Arafura Resources Limited

Investor Presentation

Hon Ian Laurance
Chairman

Alistair J Stephens
Managing Director

January 2009

Arafura Resources Limited

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The information in this release that relates to exploration results and geological interpretation has been compiled by Mr Richard Brescianini BSc (Hons) and the information in this release that relates to metallurgical results and interpretation has been compiled by Mr Steven Mackowski, both full-time employees of Arafura Resources Limited. Mr Brescianini is a Member of the Australian Institute of Geoscientists and he has sufficient experience with the style of mineralisation being reported 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 (The JORC Code)” for reporting these exploration results. Mr Brescianini consents to the inclusion in this report of the contained technical information in the form and context in which it appears.

Mr Mackowski is a Fellow of the Australian Institute of Mining and Metallurgy and he has sufficient experience with the style of mineralisation being reported 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 (The JORC Code)” for reporting these metallurgical results. Mr Mackowski consents to the inclusion in this report of the contained technical information in the form and context in which it appears.

Flow of Presentation

- Who are we?
- What are our achievements?
- The Nolans project
- The pilot plant results
- What are rare earths?
- The rare earth market
- What are the projects returns?
- How are we going to do it?

The Arafura Board

Hon Ian Laurance AM **Chairman** **Age 68**	**Mick Muir** **Director** **Age 72**	**Ian Kowalick** **Director** **Age 63**	**Terry Jackson AM** **Director** **Age 69**	**Dr. Steve Ward** **Director** **Age 53**
Ian is Chairman of the publicly listed property development company, Axiom Properties ltd and has previously represented Gascoyne in the Western Australian Parliament for 14 years.	Mick is a Western Australian businessman with 30 years experience in the mining industry. Is an economics graduate and has worked in the securities industry and for the WA Chamber of Mines.	Ian is a director and consultant on business strategy and worked in technical and project consulting, economic and business analysis for resource companies, banking and investment. Ian was previously the CEO of the South Australia Premiers Department. Ian is Chair of the Audit & Risk sub-committee for Arafura.	Terry is a Western Australian Industrialist and entrepreneur with a private group of companies that has interests in innovative manufacturing, intellectual property development and vineyards.	PhD in Chemical Engineering. Steve has over 30 years experience in chemical, mining and minerals processing with Iluka. Steve is Chairman and CEO of Cristal, a Saudi Arabian based titanium pigment. Steve is Chair of the nomination & Remuneration sub-committee for Arafura.

Arafura Management

Alistair Stephens **Managing Director / CEO** **Age 45**	**Gavin Lockyer** **Company Secretary / CFO** **Age 41**	**Steven Mackowski** **GM - Project Development** **Age 56**	**Richard Brescianini** **GM - Strategic Development** **Age 45**	**Brian Fowler** **Manager Sustainability** **Age 55**
Alistair has over 20 years experience in the resources industry, including mine geology, mining, mineral processing and marketing, with Newmont, Normandy, KCGM, WMC and Orica.	Gavin has over 15 years experience in the banking and mining industries Previously with Newmont, Newcrest, Tethyan Copper Co, Bankwest and ANZ and Bankers Trust and Deutsche Bank London.	Steve has 30 years technical and operational experience in uranium, industrial minerals, nickel, kaolin and iron ore. He also has experience in utility industries including gas and electric power generation most recently with Sydney Gas.	Richard has over 20 years experience in the minerals industry, He has worked with BHP Minerals on base and precious metals exploration programs throughout Australasia and North America. Recently he held the position of Director with the Northern Territory Geological Survey	Brian has over 30 years environmental and mining experience working in the gold and base metals sectors in mining, mineral processing and exploration. Most recently, Brian worked for Newmont Australia and prior to that for Normandy, Bendigo Gold, Metana Minerals, Billiton and Peko Wallsend.

Arafura Resources Limited

Capital markets are very difficult and volatile, so…

- We continually review our costs
- Exploration, other than Nolan's, has been restricted
- And forward programs are being managed in line with cashflow

The Achievements for 2008

1. Solid progress in community, environment & approvals
2. MOU with Inner Mongolia Bao Tou Steel Rare Earth Hi-Tech Co. Ltd.
3. MOU with Incitec Pivot Ltd.
4. Resource up 63% from 2005 to 30.3 million tonnes of total resources
5. Highly successful pilot demonstration plant trials

Project Status

✓ Resource to support long life operation of +20 years	⇨	no resource risk
✓ Demonstration plant successfully operating	⇨	the process works
✓ Bankable Feasibility Study in progress	⇨	a development plan
✓ Site selection for processing plant in progress	⇨	the lowest cost base
✓ HOA with Incitec Pivot for chemical supply	⇨	to leverage expertise
✓ MOU with Bao Tou Steel Rare Earth Hi-Tech	⇨	the leaders in REO

