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Bull Market Fundamentals of Copper, Gold, and Uranium

Vancouver, B.C. February 2012



Copper Supply & Demand Fundamentals

- 2011 Mine Supply 16.5 M Tonnes
- 2011 Total Production 19.7 M Tonnes
- 2011 World Usage 22.9 M Tonnes
- Supply / Demand Balance 2007 – 2011
- Small Surplus / Deficit = Strong Prices

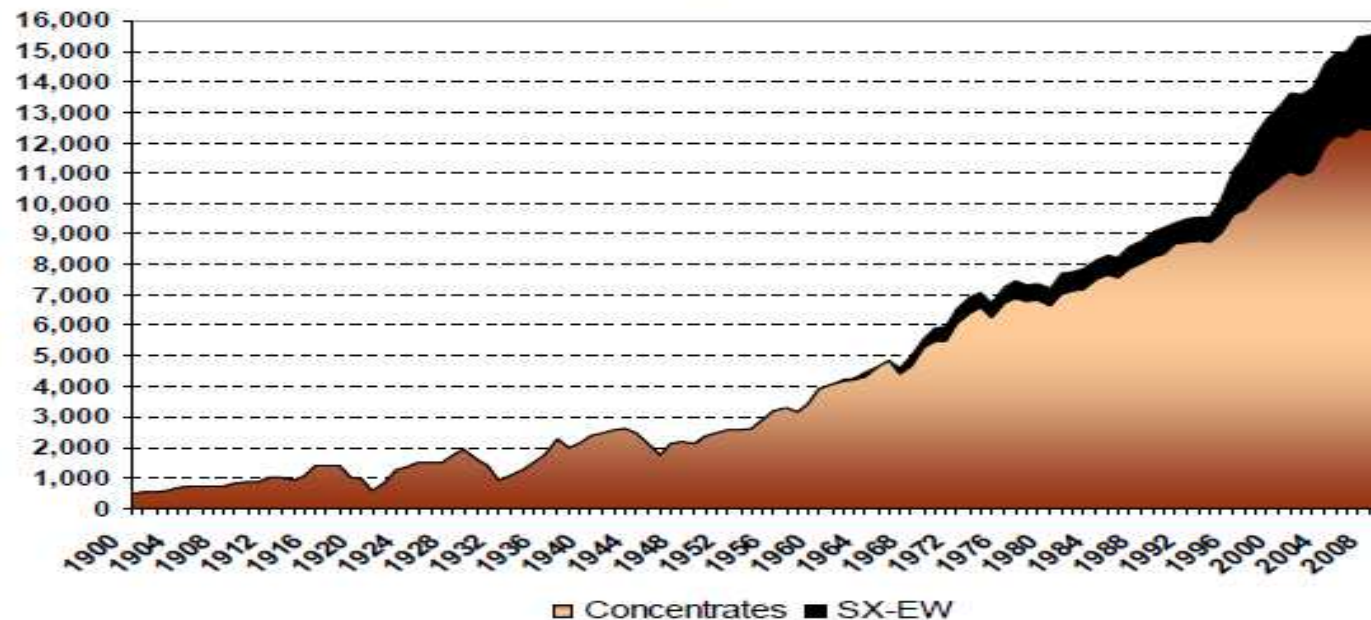


World Copper Production 1900 - 2010

World Copper Mine Production, 1900-2009

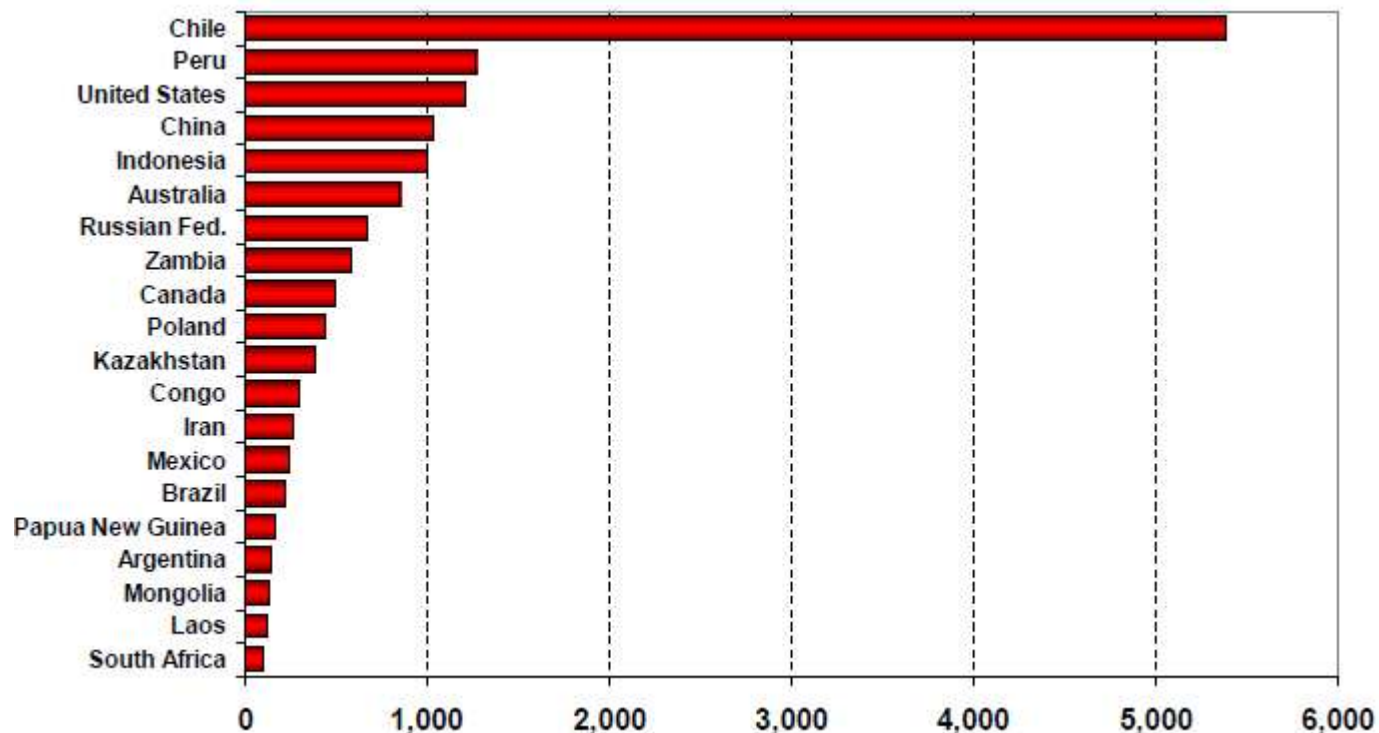
(thousand metric tonnes)

