

The Australian Minerals Industry



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Australia's Exports and Employment

- In 2008, the minerals industry peaked at a level of direct employment of 142,000 having doubled in the previous four years
- Job reductions of 12,600 since November 2008 until June
- Value of commodity exports forecast to decline by 17% to A\$161.7 billion in 2009/10¹
- The Emissions Trading Scheme (commencing July 2011) will impose gross carbon costs on the minerals sector of approximately A\$25 Billion in the first ten years

Source: 1.ABARE

Minerals Contribution to Exports - 2008/09f

- Exports of mineral commodities represents 82 percent of all commodity exports

Sector	Export Value (A\$billion)*	Export Value (Percent)
Crops	15.79	8.1
Livestock	14.97	7.6
Total Farm	30.76	15.7
Forest & Fish	3.86	2.0
Energy	77.26	39.5
Metals & Minerals	83.83	42.8
Total Minerals	161.09	82.3
Total	195.71	100

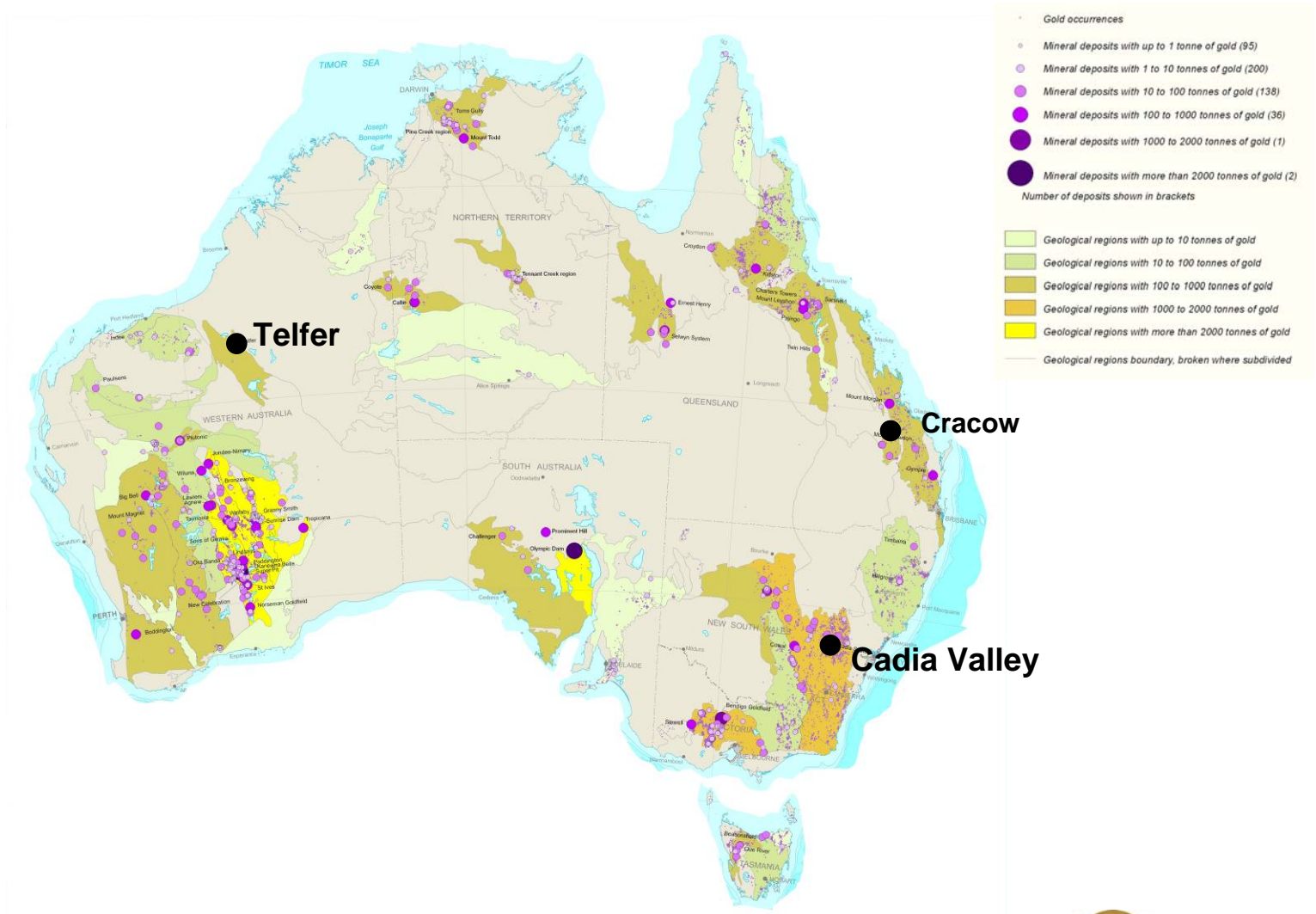
*Source: ABARE estimate March Qtr 2009

Top Australian Commodity Exports 2008/09

Rank	Commodity	Value (\$Billion)	Cumulative Value (\$Billion)