Arafura's conservatism ensures we deliver success

We build strength through partnerships

Nolans project location

Nolans project

135 km north of Alice Springs

5km to gas line

10km to Stuart Highway

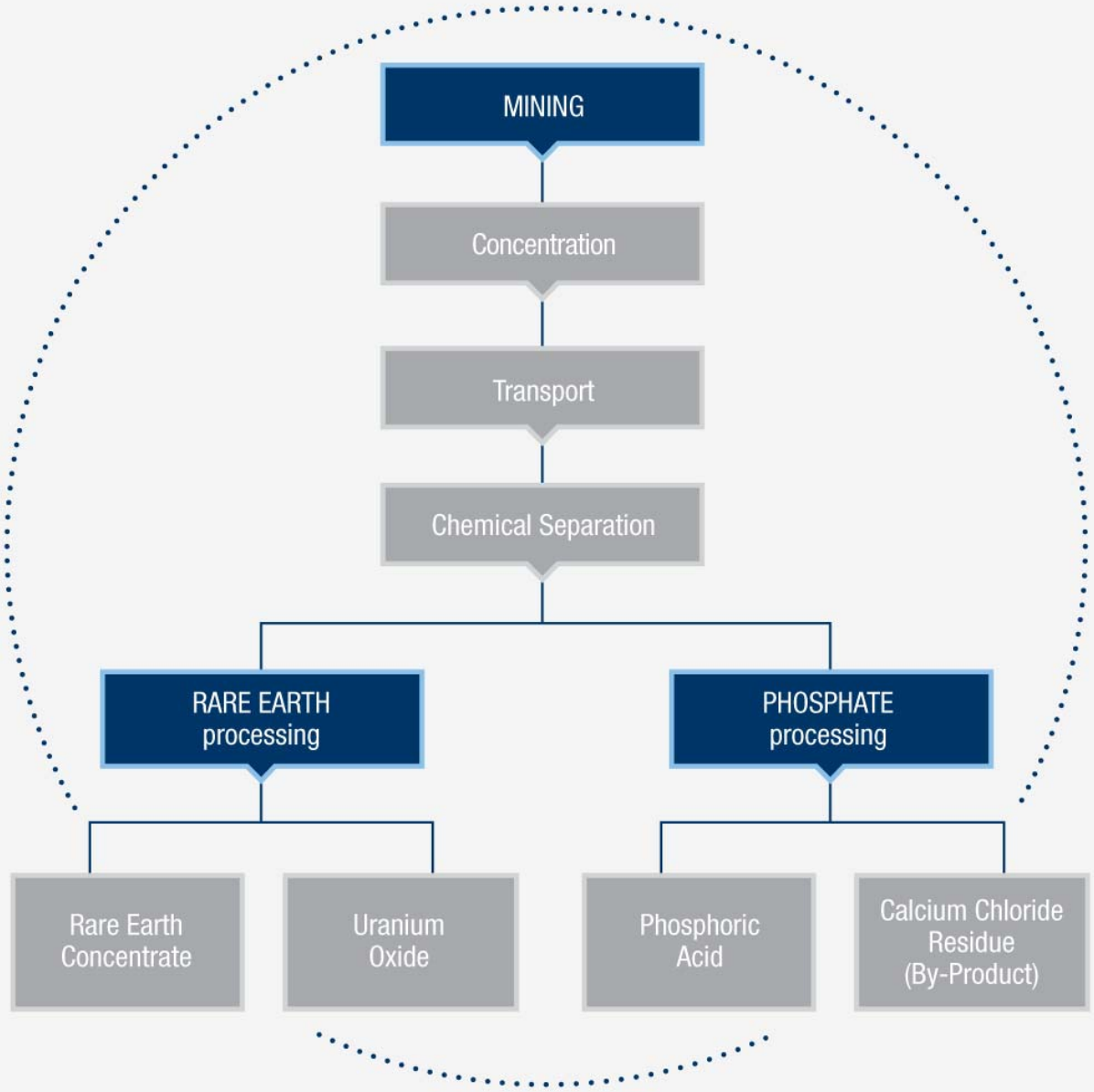
15km to Aileron Roadhouse

60 km to rail line

1200 km north to Darwin

1300 km south to Port Pirie

Nolans Project Flowsheet



NOLANS RESOURCE CLASSIFICATION

as at November 2008

	MT	REO %	P_2O_5 %	U_3O_8 lb/t
Measured	5.1	3.2	13.5	0.57
Total indicated	12.3	2.8	13.4	0.43
Total inferred	12.8	2.6	12.2	0.40
TOTAL	**30.3**	**2.8**	**12.9**	**0.44**
Metal content		**848kt**	**3.9Mt**	**13.3M lbs**

REO: Rare Earths oxide P_2O_5: phosphate pentoxide U_3O_8: uranium

Exposed at surface, open at depth, only drilled to 130m below surface, enough resources for 30 years.

Resource statement published on ASX 11 November 2008.Rounding up accounts for apparent tonnage discrepancy

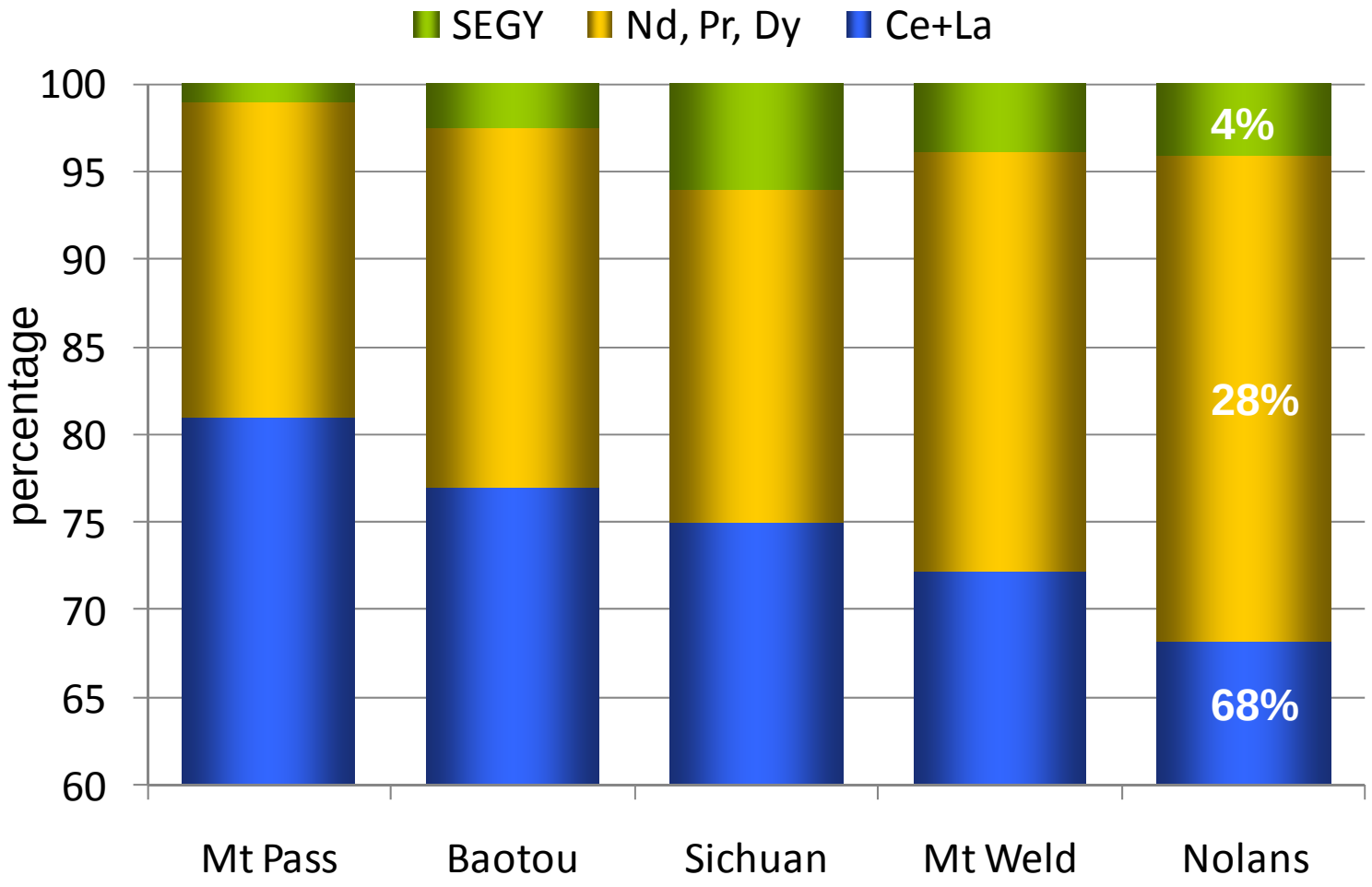
Nolans Rare Earths Mix has Improved in Value

Rare Earth Element REE	REO Price 2008 to date[1] (US$/kg)	**Current content**	**Current value (US$/kg)**
Lanthanum	$7.82	**20.0%**	**$1.56**
Cerium	$4.36	**48.2%**	**$2.10**
Praseodymium	$28.00	**5.9%**	**$1.65**
Neodymium	$28.00	**21.5%**	**$6.02**
Samarium	Unvalued	**2.4%**	**Unvalued**
Europium	$468.00	**0.41%**	**$1.92**
Gadolinium	Unvalued	**1.0%**	**Unvalued**
Terbium	$677.00	**0.08%**	**$0.54**
Dysprosium	$113.00	**0.34%**	**$0.38**
Other	unvalued	**0.17%**	**Unvalued**
Weighted Average Nolans		**100.00%**	**$14.17**

Source: 1 2008 year to date average from Metal Pages

The resource also contains Yttrium at 320 grams per tonne of resource that has not been valued