Source: ICSG



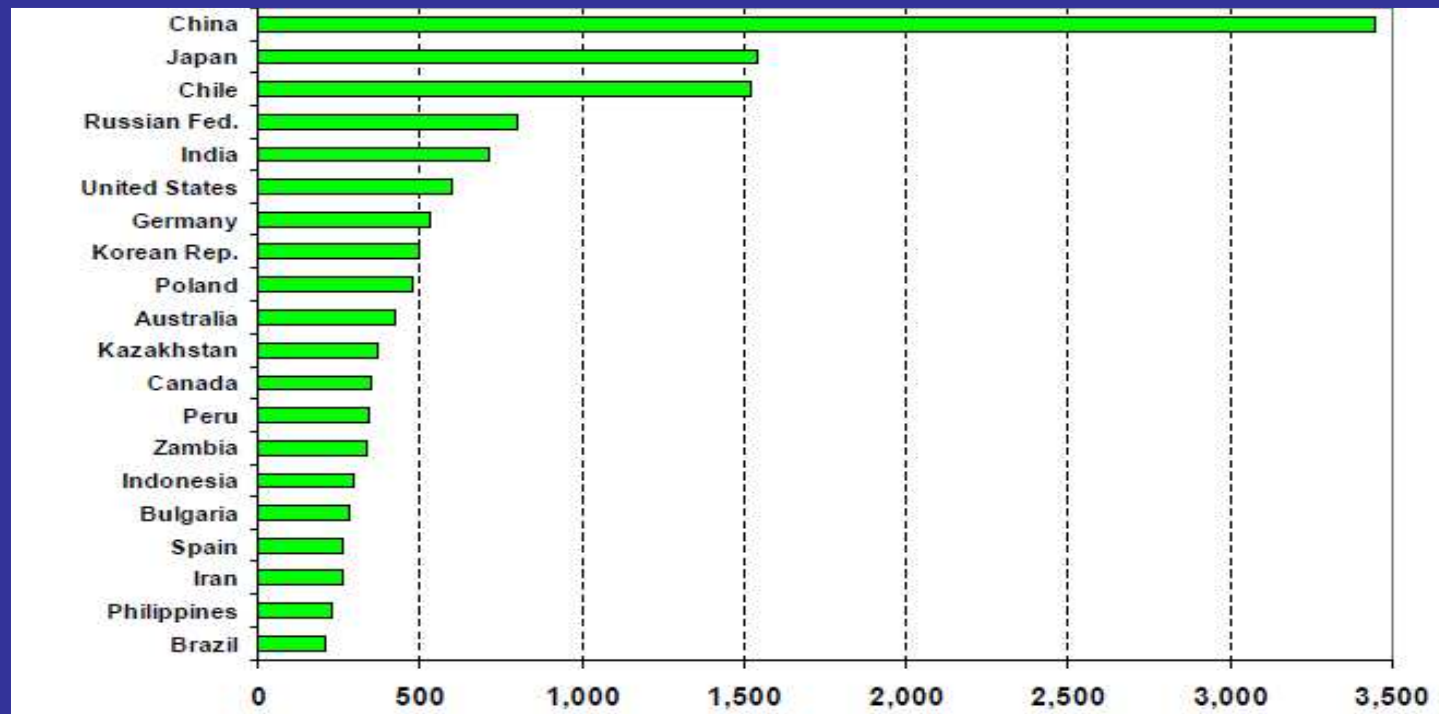


Copper Production 2009



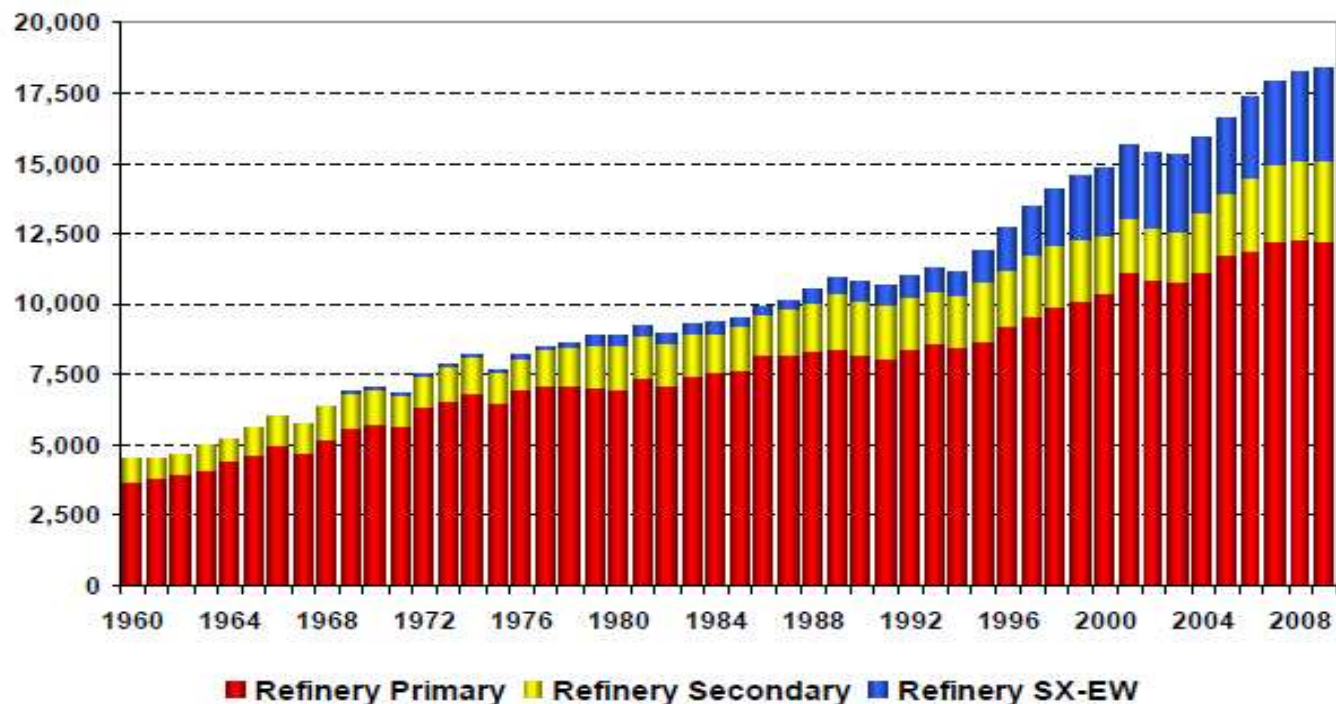


Copper Smelter Production 2009



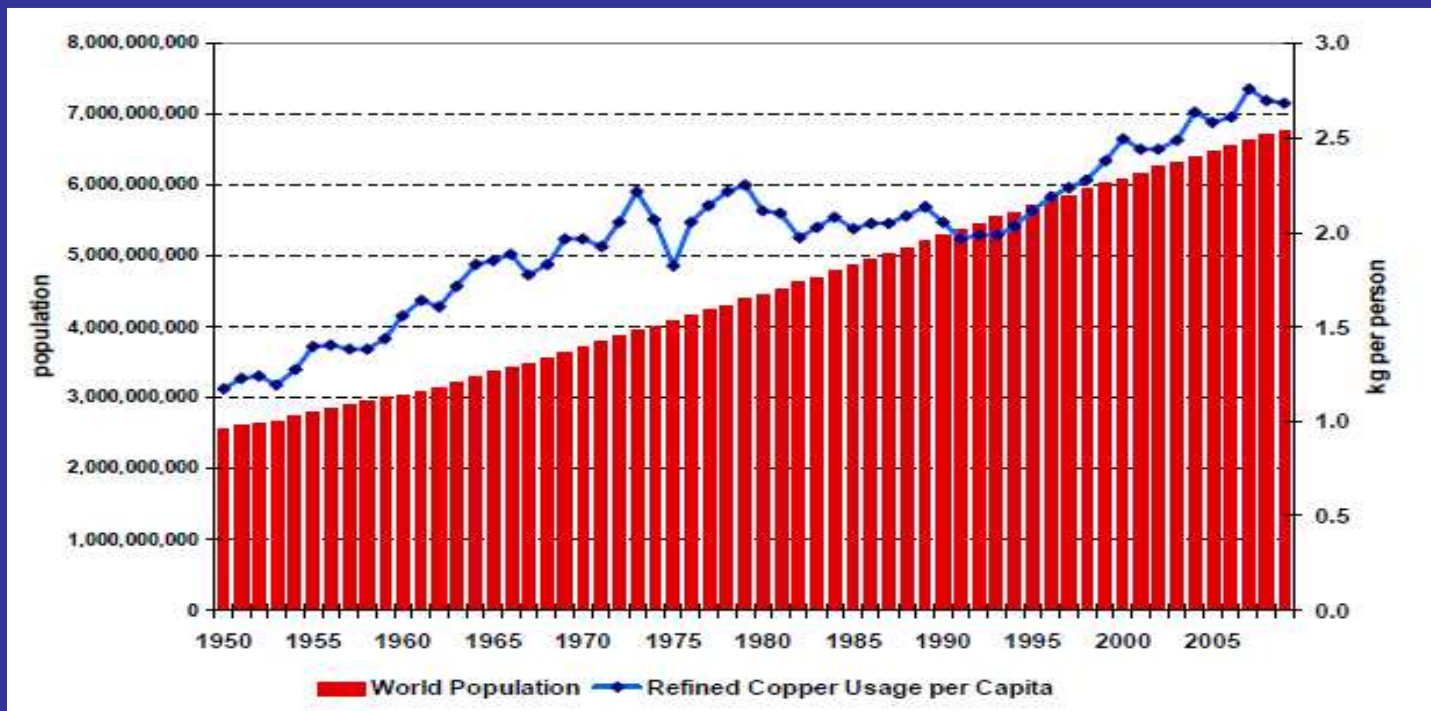


