132
Total	575	552	544	472	511	591	578	283	280	563	276

1. 2002 included Melter Reline

2. 2005 includes 2 kiln shuts and steel plant shut

\* Includes Pacific Island external sales, but excludes inter-company sales

# Nominal product flow

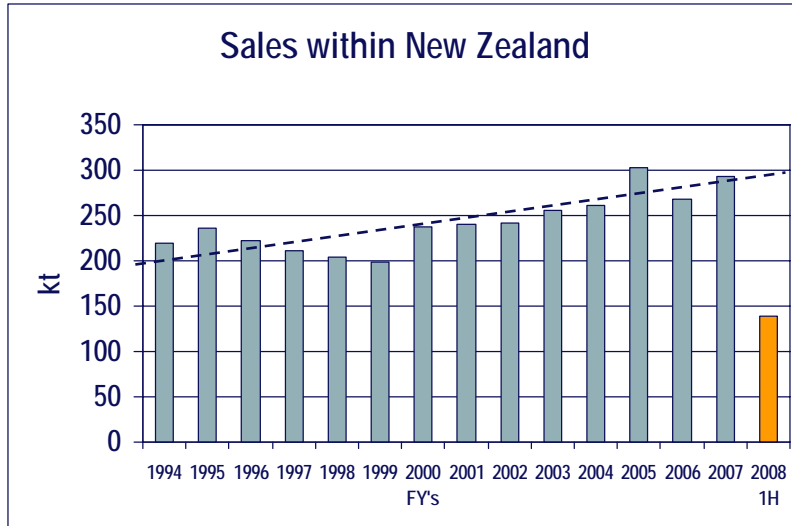


NOTE: (External % + Internal %)



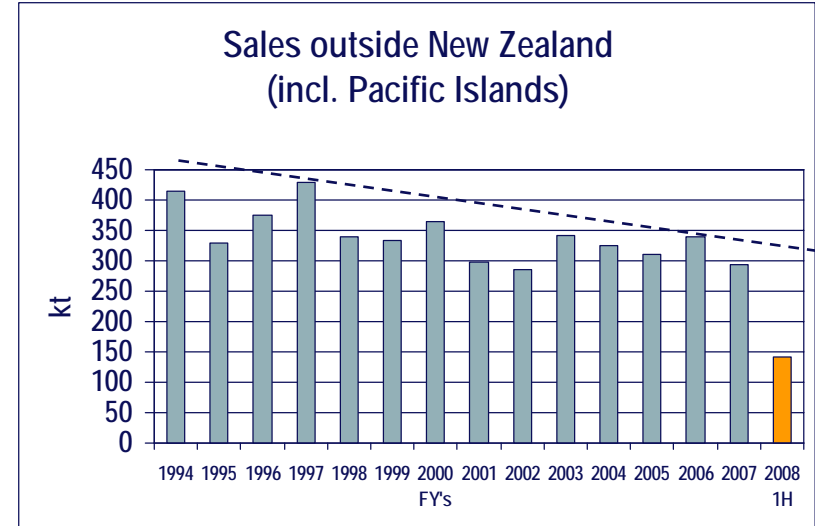
# Market – New Zealand sales vs export sales

## Growing the NZ market



- New Zealand market has softened in 1H FY08 vs 1H FY07 largely due to
  - Strength of NZD affecting manufacturers
  - Weaker coated market residential

## Reducing dependence on Deep Sea Exports



- Export despatches in 1H FY08 in line with 1H FY07

Represents external and intercompany sales from Glenbrook, New Zealand

# Domestic market structure is unique

## Value Proposition

- Short lead times
- Stock lock in's
- Small order size
- Delivery reliability
- Brands and Quality
- Technical back up

## Major Competitors

- Pacific Coil Coaters – prepainted steel and largest customer at 40ktpa
- Australian Tube Mills - hollow sections
- OneSteel – structural beams
- Steel importers – coated products