Nolans Rare Earths mix is highly competitive



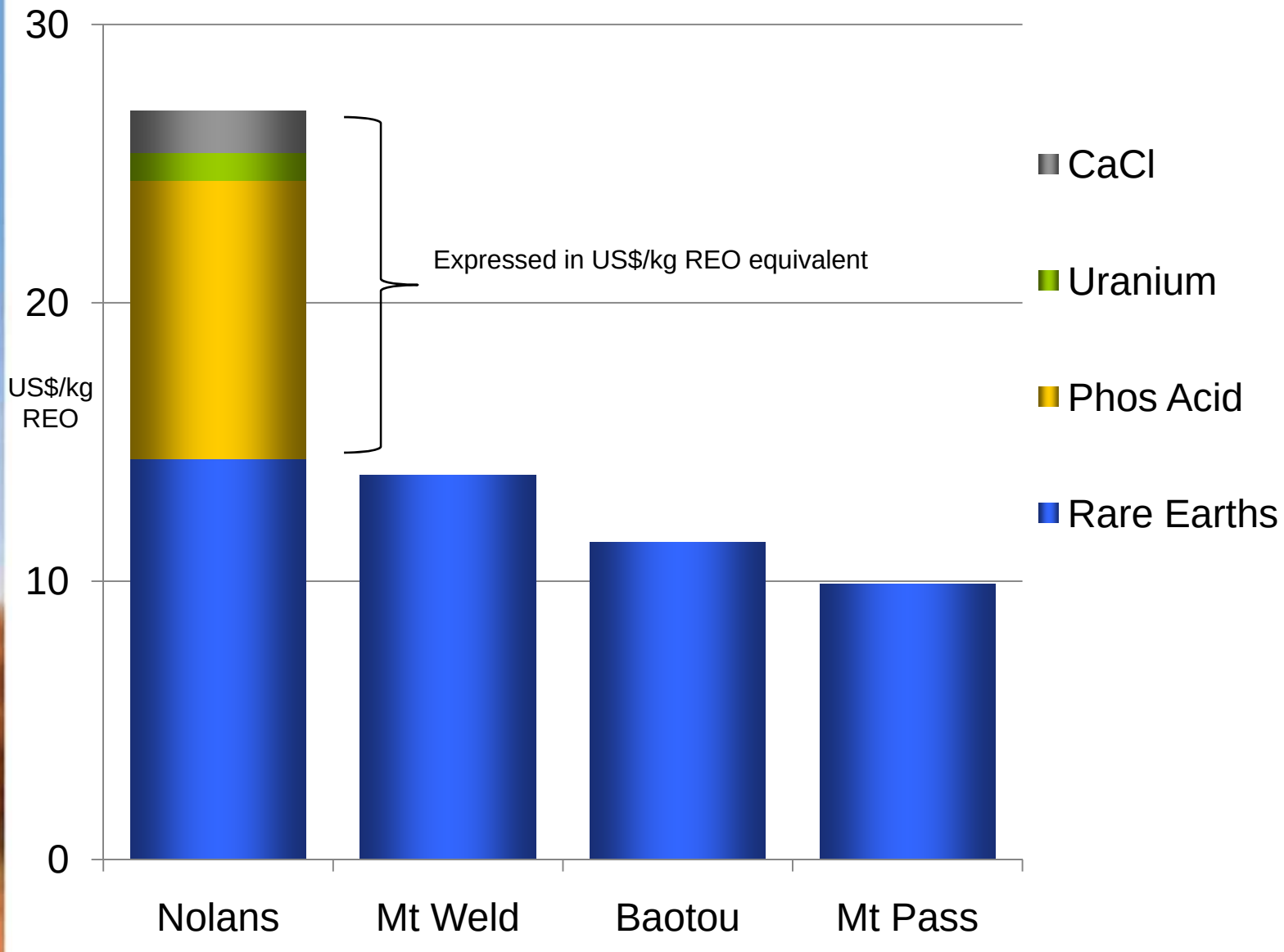
Value US$/Kg	9.9	11.4	10.5	13.6	14.2

Nolans has additional co-product of phosphoric acid and by-products of uranium and calcium chloride
Baotou has a co-product of iron
SEGY = Samarium, europium, gadolinium, yttrium and terbium
Prices based on the YTD 3rd quarter 2008 price for all rare earths published on metal pages.

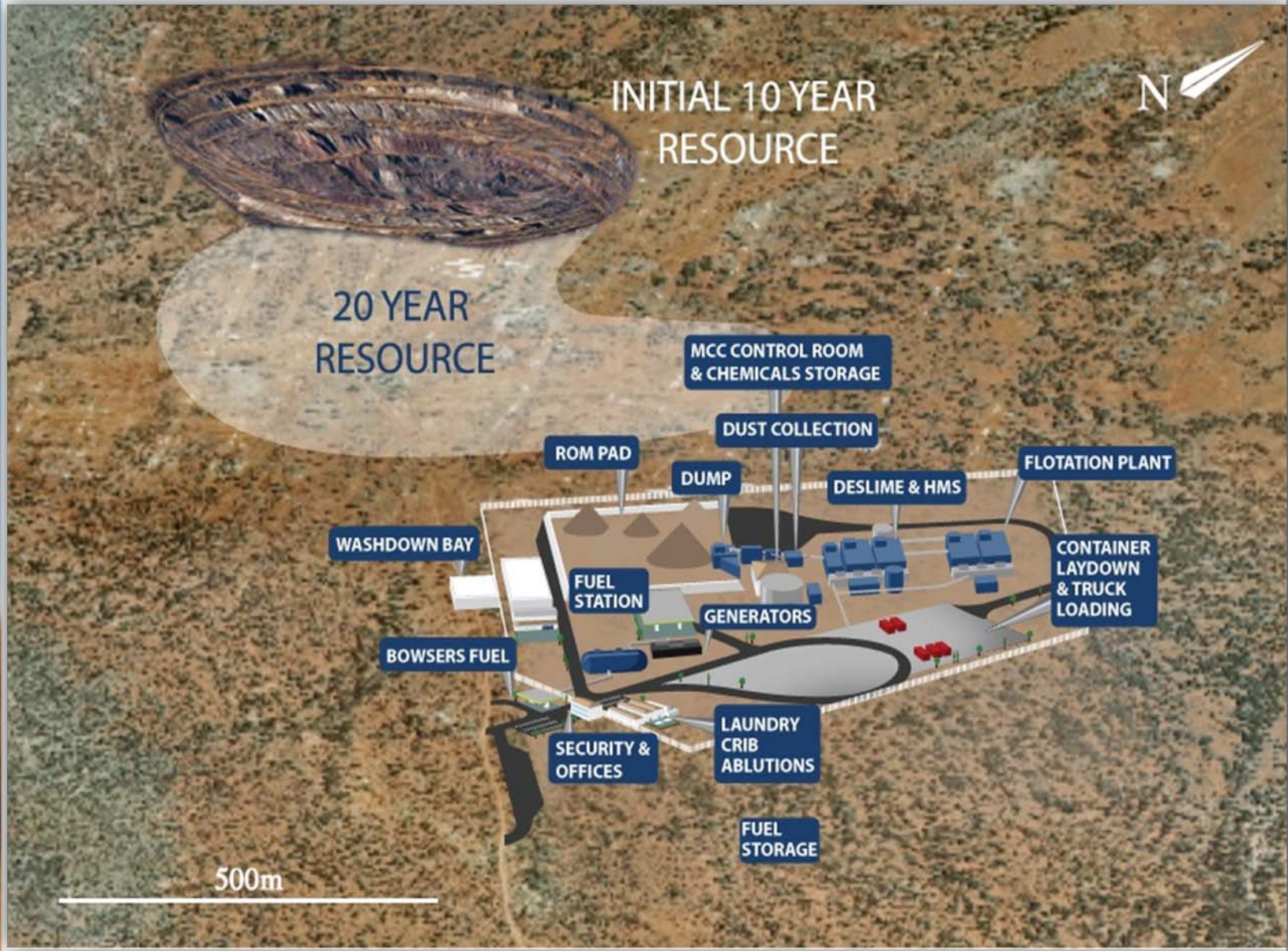
Valuation

Another of our competitive advantages

Comparative product values. Nolans includes co-product and by-product credits in US$/kg as REO equivalent based on 2008 YTD average prices