World Refined Cu Production 1960 - 2009



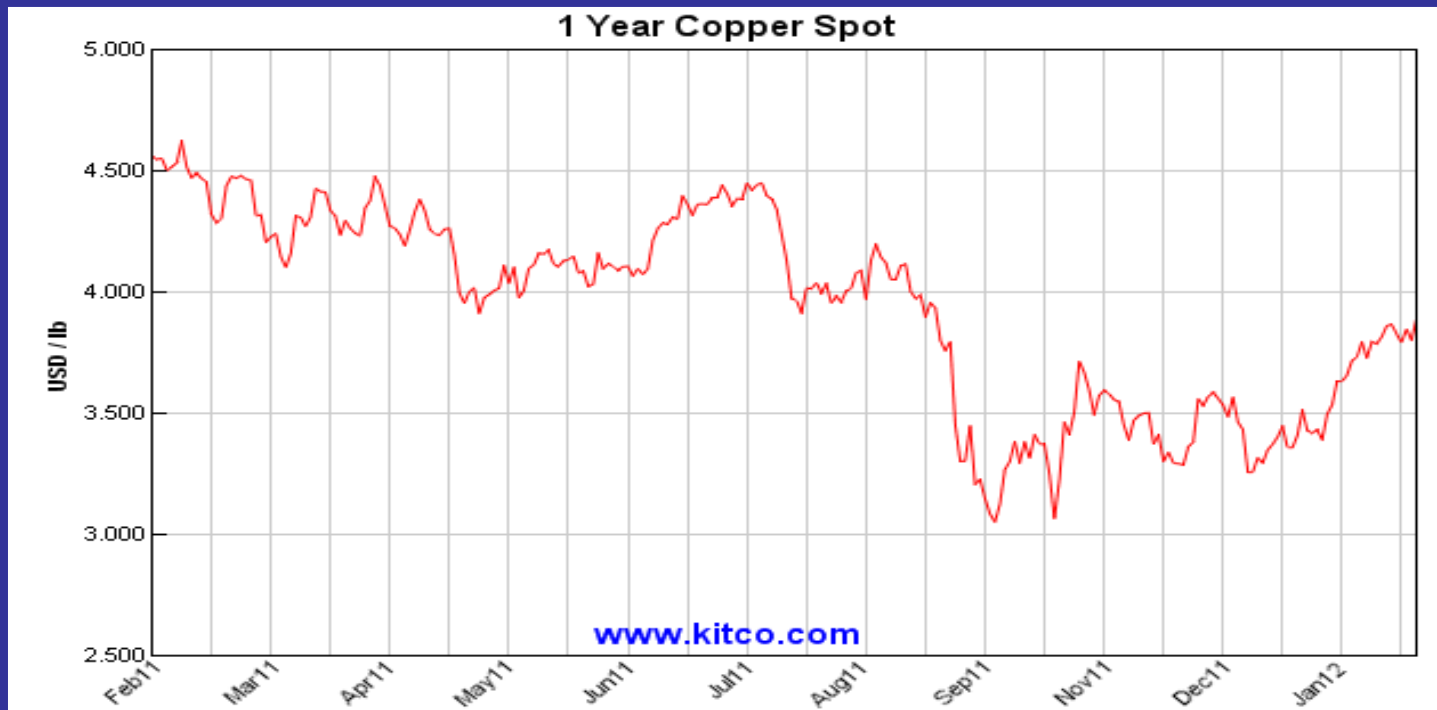


World Population & Copper Consumption



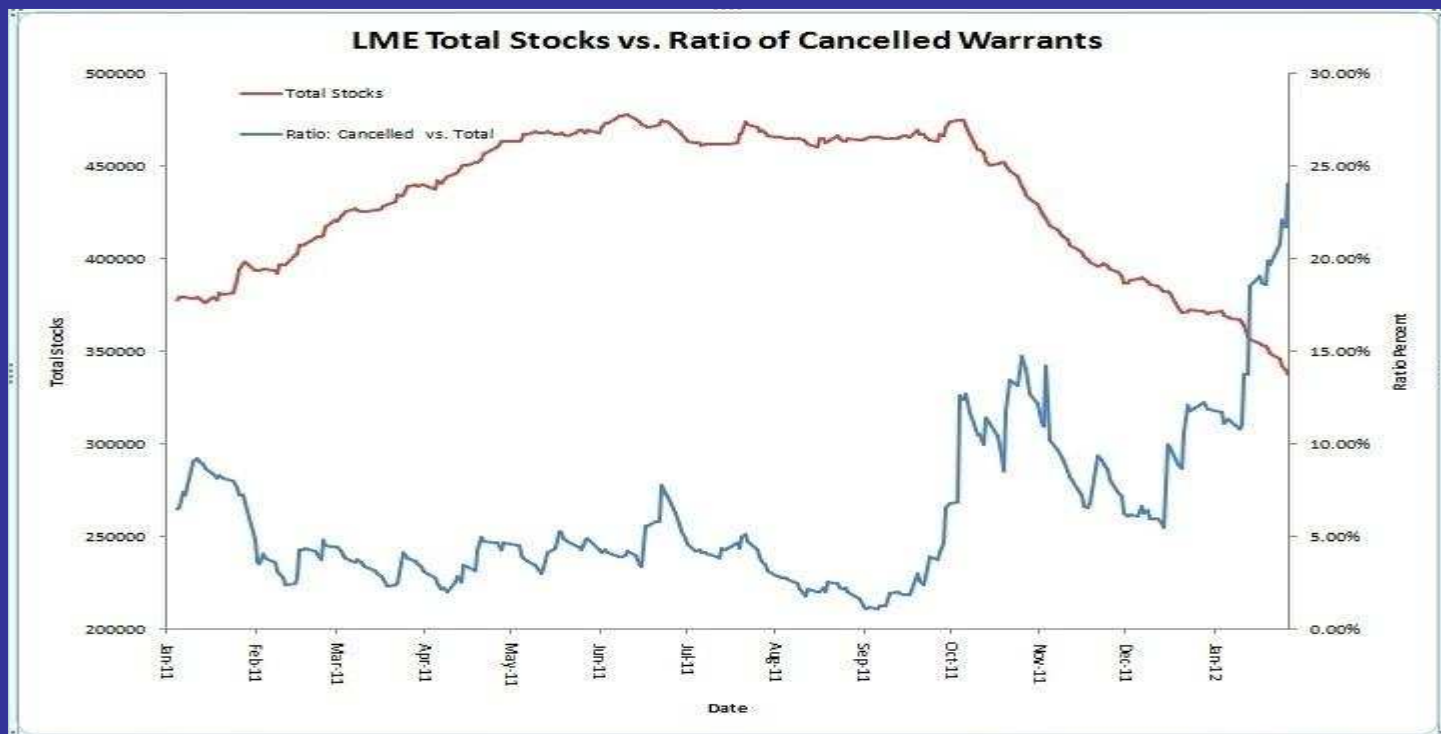


Copper Spot Price





Total Stocks & Cancelled Warrants





World Copper Usage 2009

China	7,873
Japan	1,222
South Korea	766
India	920
ASEAN	863
Taiwan	435
North America	2,468
Latin America	1,194
Western Europe	3,133
Eastern Europe (excluding Russia)	751
Africa	534
Rest of World	1,477
World	22,099



New Copper Required Per Year





Gold Supply & Demand Fundamentals

- 2011 Mine Supply 2700 tonnes
- Gold Price Increased for 11th Year
- Physical Demand Increased
- Scrap Supply Increased
- Paper Gold Demand High