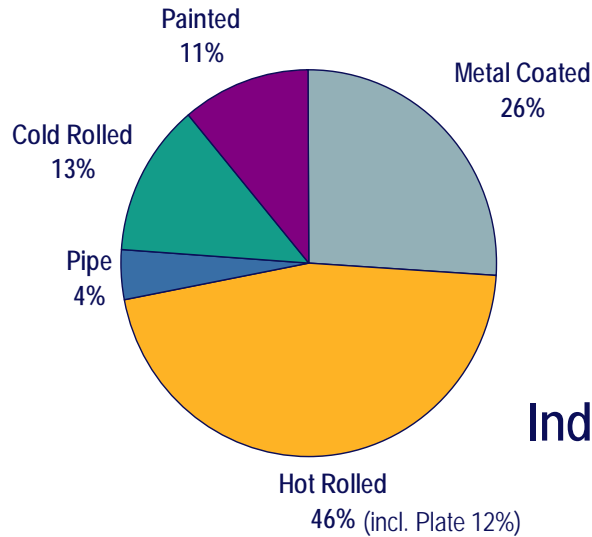
## Top 4 Domestic Customers = 80%

- Fletcher Building
- Steel & Tube
- Metalcraft
- Vulcan

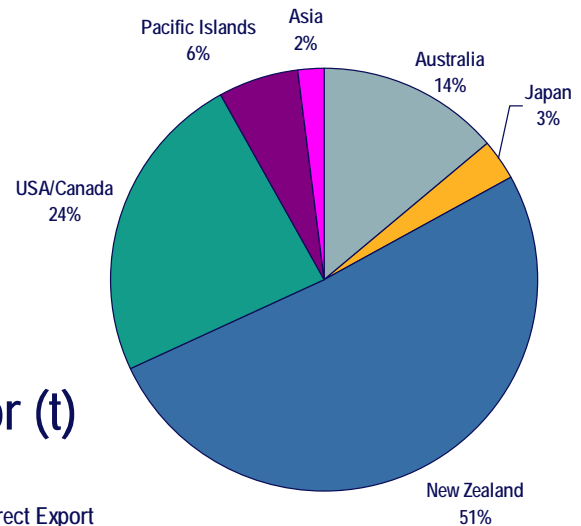


# New Zealand Steel - product distribution (1H08)

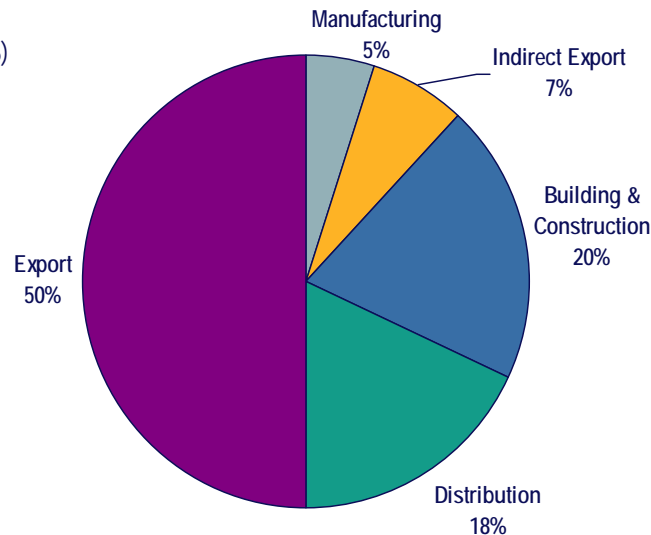
## Indicative Product Mix (t)