1	Coal	54.7	54.7
2	Iron Ore	34.1	88.8
3	Gold	17.3	106.1
4	Alumina/aluminium	10.5	116.6
5	Crude Oil	9.2	125.8
6	LNG	8.0	133.8
7	Copper	5.6	139.4
8	Beef/veal	4.6	144.0
9	Wheat	4.5	148.5
10	Dairy	2.6	151.1

Source: ABARE (six months actual six months forecast)

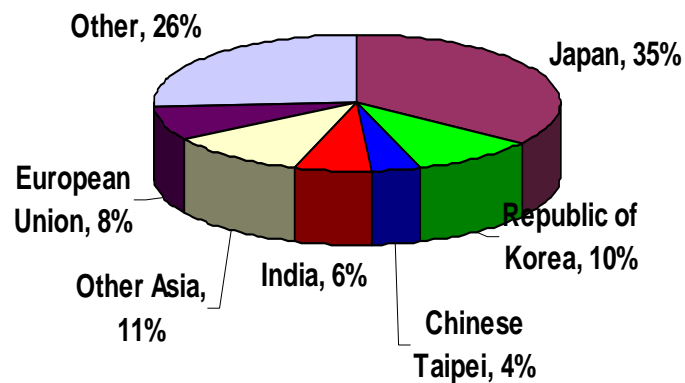
Mineral Regions - Gold



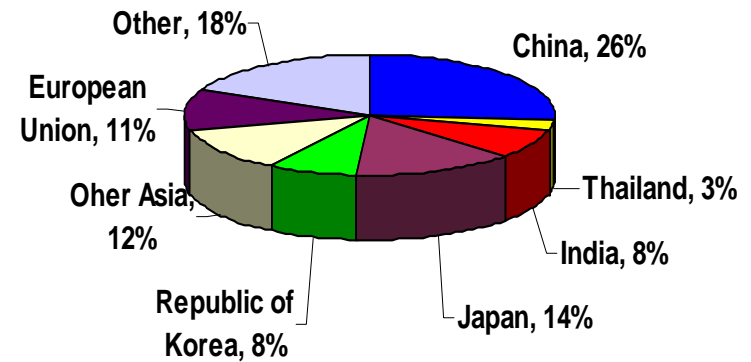
Source: Geoscience Australia

Mineral & Energy Export Markets 2007- 08

Australian Energy Exports



Australian Mineral Exports



Source: ABARE 2007- 08 data

Major Minerals Companies in Australia

Name	Ticker	Category	Market Cap		~No. of Employees	FY08 NPAT (USD\$M)
			USD\$B	Australia (World) Rank		
BHP Billiton	BHP	Mining (Diversified)	145.72	1 (19)	41,000	15,390
Rio Tinto	RIO	Mining (Diversified)	61.79	2 (69)	35,000	3,676
Woodside	WPL	Oil & Gas	23.38	11 (258)	3,000	1,492
Newcrest	NCM	Mining (Gold)	12.05	16 (455)	4,700	120
Origin Energy	ORG	Oil & Gas	10.13	17	4,000	462
Fortescue	FMG	Mining (Iron Ore)	10.03	18	1,230	(2,250)
Santos	STO	Oil & Gas	9.74	20	1,870	1,650
Lihir	LGL	Mining (Gold)	5.54	29	2,500	151