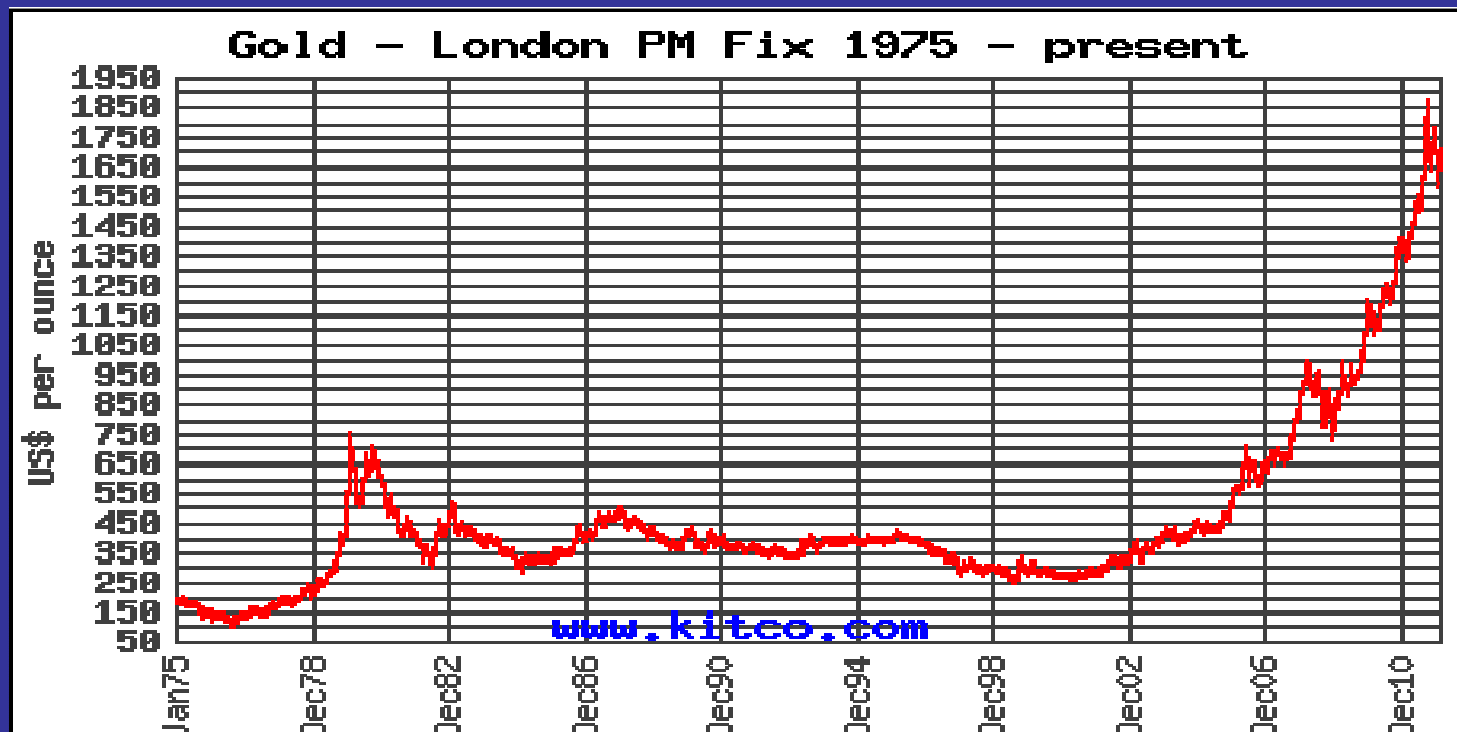


Supply & Demand of Gold in Tonnes

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Supply	3988	4143	4205	3701	3763	3625	3937	3412	4016	3572	3471	3513	4034	4108
Production	2527	2574	2602	2618	2645	2618	2621	2493	2548	2486	2476	2409	2584	2659
Producer hedging	504	97	506	-15	-151	-412	-289	-438	-92	-410	-444	-346	-252	-116
Sales by Cent. Banks	326	363	477	479	520	547	620	479	663	370	484	236	30	87
Recycling	631	1108	620	619	749	872	985	878	897	1126	956	1217	1672	1653
Demand	4165	3824	3911	3821	3727	3360	3194	3498	3733	3405	3552	3806	3493	3812
Jewelry	3294	3169	3139	3204	3008	2660	2482	2613	2708	2284	2405	2187	1760	2060
Electronics	234	226	247	283	197	206	233	262	281	308	311	293	246	287
Other Industries	115	103	99	99	97	83	81	84	88	91	93	87	74	83
Dentistry	70	64	66	69	69	69	67	68	62	61	58	56	53	50
Coins & Bars	452	261	359	166	357	339	292	339	386	401	432	862	743	995
ETFs and sim.	0	0	0	0	0	3	39	133	208	260	253	321	617	338
Sum	-177	319	294	-120	36	265	743	-86	283	167	-81	-293	541	296