## Indicative Sales by Country (t)

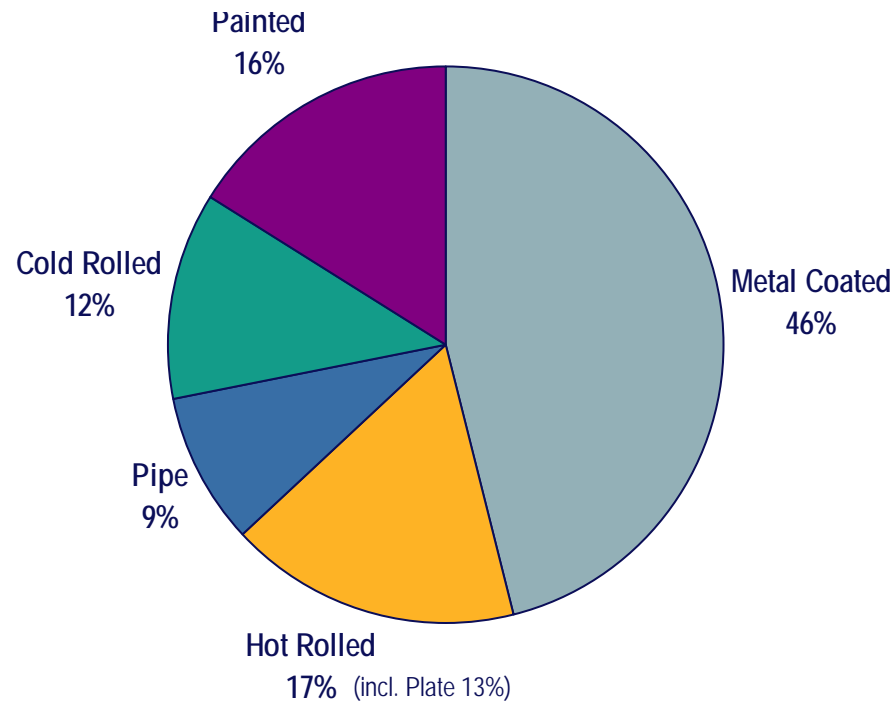


## Indicative Sales by Sector (t)

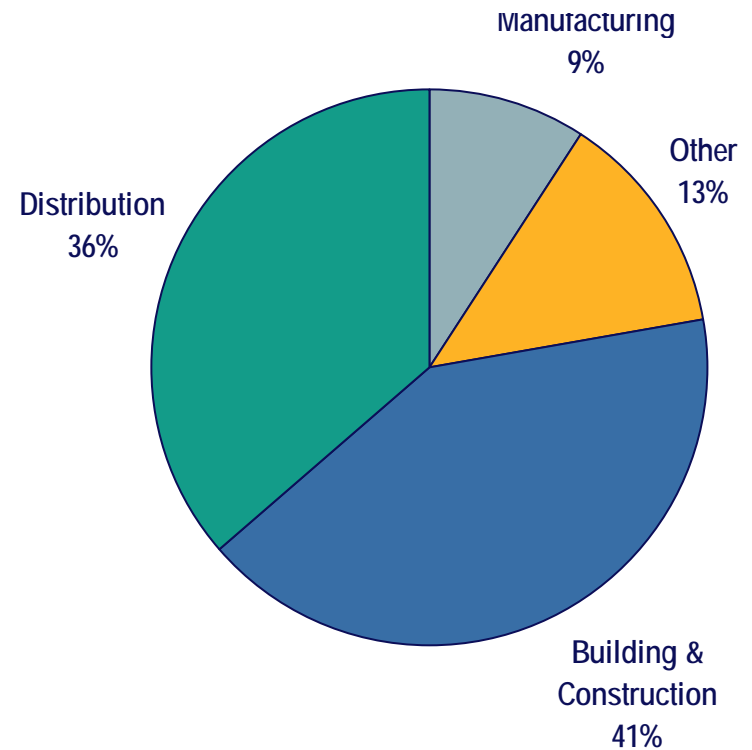


# New Zealand Steel - domestic sales (1H08)

## Indicative Product Mix (t)

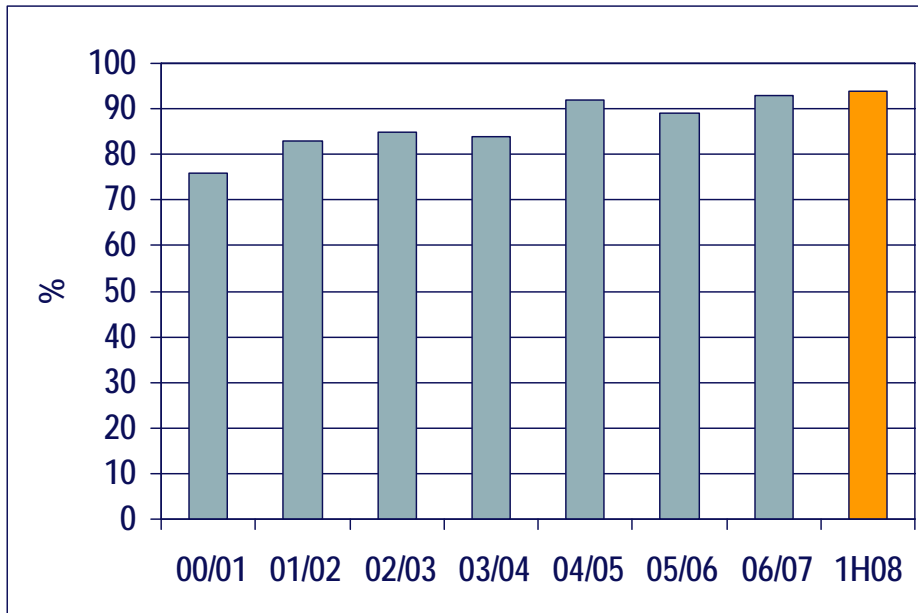