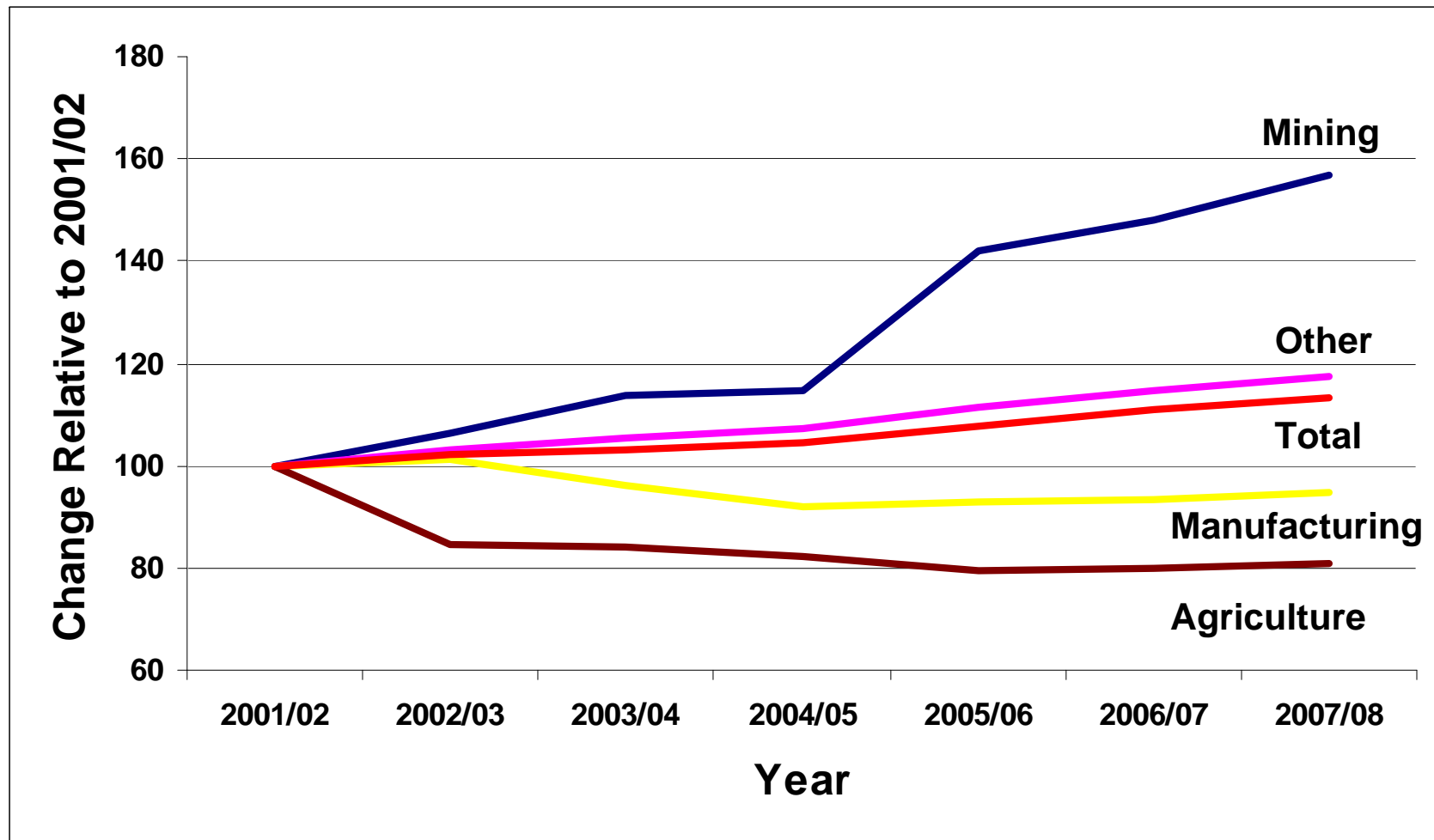
Source:

1. Bloomberg as at 23rd June 2009.
2. No. of employees includes contractors.
3. NPAT is net income available to common shareholders post adjustments.

Influences on the Australian Minerals Industry

- Proposed introduction of an Emissions Trading Scheme in Australia in 2011
- Changes to the industrial relations regime that will come into effect on 1 July 2009
- Infrastructure, particularly port infrastructure is a focus
- Skills and training

Employment Growth in the Mining Industry



Mining directly employed 81,000 persons in 2001/02



More than 12,000 jobs lost since June in the Australian mining sector

- Major employment cuts announced by mining companies

Company	Locations	Job losses
BHP	Qld coking ops and Goonyella and Norwich Park (Bowen basin), etc	3885
Rio Tinto	Weipa + Gladstone, North Parkes, Argyle etc	1351
OZ Minerals	Avebury, Golden Grove, Roseberry etc	1000
Anglo Coal	Qld and NSW etc	1238
Xstrata	McArthur River (NT), Handlebar Hill (zinc), Mt Isa, Oaky Creek Mine near Tieri, west of Rockhampton	849
CBH Resources	Endeavor lead/zinc mine, near Cobar NSW	689
Norilsk Nickel Australia	Cawse, Black Swan etc	560
Perilya Limited	Broken Hill	440

Lead up to Global Economic Crisis

In the lead up to the Global Economic Crisis, the minerals industry experienced:

- Increasing labour costs
- Shortages of skilled labour (operations and construction)
- Increasing costs for key construction materials (and indirectly, higher energy costs)
- Substantial lead times on supply of major items of equipment

