EL MERCADO DEL COBRE

SONAMI

MARCELO AWAD

Agosto 2008

ANTOFAGASTA MINERALS

MINERA LOS PELAMBRES

MINERA MICHILLA S.A.

EL TESORO

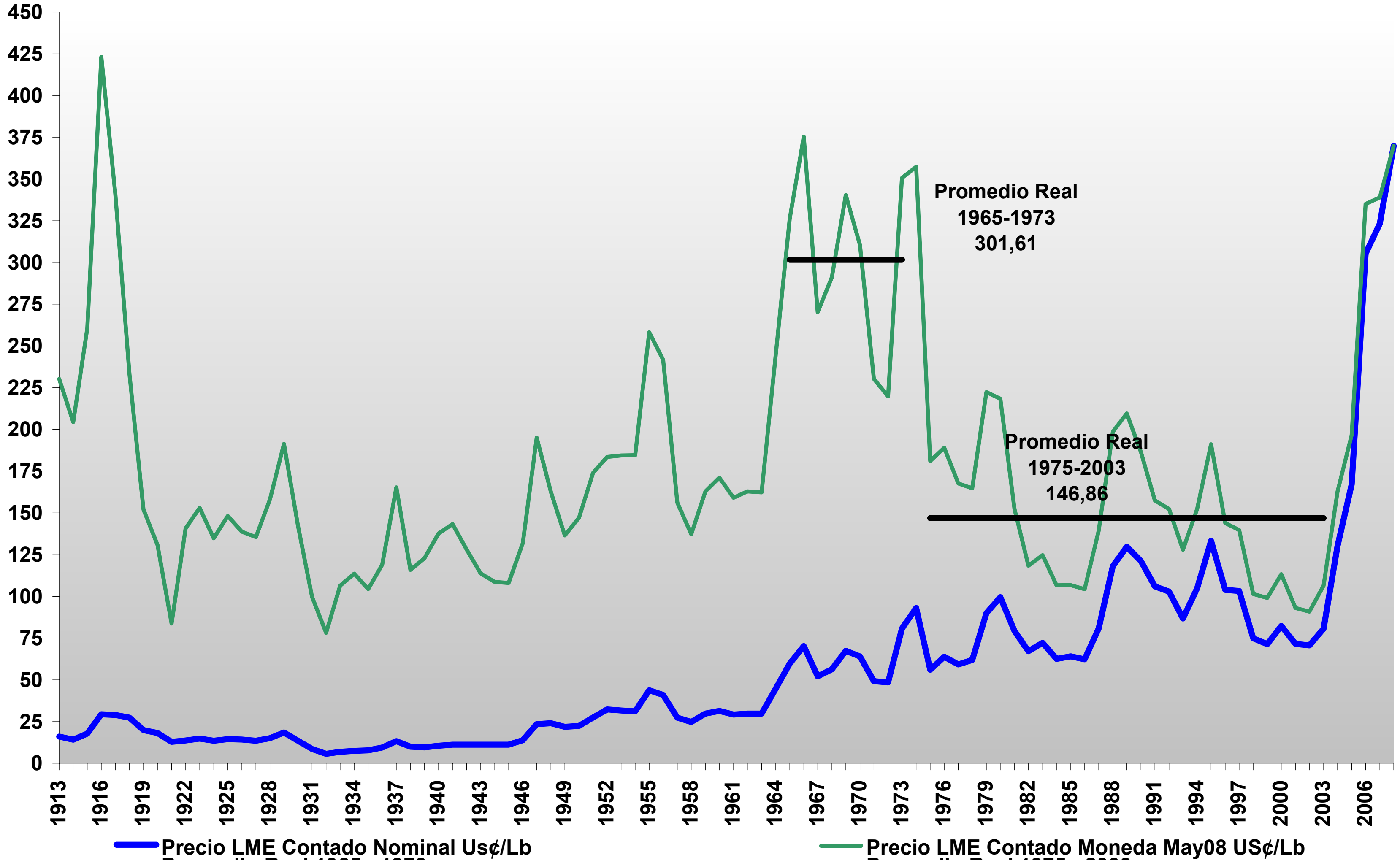
ESPERANZA

TETHYAN COPPER COMPANY LIMITED

El PRECIO DE AYER

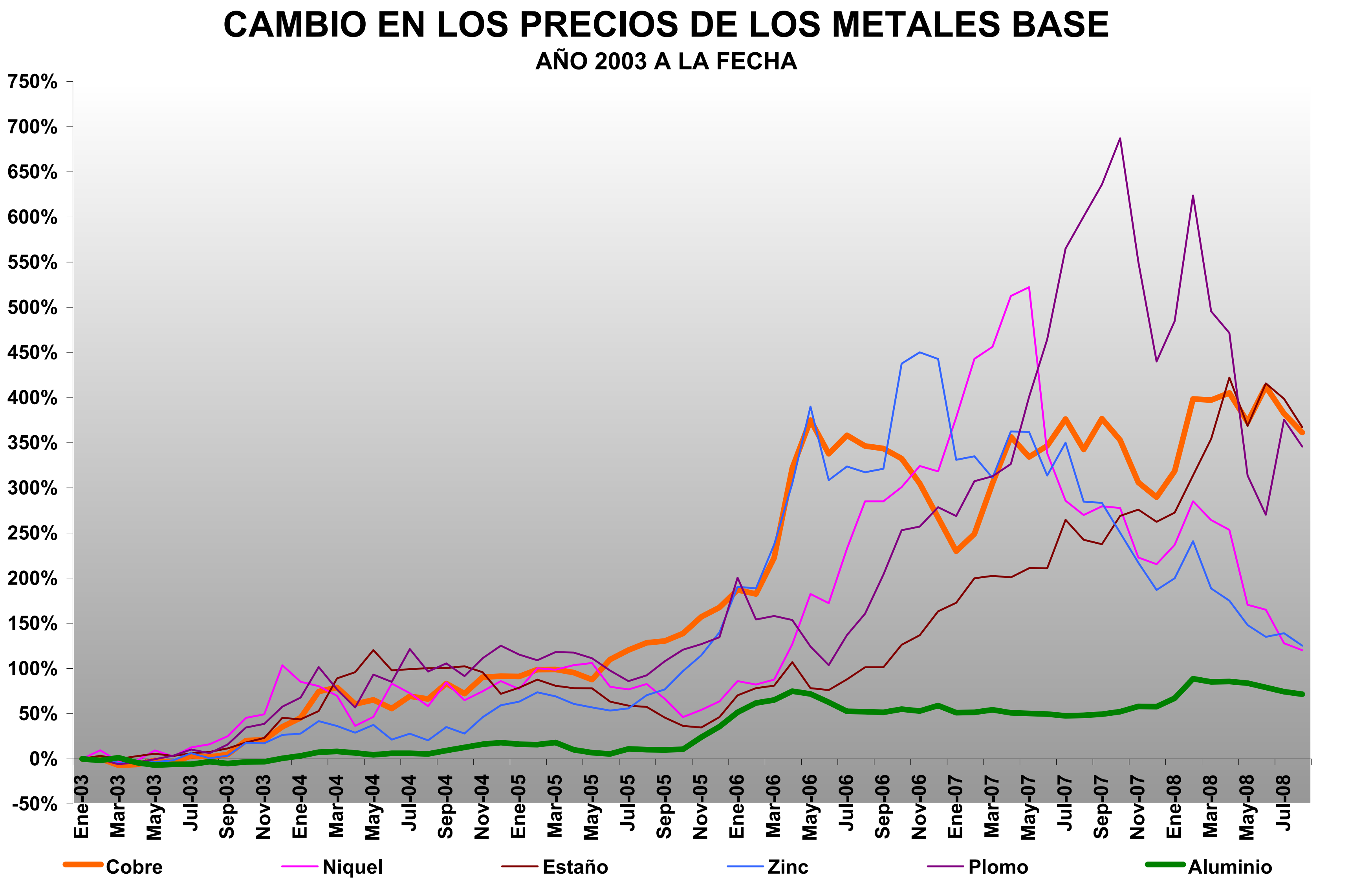
AÑO 2008
EL COBRE LLEGO A NIVELES MAXIMOS HISTORICOS

PRECIO DEL COBRE NOMINAL y REAL
AÑOS 1913 al 2008



Fuente: BH, CRU, AMSA

DESDE EL AÑO 2003
Cu UNO DE LOS METALES QUE MAS HA DESTACADO



Fuente: Reuters, AMSA

LA DEMANDA

ANTOFAGASTA MINERALS

ESPERANZA

TETHYAN COPPER COMPANY LIMITED

MINERA LOS PELAMBRES

EL TESORO

MINERA MICHILLA S.A.