## Indicative Sales by Sector (t)



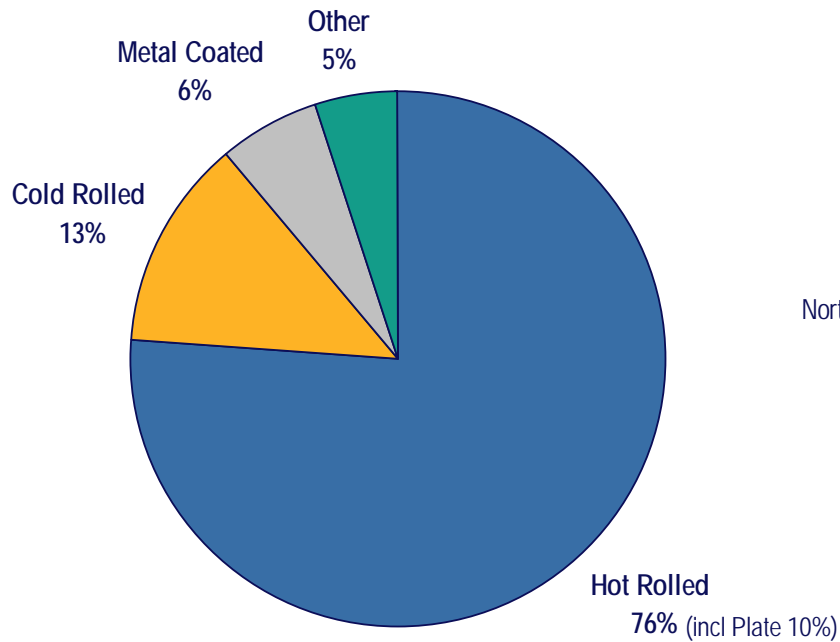
\* External & Internal sales

# New Zealand domestic delivery performance

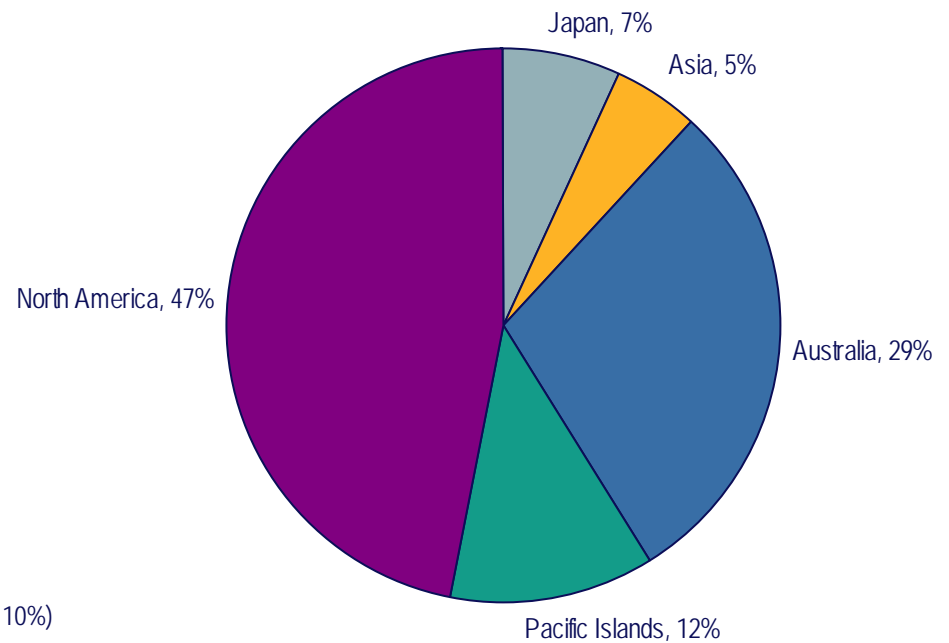


# New Zealand Steel - export sales (1H08)

## Indicative Product Mix (t)



## Indicative Sales by Region (t)

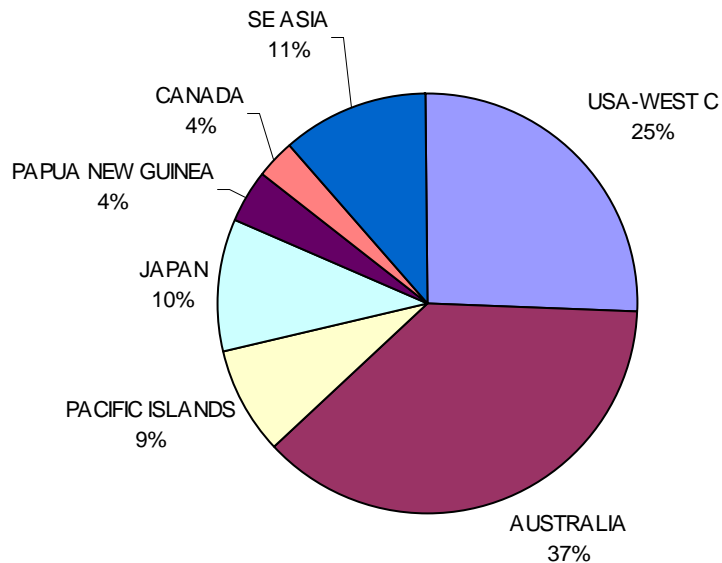