Cost over-run impacts can be significant

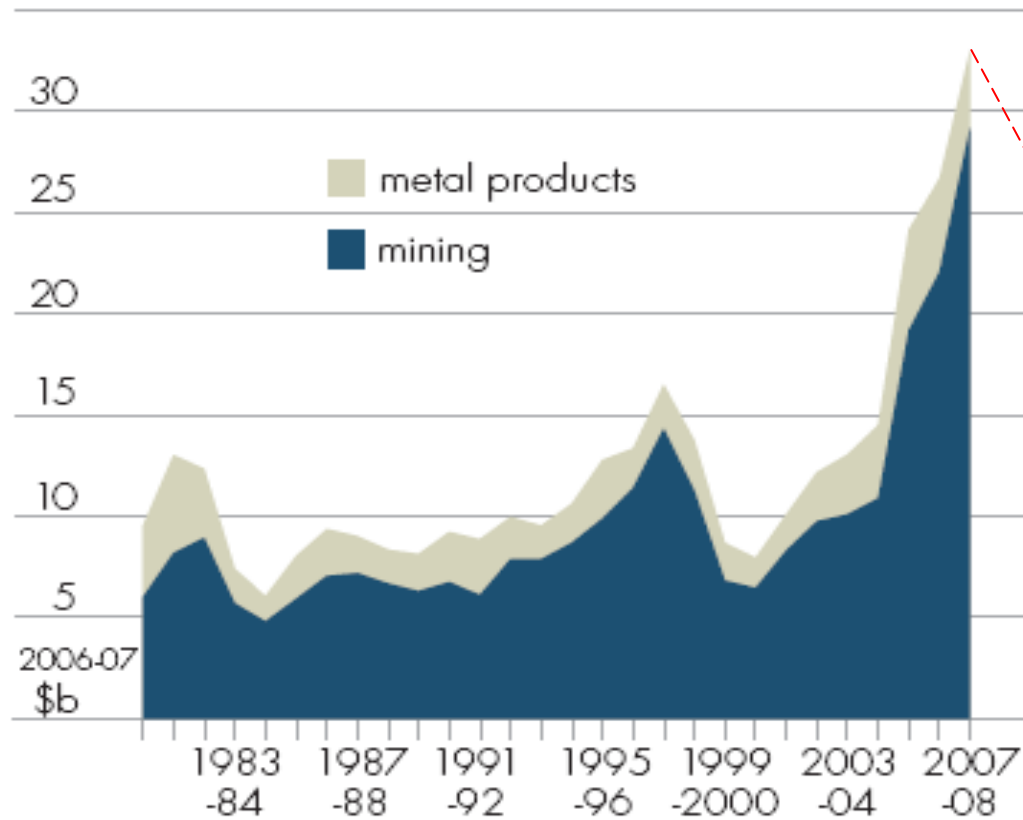
PROJECT	COMPANY	FEASIBILITY BUDGET	ACTUAL / FEASIBILITY
RAVENSTHORPE	BHP BILLITON	US\$1.0Bn	210%
GALORE CREEK	TECK/NOVAGOLD	US\$1.1Bn	450%
BODDINGTON	NEWMONT/ ANGLOGOLD	A\$2.0Bn	190%
PROMINENT HILL	OXIANA (OZ)	A\$690m	160%
LIHIR EXPANSION	LIHIR	US\$500-550m	140%

Source : Company & Media Reports

Current Industry

Capital Expenditure

new capital expenditure



Source: ABARE Dec 07

Opportunities in Current Business Cycle

- Cost deflation
- “A Team” availability
- Equipment delivery periods shrinking
- Equipment supply “slots” (and deposits) forfeited
- Greater risk assumed – generally around fee