Nolans Site Design Underway



The Demonstration Plant Success

We have validated recoveries from laboratory test work

✓	Rare earths recovery	80%	
✓	Phosphate recovery	80%	technical grade (fertiliser grade higher)
✓	Uranium recovery	80%	indicative
✓	Calcium chloride	residue	

The pilot plant has realised lower chemical consumption

- Hydrochloric acid — 25% reduction
- Sulphuric acid — 50% reduction

Results in a real annual reduction of $50m in operating costs

We have identified and are currently assessing additional chemical efficiencies

Current chemical prices would further lower operating costs against the PFS

Identified lower capital costs

The Demonstration Plant

HMC Tails and Concentrate

Chemical Processing

Phosphoric Acid Recovery

Rare earth applications

ARAFURA RESOURCES PRODUCTS AND THEIR MARKETS

ENERGY PRODUCTION

- Petroleum Refining — La
- High-powered Electric Motors — Nd, Dy, Tb
- New Generation Vehicles — La

ENERGY REDUCTION

- UV Filters in Glass — Ce
- Reducing Fuel Consumption — Nd
- Lighter Vehicles - Improved Performance — Dy

ENERGY EFFICIENCY

- New Generation Vehicles — Nd, Sm
- Rechargeable Batteries — La
- Energy Efficient Lighting — Pr, Eu

LIFESTYLE

- Colour Screen LCDs/PDPs — Eu, Tb, Y
- Components to Hardware — Nd
- Medical Services — Nd, Gd
- Autocatalysts — Ce

La - Lanthanum, **Nd** - Neodymium, **Dy** - Dysprosium, **Tb** - Terbium, **Ce** - Cerium
Sm - Samarium, **Pr** - Praseodymium, **Eu** - Europium, **Y** - Yttrium, **Gd** - Gadolinium

Rare earths prices are linked to substitutability

Product	Price US$/tonne	Use	Substitute
Cerium	$4,280	Automotive exhaust catalysis Polishing agent	PGM's (limited) None
Lanthanum	$7,700	NiMH batteries Fluid cracking catalyst	Lithium Ion None
Neodymium Praseodymium	$30,000 $29,950	Powerful permanent magnets	None
Dysprosium	$113,000	Improves magnet performance at temperature	None
Europium Terbium	$460,000 $710,000	Phosphors for colour panels	None

Environmental & Social Benefits

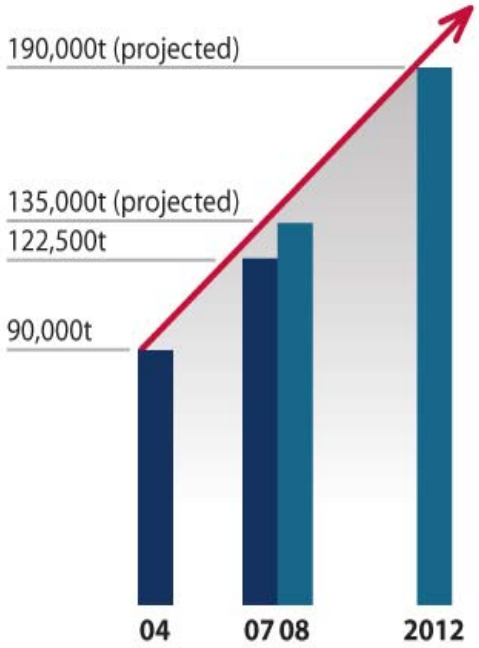
REO	Production	Component	End Product	Environmental Savings
CeO_2	3,500t	Auto catalysts	25 million cars	Reduces NO_X which aggravates respiratory problems, causes acid rain and damages aquatic environments.
CeO_2	1,600t	Ultra violet filtering agent	Architectural glass	Reduces UV light.
CeO2	2,500t	Batteries	500,000 hybrid cars	Fuel savings* = 660 litres @ $1.40/l x 500,000 = A$462 million p.a. CO_2 savings^ = 1 million tonnes p.a.
La_2O_3	4,000t			
Nd/Pr	5,200t	Magnets		
Eu_2O_3	74t	Phosphor	200 million energy efficient lights	Energy cost savings~ = A$2.2 billion p.a. CO_2 savings° = 16.6 million tonnes p.a.

*Fuel savings based on difference between Toyota Prius city driving of 5.6L/100km and other medium sized cars at 10L/100km on 15,000km annually.
^CO_2 savings based on difference between Toyota Prius emission of 106g/km and other medium sized cars (10L/100km) emission at 3.6 tonnes annually.
~Bill savings based on annual running cost savings of $11 by replacing a 75W incandescent globe with an 18W energy saving lamp. *From:* www.sedo.energy.wa.gov.au/pages/lightrun.asp
° CO_2 savings based on reduction of 83kg of CO_2 by replacing a 75W incandescent globe with an 18W energy saving lamp. *From:* www.sedo.energy.wa.gov.au/pages/lightrun.asp

Rare earths market

RARE EARTHS MARKET ANALYSIS

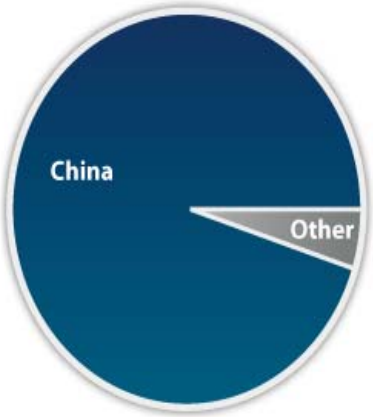
DEMAND



SUPPLY

China – Currently produces approximately 95% of total demand

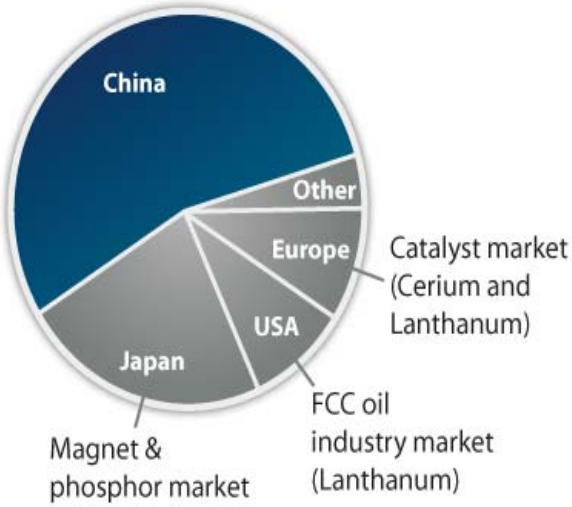
Non-Chinese – Limited resources with modest expansion capability. Currently dominated by low value light rare earths (Cerium and Lanthanum)