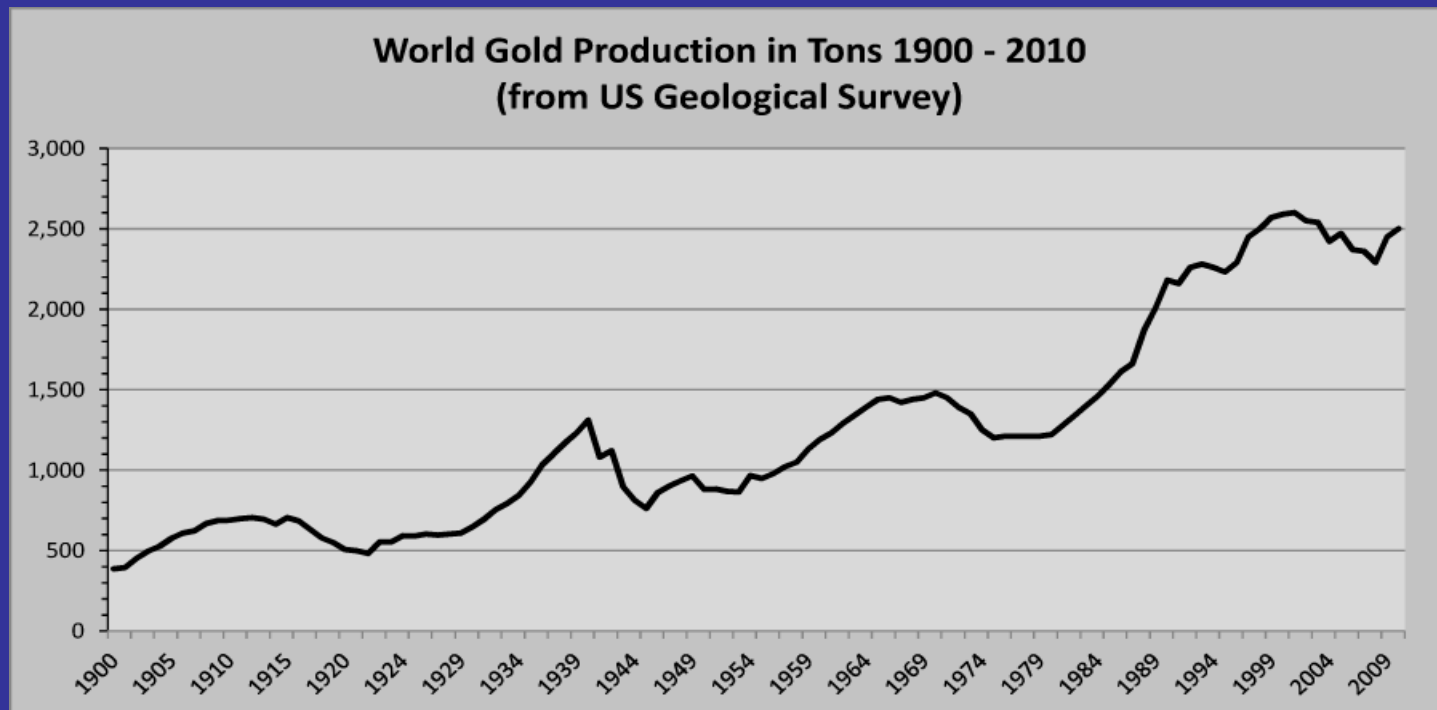


Gold Price in US Dollars



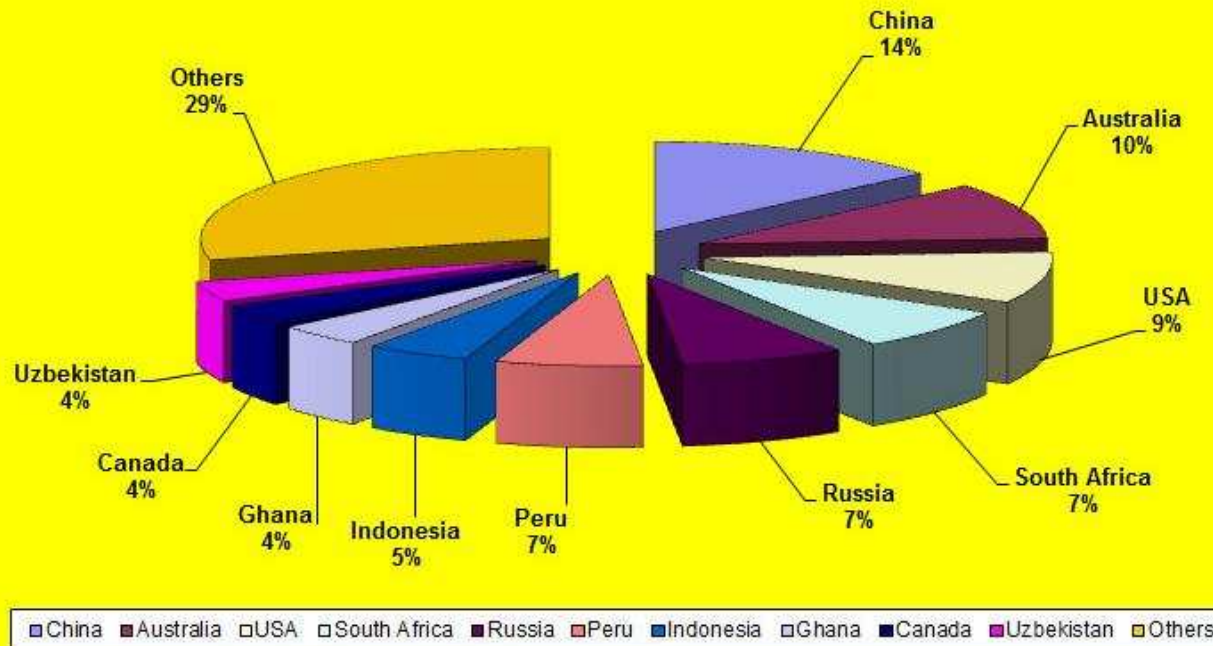


World Gold Production 1900 - 2010





2010 Gold Production by Country





Large and Mid-Tier Gold Companies

Gold Companies in the Forbes Global 2000

#	Name	Forbes Rank	Base	Rev. (bil. US\$)	Assets (bil. US\$)	Forbes Market Val. (mil. US\$)
1	Newmont Mining	398	United States	7.71	22.3	24,690
2	Barrick Gold	704	Canada	8.14	27.08	37,610
3	Goldcorp	872	Canada	2.72	20.95	28,020
4	Kinross Gold	1150	Canada	2.41	8.01	12,840
5	AngloGold Ashanti	1263	South Africa	4.15	9.82	12,960
6	Gold Fields	1329	South Africa	3.77	8.45	8,160
7	Yamana Gold	1416	Canada	1.18	9.71	7,840
8	Newcrest Mining	1473	Australia	2.04	4.21	13,960
9	Buenaventura	1886	Peru	0.74	1.99	5,370
10	Polyus Gold	1951	Russia	1.09	3.08	9,300
11	Eldorado Gold	1965	Canada	0.28	1.36	6,820
12	Agnico-Eagle Mines	1970	Canada	0.64	4.25	9,170



U_3O_8 Supply and Demand

- 2010 Demand: 178 million lbs
- 2010 Mined: 139 million lbs
- 39 million lb Deficit
- Megatons to Megawatts: 23 million lbs
- Stockpiles: 16 million lbs



Uranium Supply and Demand

- 443 Operable Plants Before Japan Disaster
- 433 Operable Plants After Japan Disaster
- 51 of 54 Japanese Plants Off - Line
- Sovereign & Utility Stockpiles Dwindling
- New Russia / USA LEU Agreement Thru 2022



Ux U₃O₈ Prices





Uranium Spot Price Increases

- Buyers > Sellers
- Traders & Speculators
- China (Q4 2010; Q1 2011?)
- Producers (Rio Tinto, Cameco)