Gold



History of gold

*“Gold is the child of Zeus
Neither moth nor rust devoureth it.”*

Pindar c 522-442 BC

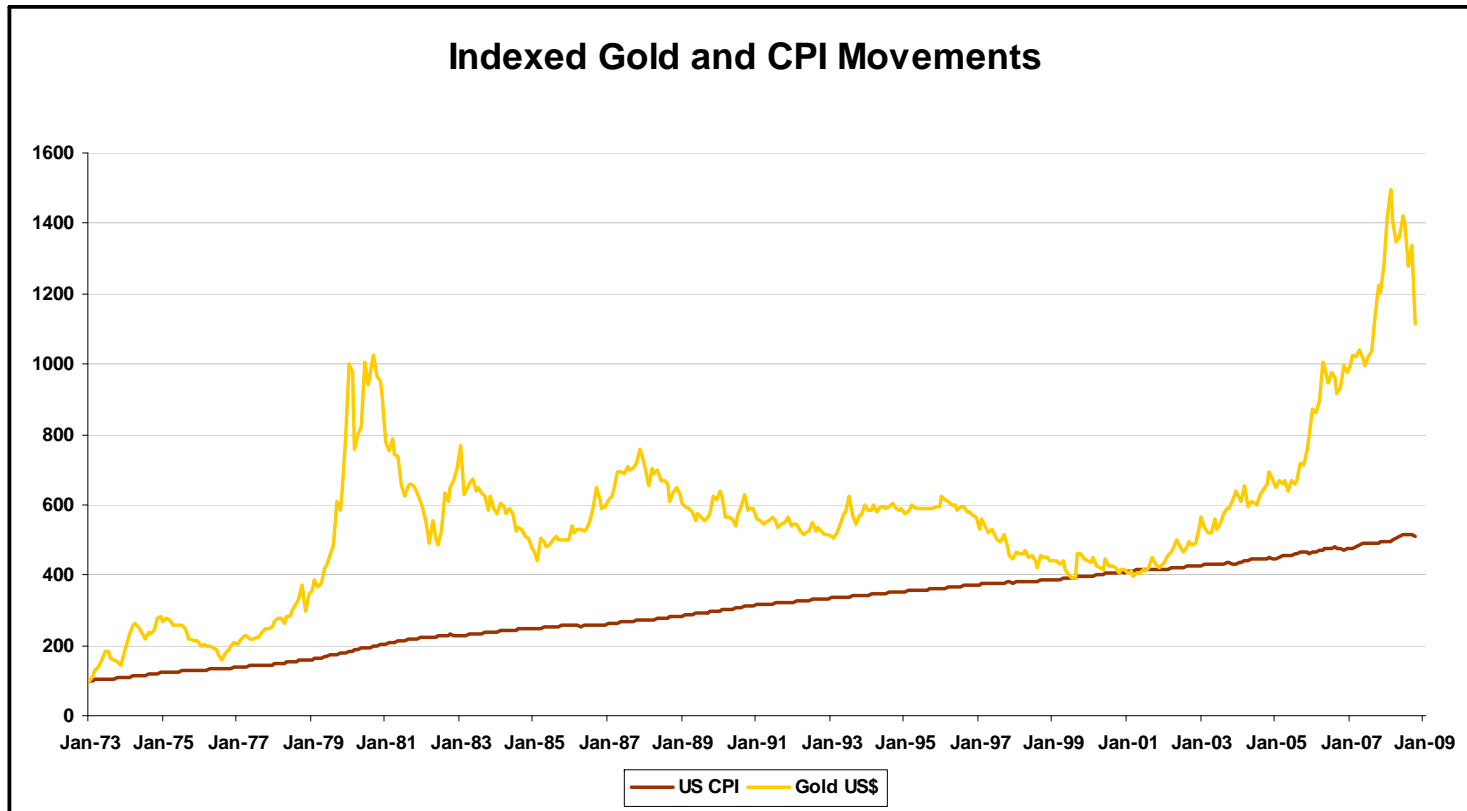
- Admired since ancient times for its permanence as a long term store of value.
- All the gold ever mined would fit inside a 20 metre cube.
- Half of the world’s total historic production has occurred in the last 100 years.
- Jewellery holds 50% of total gold and around 18% is held in government vaults.
- In late twentieth century gold emerged as an essential industrial metal – electronics, space travel, high performance alloys.

History of gold

1500 BC	Gold in the form of the Shekel (11.3 g of gold) becomes the recognised standard medium of exchange for international trade by Egyptians
1091 BC	Gold squares are used as legal tender in China
560 BC	Lydia (modern day Turkey) mints pure gold coins as legal tender
50 BC	The Romans issue a gold coin called the Aureus
1100	Venice becomes the world's leading gold bullion market due to its proximity to eastern trade routes. The Ducat becomes the most popular gold coin in the world for five centuries.
1717	Isaac Newton (Master of the London Mint) sets the price of gold for the next 200 years
1900	The US adopts the gold standard for its currency
1933	President Roosevelt stops the convertibility of dollar bills to gold and orders citizens to hand in their holdings. This causes the price of gold to increase by 65%.
1934	Roosevelt fixes the price of gold at \$35 per ounce
1944	The Bretton Woods agreement sets an international gold exchange standard (conversion of gold holdings by member countries at established par values)
1968	Central banks abandon the fixed price of gold at US\$35 per oz and let it free float. Intel introduces a microchip which includes gold circuits