CONSUMERS

China – Consumes 55% of total demand

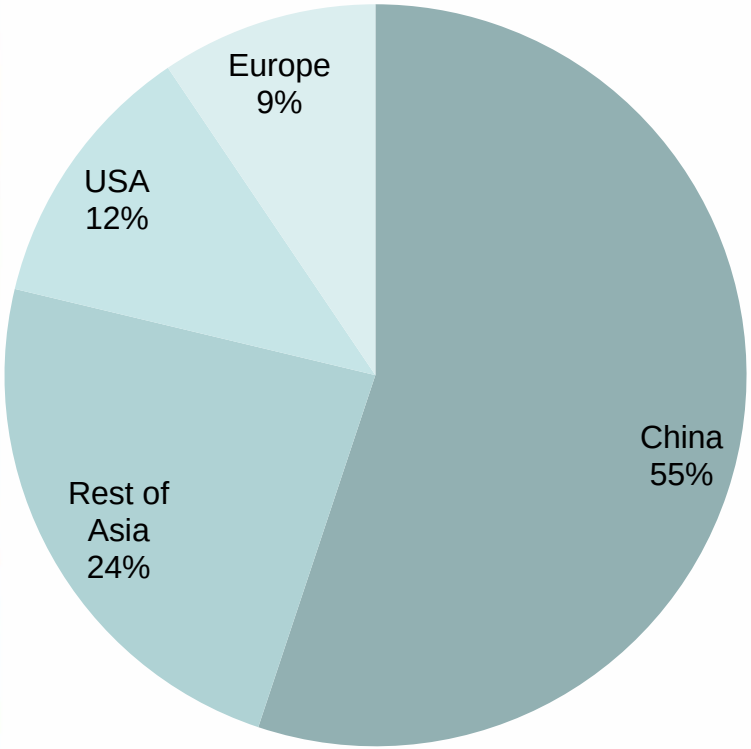
Non-Chinese – High demand for Neodymium, Praseodymium, Dysprosium, Terbium and Europium



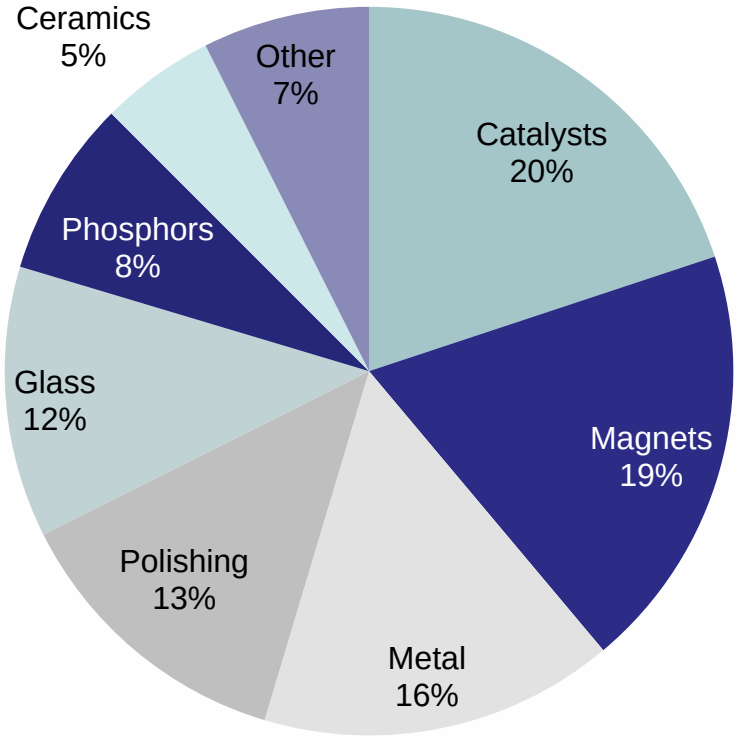
Source: Roskill, IMCOA

Rare earths by use in 2008

By Region



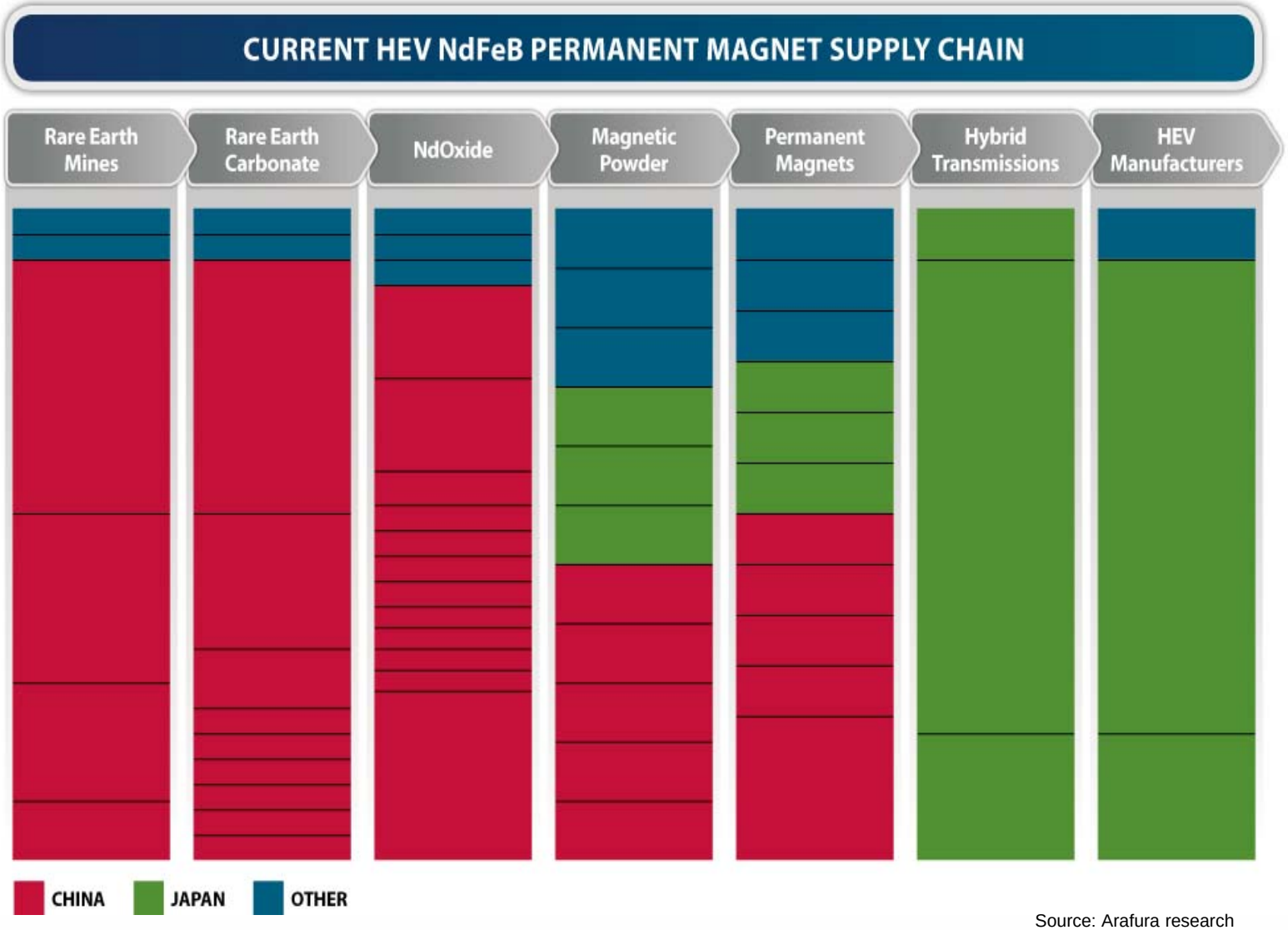
By application



Total forecast production is about 140,000 tonnes for 2008

Source : IMCOA

Rare earth industry structure



Source: Arafura research

Demand is strong

Rare earths

Chemical catalysts

Growing at 5% to 10% per annum

Stronger growth to come from rechargeable battery market and increased heavy crude oil production