\* External & Internal sales

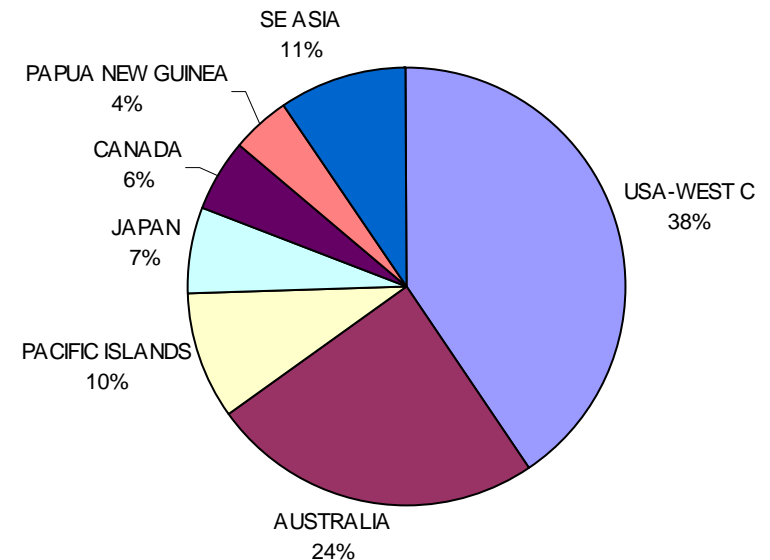
# Export sales geographic mix changed

- Optimising return of available export volumes has resulted in increasing importance of USA market
- Winner of 2007 AMCHAM Exporter of the Year award.