1973	The US Dollar is removed from the gold standard and gold prices are allowed to free float. Gold reaches US\$120 per oz
1980	Gold reaches a peak of US\$850 per oz due to geopolitical instability (Russia's invasion of Afghanistan, Shi'ite revolution in Iran, and start of the Iran-Iraq war)
1990-1997	Over this period India deregulates its gold market, making it easier for trade in gold.
1999	The Washington Agreement is introduced for 5 years to regulate gold reserve holdings and gold sales by 15 member (European) central banks
1999-2001	Gordon Brown announces that the Bank of England will sell about half their gold reserves (415 tonnes) and gold reaches a 21 year low of US\$250 per oz
2004	The Washington Agreement is renewed for an additional 5 years
2000-2005	Hedged positions decreases from 100 million ounces to 60 million ounces, causing the gold price to jump from US\$275 to US\$500 per oz.
2008	Gold reaches a record high of over a US\$1000 per oz in March
2008-2009	Credit crises and recession fears worsen leading to a return to gold and further impetus to gold price increases

1. Store of Value



- Since its free float in 1973, gold has consistently beaten inflation
- *“From '01 to '04, a period where inflation fell from 2.8% to 1%. Gold rallied >50%. ... Gold, as a hoarding vehicle has a scarcity factor that can see its price appreciate significantly. Even in a deflationary period.”*
– Merrill Lynch Jan 2009

Retail investment drives demand

- “The biggest source of growth in demand for gold, both last quarter Q4 and during the year 2008 as a whole, was investment. Identifiable investment demand reached 399 tonnes in Q4 up from 141.4 tonnes in Q4 2007, a rise of 182%” (World Gold Council)
- “On the investment side, the main driver of flows was net retail investment, which rose 396% from 61.4 tonnes in Q4 2007 to 304.2 tonnes in Q4 2008. Bar and coin shortages were reported.....” (World Gold Council)
- “Net central bank sales in 2008 totalled 279 tonnes, down from 485 tonnes in 2007” (World Gold Council)