Magnets

Market growth currently 15% to 20% per year

Strong growth in the hybrid car market

Current production of NdFeB = 50,000t (2007) to double to 100,000t by 2010

Phosphorescence

Demand growing at 15% to 20% per annum

Plasma panel market, low energy lights bulbs

Phosphoric acid

Strong growth in price - processing constrained market (not resource constrained)

Agricultural and fuel markets - the world's need for protein and energy

Rare earth price outlook

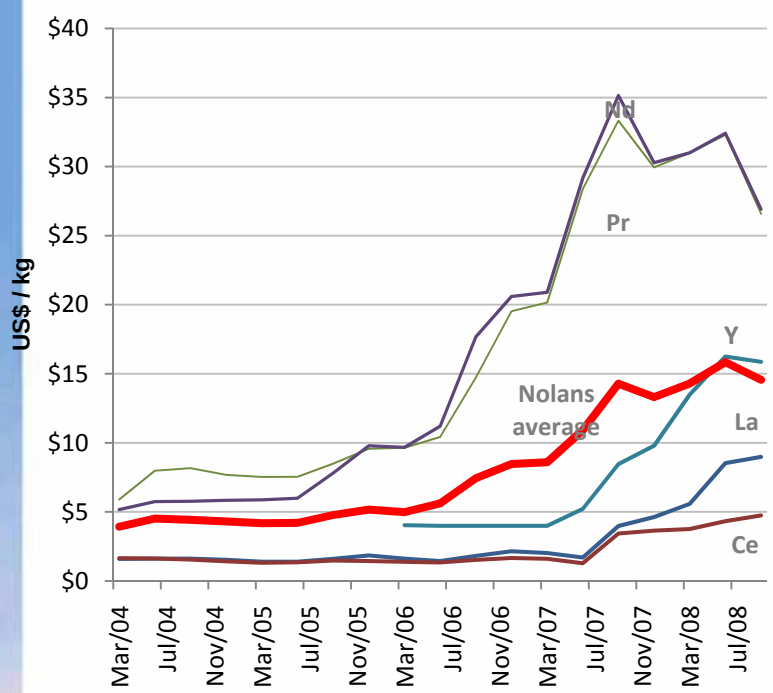
Arafura expects a stabilising in rare earth prices

2008	Solid growth in H1 slowed in H2 late due to Olympics & the global credit crunch
2009 – 2010	Global economy to stabilise for recovery
2010 – 2015	New sources will introduce competition

- Mt Weld — 5,000 tpa in 2010 building to 20,000 tpa later
- Mt Pass — back on line at 4,000 tpa
- Nolans — 20,000 tpa from 2012
- Others — likely that new small operations will start

However strong demand in hybrid vehicles, electronics and energy efficient lights (phosphorescence) will remain

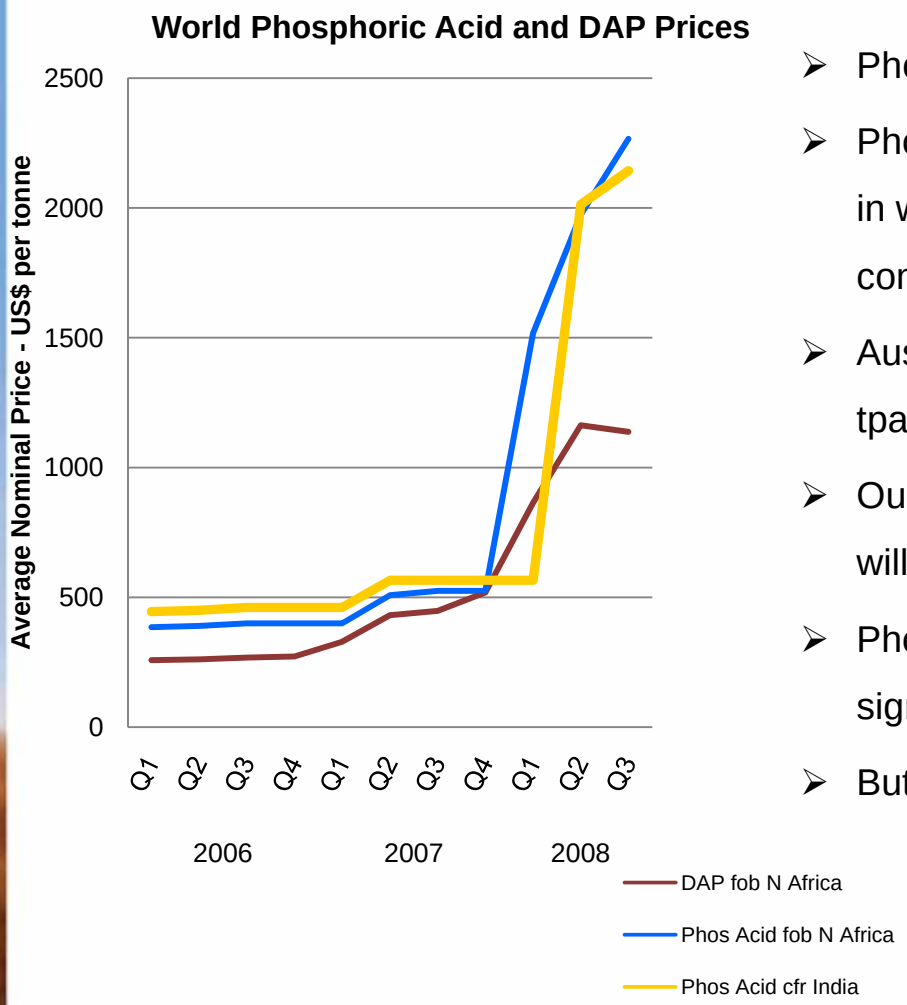
Rare Earth Prices & Nolans Value



- Long term demand outlook for rare earths remains robust
- However the outlook for cerium and lanthanum indicate an oversupply
- In the next 1 to 2 year period rare earth prices are likely to reduce <u>especially</u> cerium & lanthanum
- Industry analysts are forecasting a shortfall in supply for higher value rare earths in the medium term to long term (Nd, Pr, Dy, Eu, Tb)
- In comparison with other commodities rare earth prices have experienced significantly less volatility