**Export Total Volume By Regions FY2002**



**Export Total Volume By Regions FY2007**

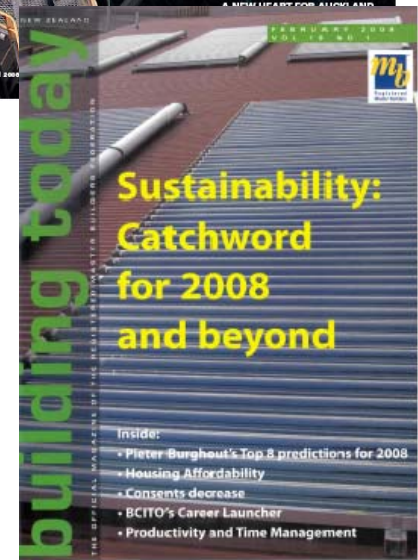
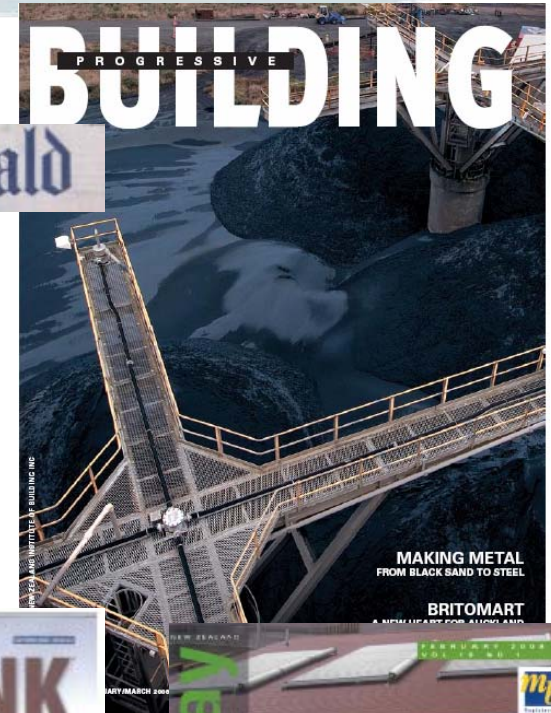
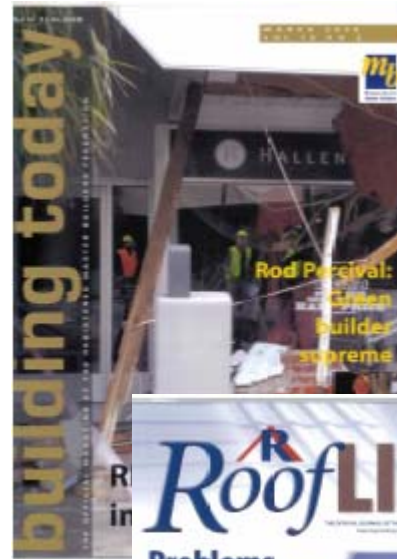




# Steel sustainability – telling the story

- The New Zealand Herald
- Progressive Building
- Building Today
- RoofLink
- SCOPE
- SteelTalk

The New Zealand Herald





# Steel sustainability & market share

- Low waste
- 100% recyclable
- High strength to weight ratio
- Sensitive to building occupants
- Non combustible

## **Axxis<sup>TM</sup> STEEL FOR FRAMING** *PROTECTING YOUR FUTURE*



# Steel sustainability & market share

- Launch COLORSTEEL® CP Antibacterial
- Merchandising display stands
- Brand/product/channel print advertising
- Home Ideas Centre permanent display



# Non steel revenue streams

## Iron Sand

- Iron sand successfully repositioned as a blast furnace feed in niche markets (Sales 06/07 year 730kt, H1 07/08 year 418kt)
- Contracts with China and Japan

## Scrap

- Record iron production leading to surplus plate iron – high grade scrap
- Record scrap prices makes searching for buried scrap attractive (Sales 06/07 year 80kt, H1 07/08 year 52kt)

## Slag

- Sold as road base by SteelServ

## Vanadium Slag

- Strong international demand (Sales 06/07 year 14.5kt, H1 07/08 year 7.5kt)



# Non steel revenue streams - Vanadium Slag

- What is vanadium?
  - Vanadium in its pure form is a metal
  - It is present in the NZS ore body as an oxide within the individual grains of Titanomagnetite ironsand. It is extracted in slag form from the Hot Metal (Liquid iron)
- What is it used for?
  - >90% of the worlds Vanadium is added to steel as a strengthening alloy
  - the fuel cell industry is a small but growing market
- Buoyant world prices following industry consolidation
- Record iron production leading to increased volumes



Major customers are located in Europe, China and the USA



# New Zealand Steel mineral opportunities

## Overview

- The abundant iron sand resource at New Zealand Steel ("NZS") has become an increasingly more valuable asset to BlueScope Steel.
- A number of projects are being studied or considered.
- However, final approval will be subject to a satisfactory conclusion being reached with the New Zealand Government on their proposed emissions trading legislation