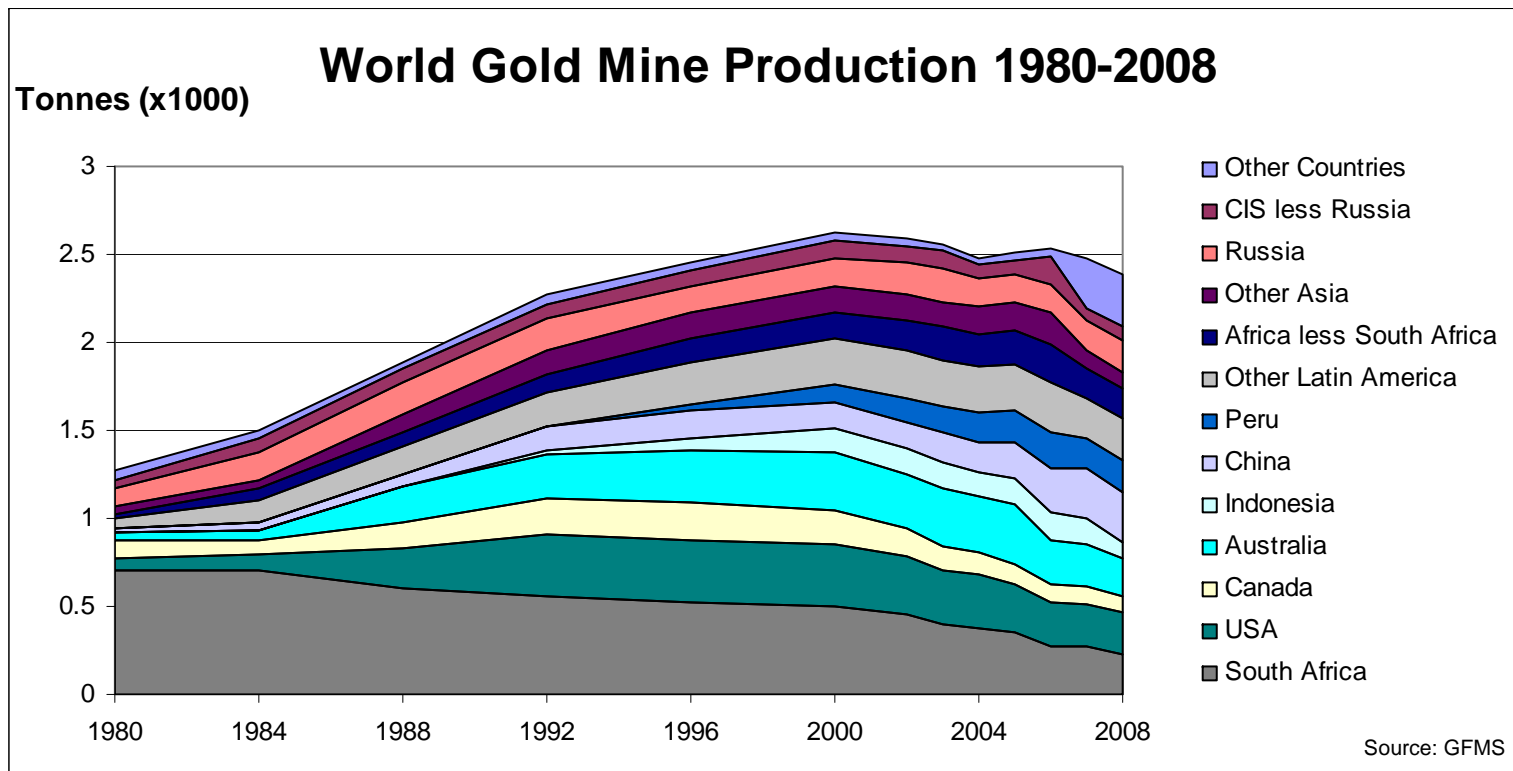
Gold and other Official Reserves

Country	Gold (tonnes)	Other Reserves (US\$ billion)	Gold as % of Total Reserves
United States	8,134	62	77.4%
Germany	3,413	44	67.1%
France	2,508	37	63.8%
Italy	2,452	36	64.0%
Switzerland	1,040	44	38.2%
Japan	765	983	2.0%
Netherlands	613	11	59.6%
China, P.R.:Mainland*	600	1,888	0.8%
Russia	510	442	2.9%
Taiwan	422	281	4.1%

*China subsequently announced that it has increased its official gold holdings to 1,054 tonnes