Source: metal pages

Phosphate Product Prices

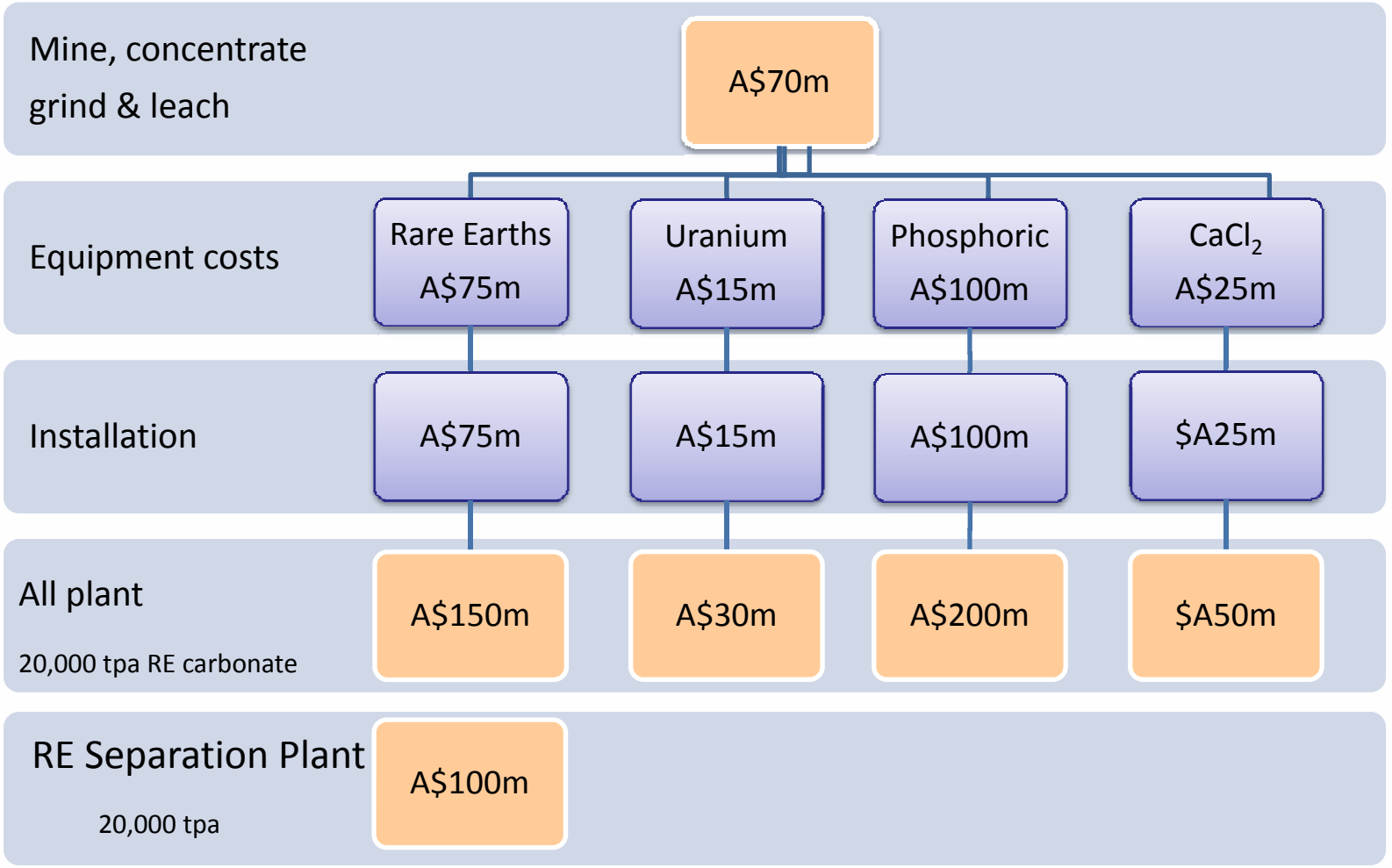


- Phosphate rock supply is very “liquid”
- Phosphoric acid production is relatively “tight” in world production capacity – but more is coming on line
- Australia is a net importer of about 500,000 tpa of phosphoric acid
- Our target market is a geographical niche that will be highly competitive with imports
- Phosphate and PA prices will reduce significantly in the next 1 to 2 year period
- But agriculture must have fertiliser

Source CRU

Capital Expenditure = A$600m

Capital is accurate to 30% based on pre-feasibility study. Additional capital reductions have been identified through lower raw material costs (e.g. steel) & overseas modularisation



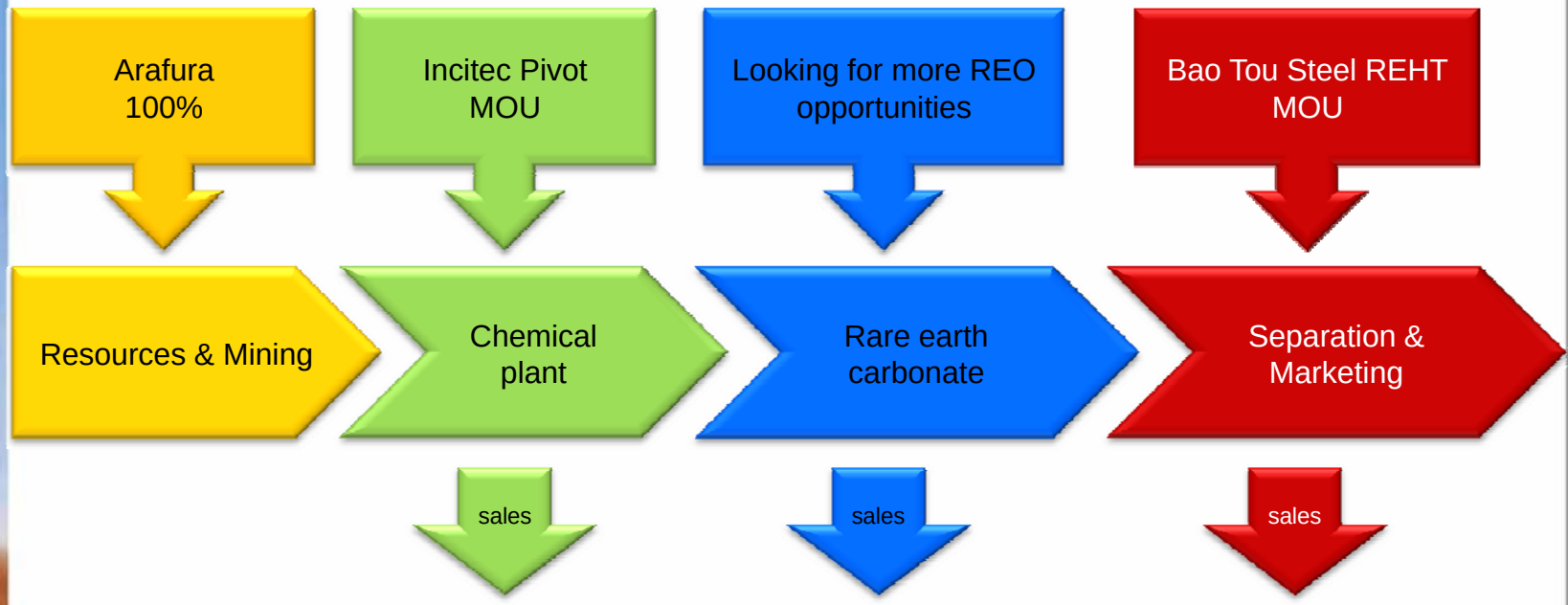
Financial Analysis

NPV @ 10% discount rate **$1.7 billion** after tax and capital payback (20 year mine life)