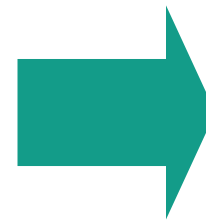
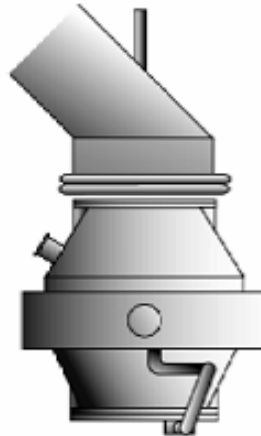
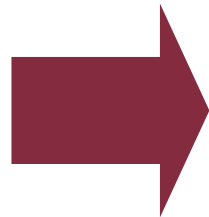
# Specific project opportunities

- The specific projects being studied or considered are:
  - **Vanadium Converter Project** – Increases the quality and quantity of vanadium slag recovered from the existing hot metal supply. Also increases slab make thereby reducing slab unit cost and increasing revenue and overall plant utilisation  
*Feasibility stage*
  - **Taharoa Development or asset sale** – The development case increases the quantity and quality of iron sands concentrate  
*Feasibility stage*
  - **Titania Project** – Reprocesses tailings from the Waikato North Head mine extracting ilmenite for smelting into Titania slag and producing additional hot metal further increasing plant utilisation  
*Prefeasibility stage*
  - **Iron Make Project** – Installation of new direct reduced iron technology to fully utilise the latent capacity of the existing melters. Significant benefits include additional vanadium extraction, lower slab unit costs and cost effective pig iron manufacture  
*Prefeasibility stage*
  - **Vanadium Pentoxide Option** – Value adds to vanadium slag production through the conversion to Vanadium flake  
*Concept stage*
  - **Taharoa Pig Iron Option** – Value adds to increased iron sand production at Taharoa in the medium term utilising emerging technology to meet a growing market demand for pig iron / ferrous scrap.  
*Concept stage*

# Vanadium Converter Project

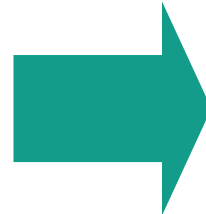
## Vanadium Converter

Liquid Iron

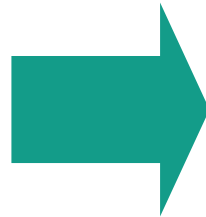


Recovery of slag containing  $V_2O_5$  increased from 15ktpa to 30ktpa

$V_2O_5$  content in slag increased by approx 7%.  
Net  $V_2O_5$  increased from approx 2ktpa to 5ktpa



Increases HRC production by 5% (30ktpa)



Reduces slab cost as a result of reduced fluxes, increased scrap and increased throughput

# Taharoa Iron Sands – expansion or sale

- Taharoa is located approx. 300km south of Auckland
- Titanomagnetic iron sands
- Mine is leased from the local Maori owners – 70 year lease from 1972
- Resources:
  - Proven – 75mt
  - Probable – 112 mt
  - Total inferred indicated and measured – 660mt
- Current options
  - Mining – floating dredge
  - Concentration – via gravity based and magnetic separation techniques
  - Dewater and stockpile
  - Shiploading – slurry pipes to ship, which is moored approx. 2.5km offshore
  - Ship – NZS charters the vessel
- Current chemical analysis of the titanomagnetic concentrate

Fe 56.8%	V <sub>2</sub> O <sub>3</sub> 0.45%	TiO <sub>2</sub> 7.7%
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# Summary

- Continued focus on safety, environment and community
- Specific Blueprint focus on
  - Customers, market share and sustainable steel
  - Productivity and capability
  - System and organisational capability
  - Optimisation Projects
    - Vanadium Converter
    - Taharoa Iron Sands
- Focus on domestic market growth, New Zealand Steel & Pacific Islands profitability and increased contribution to BlueScope Steel portfolio





# New Zealand Steel Analyst Site Visit

Ross Murray  
President  
New Zealand Steel & Pacific Islands  
5 - 6 June 2008