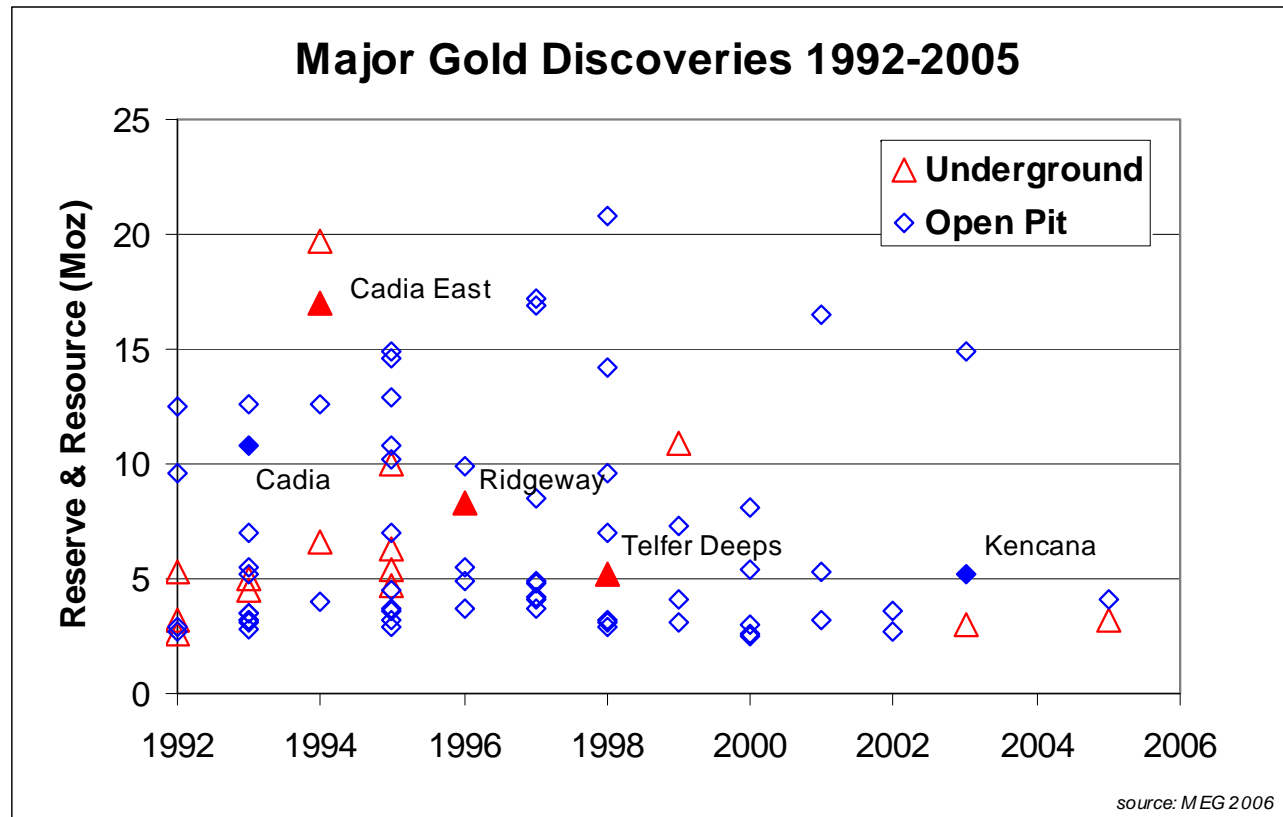
Source: GFMS January 2009

Long term slide in gold production



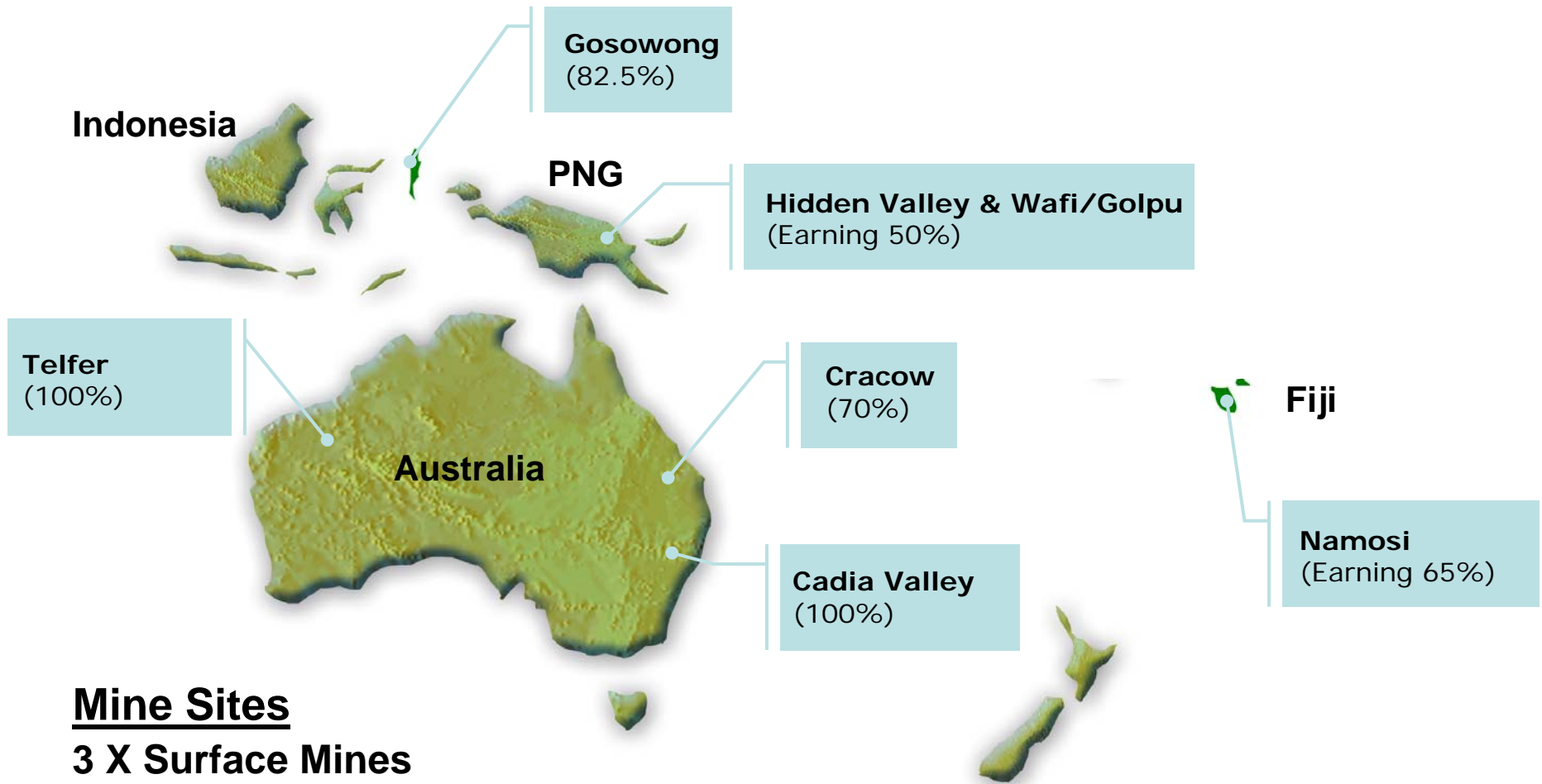
2008 forecast world production less than 1996

Gold discoveries are rarer



“There were 84 “major” gold discoveries (>2.5moz) made between 1992-2005 – but only 17 since 2000.” (MEG, June 2006)

Newcrest Operations & Projects



Mine Sites

3 X Surface Mines

4 X Underground Mines

4 X Major Advanced Exploration Targets

Thankyou