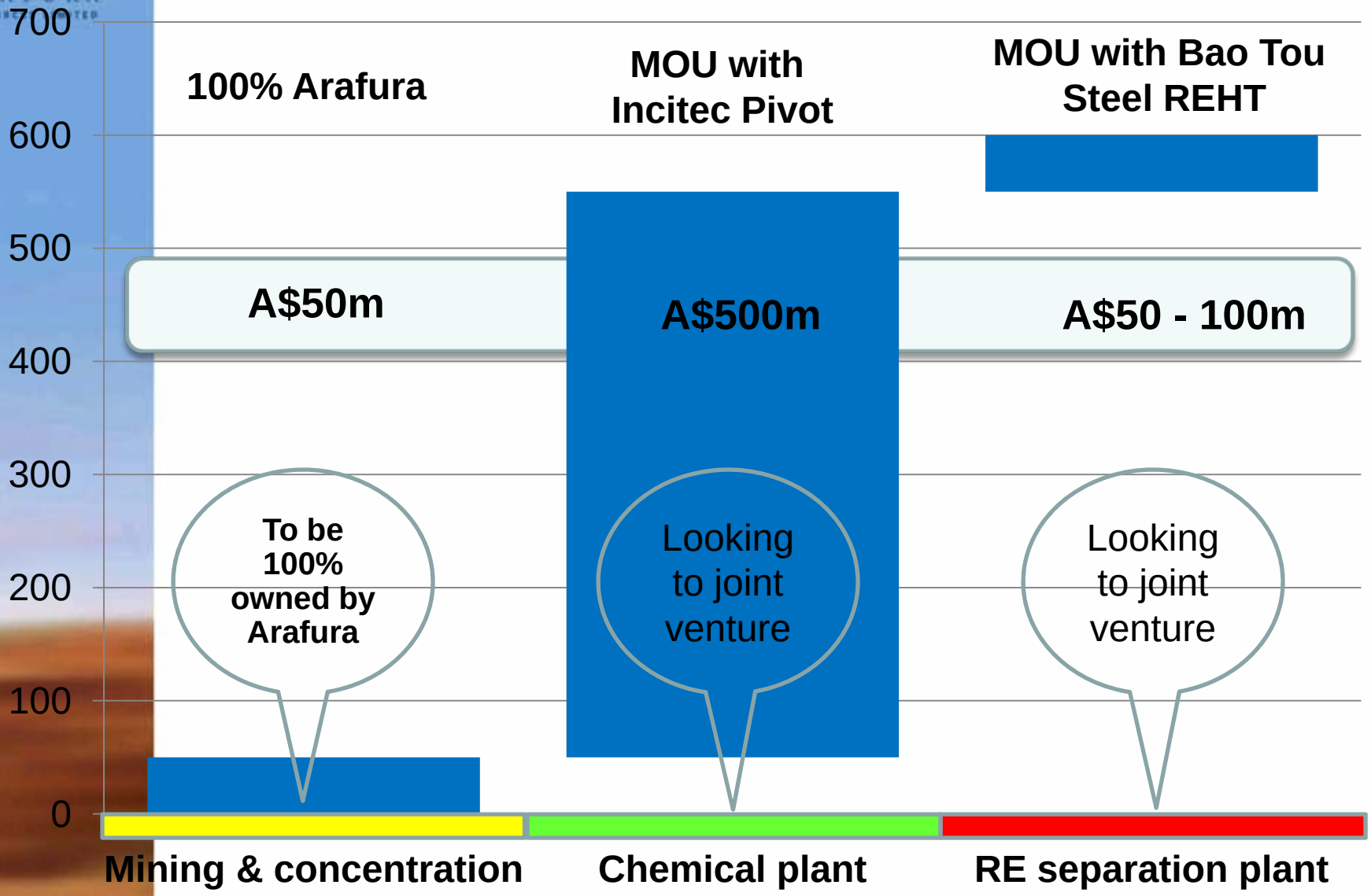
	Production per annum (tonnes)	Price (USD)	Total revenue US$ million
Rare earths	20,000	$14,000/tonne	280
P_2O_5	80,000	$1,000/tonne	80
Calcium chloride	400,000	$100/tonne	40
Uranium	150	$60/lb	20
Total revenue			US$420
Total revenue at USD:AUD 0.70			**AUD$600**
Less operating expenses			AUD$200
Gross Margin			AUD$400
Capital cost AUD$600m			
Revenue over 20 years undiscounted AUD$12 billion			

Based on 2008 YTD prices for all commodities (REO rounded down) and YTD 2008 chemical costs

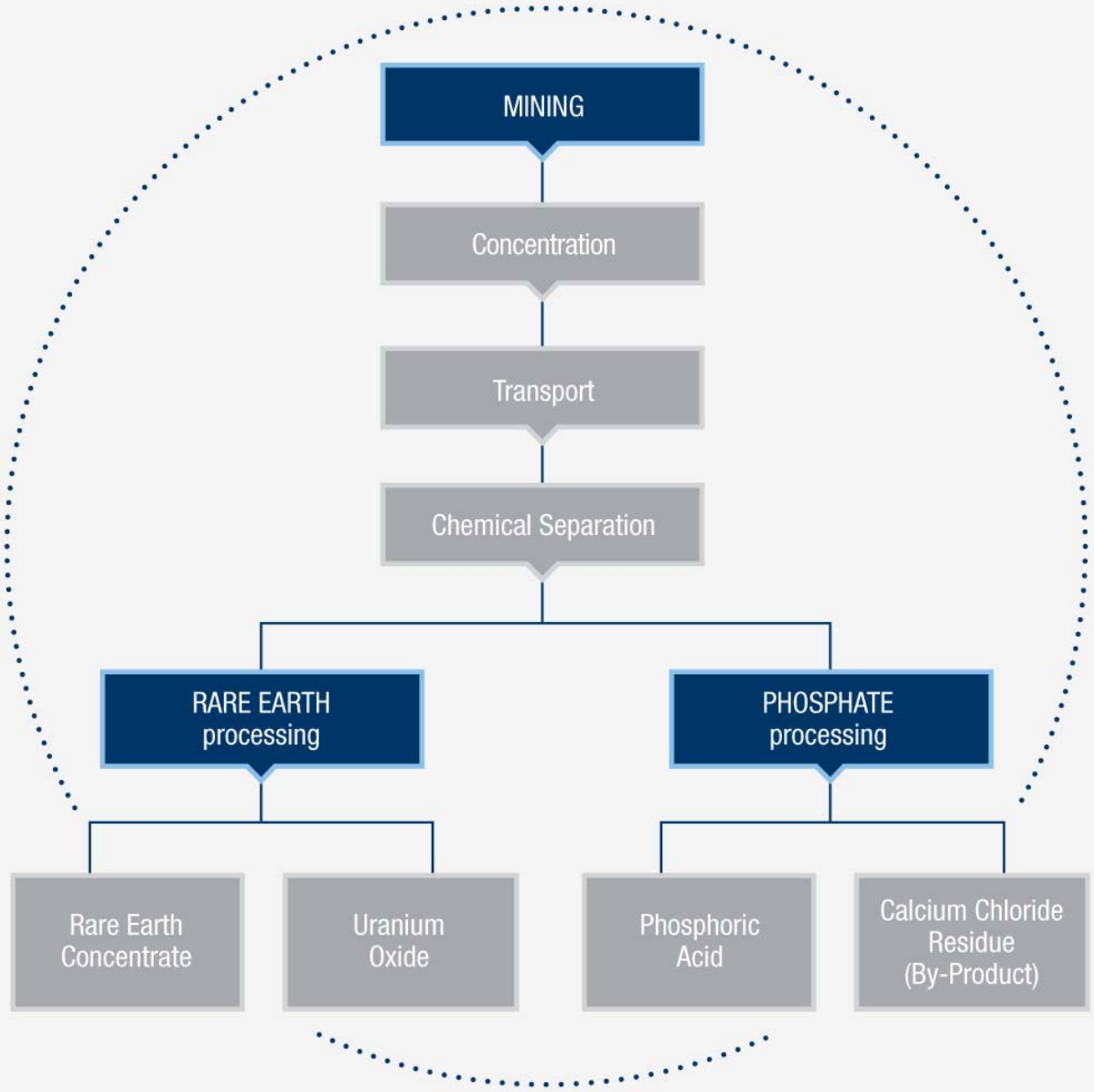
Proposed Operating Model



Capital needed going forward



Nolans Project Flowsheet



The Plan Ahead

➢ Report on RE carbonate	Q1 2009
➢ Complete RE separation works	1st half 2009
➢ Complete bankable feasibility	Dec 2009
➢ Mining lease approval	2009/2010
➢ Processing plant Notice of Intent	2009/2010
➢ Undertake project costing, sourcing, financing	2010
➢ And consolidate our partnerships	on going
➢ Looking for keystone investors	on going

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