- Kazakhstan & Ranger Shortfalls
- Japan Restart



Uranium: Story Remains the Same

- Nuclear Energy = 14% of Electricity
- 433 Nuclear Power Plants Operable
- 62 Under Construction / 156 Planned
- Increased Demand for Yellowcake
- 4% Growth Projected Year over Year



New Production

- Conventional Underground = High Cost Mines
- Higher Prices Required (\$65-80 per pound)
- Low Cost Mines
- ISR (41%) & Open-Pit Heap Leach Mines
- Profitable at Current Prices



Palangana ISR “Mine”





Hobson ISR Plant, South Texas





Why I Remain a Uranium Bull

- Supply and Demand Fundamentals
- 22 % Yearly Mine Supply Deficit
- 62 Reactors in Construction
- 156 Planned & 343 Proposed



Where is the U Going to Come From ?

- Stockpiles Dwindling
- Russians 2013-2022 @ 50% of 1999-2013
- New Mines Must Come On Stream



New Uranium Mines

Kazakhstan ISR

Athabasca Basin Conventional UG

Niger Conventional UG

Namibia Open-Pit

Western United States ISR

Australia Open-Pit



Wild Cards in the Uranium Game

- USA Department of Energy
- Bomb Dismantling
- Recycling & Reprocessing
- Thorium



Metals Market Fundamentals

- BIIC (Brazil, India, Indonesia, China)
- Supply Shortfalls
- Deposits Harder to Find
- Geopolitics: Corrupt & Unstable Governments
- Environmental Opposition Worldwide
- Exploration, Production, Development ± 10 Yrs

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Monday Morning Musings from Mickey the Mercenary Geologist



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