SUSTITUCIÓN
“FACE VALUE < METAL VALUE”

ANTOFAGASTA MINERALS

Bloomberg News / May 9, 2008

WASHINGTON - The House has voted to bring back the steel penny, saying it would be cheaper to make. Currently, the government loses money on every one-cent coin it makes because of rising metal prices. It cost the government about 1.3 usc to make a single penny

Bloomberg News / May 9, 2008

WASHIGTON – La Casa ha votado traer de vuelta el penny de acero, diciendo que será mas barato de hacer. Actualmente , el gobierno pierde dinero en cada moneda de centavo que hace debido a la subida de los precios del metal.

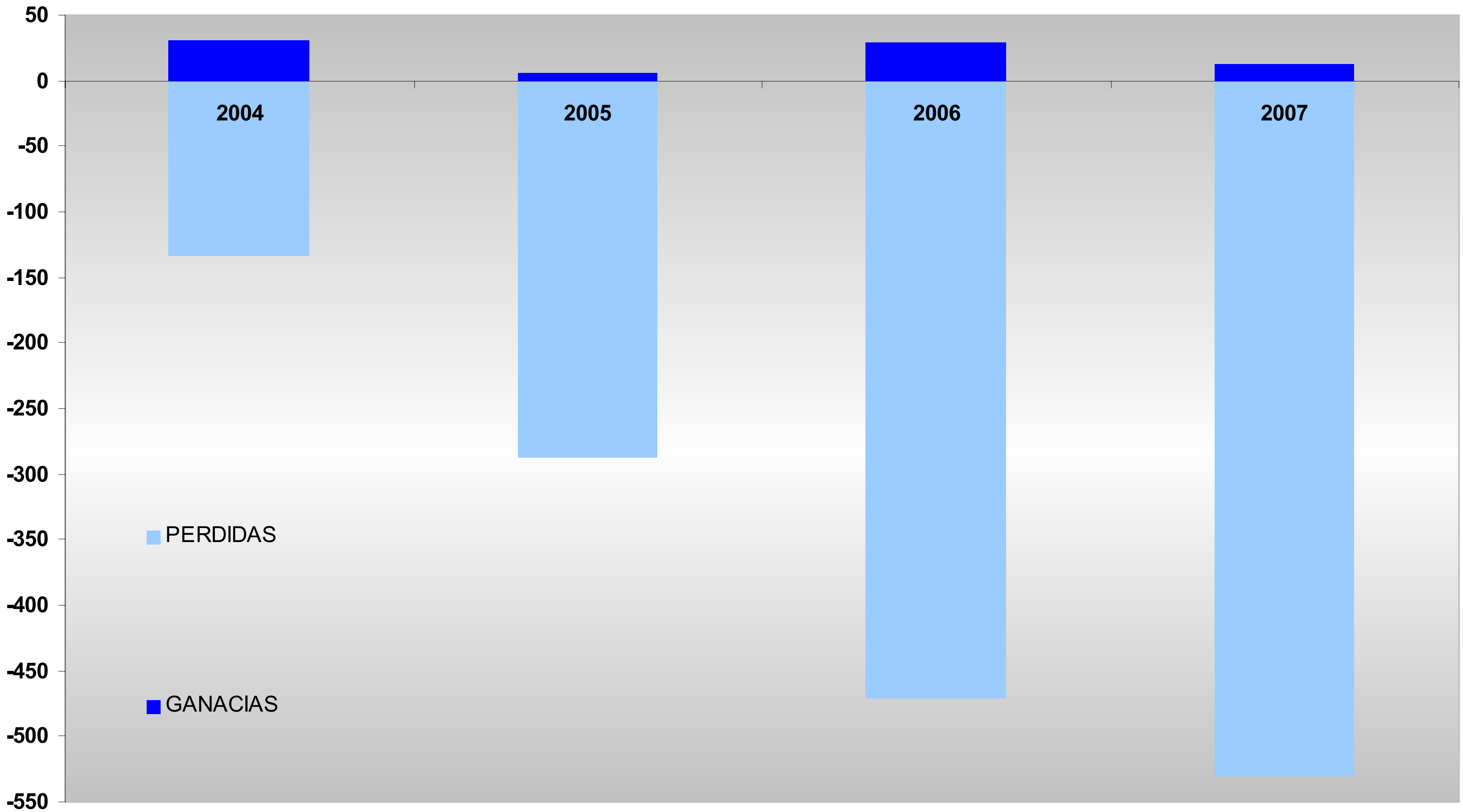
AL GOBIERNO AMERICANO LE CUESTA 1,3 USC PRODUCIR LA MONEDA DE UN CENTAVO

Fuente: Bloomberg

SUSTITUCION
UNA REALIDAD EN LA INDUSTRIA

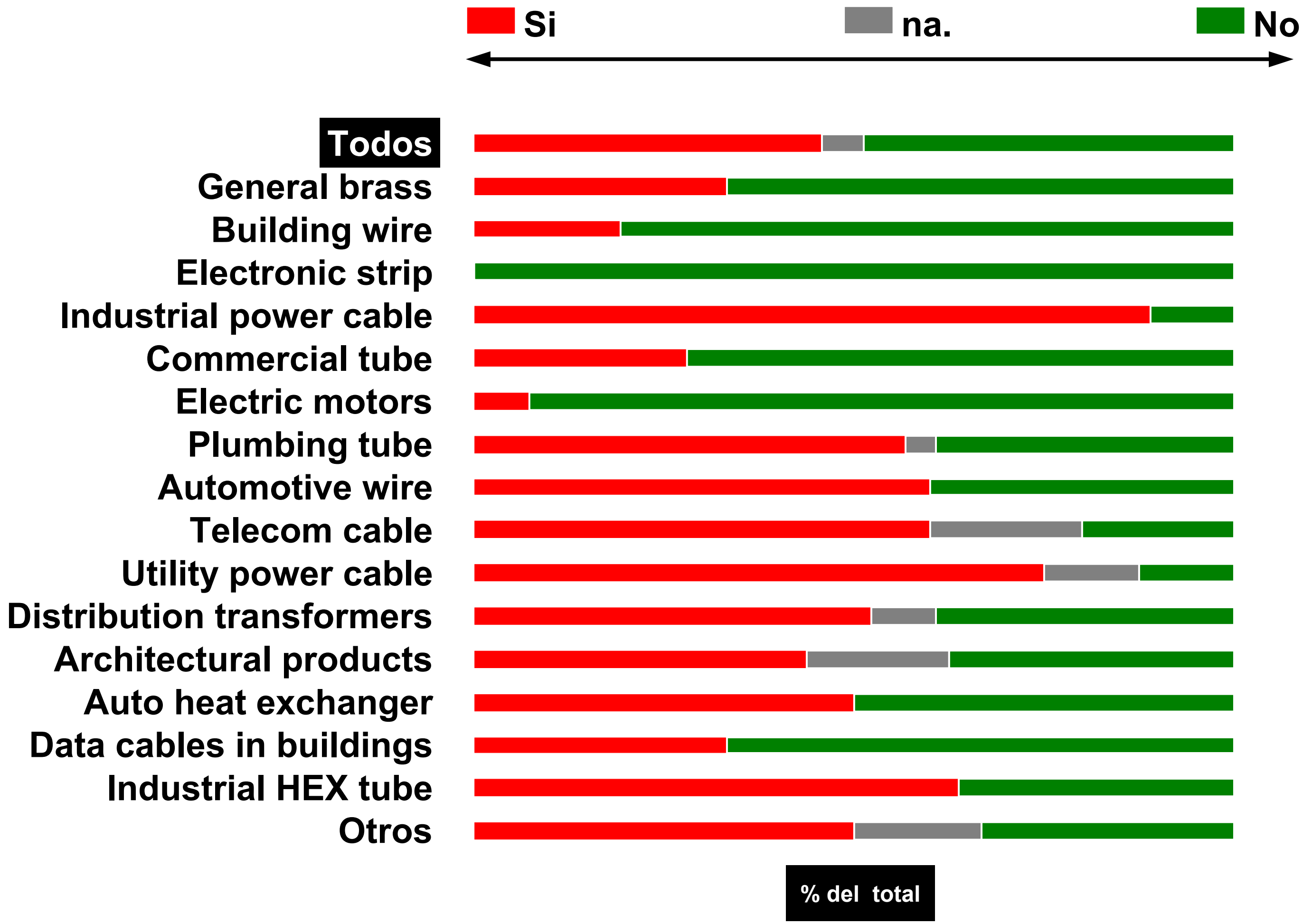
SUSTITUCIÓN ANUAL DE/POR COBRE

('000 TM)



Fuente: ICA

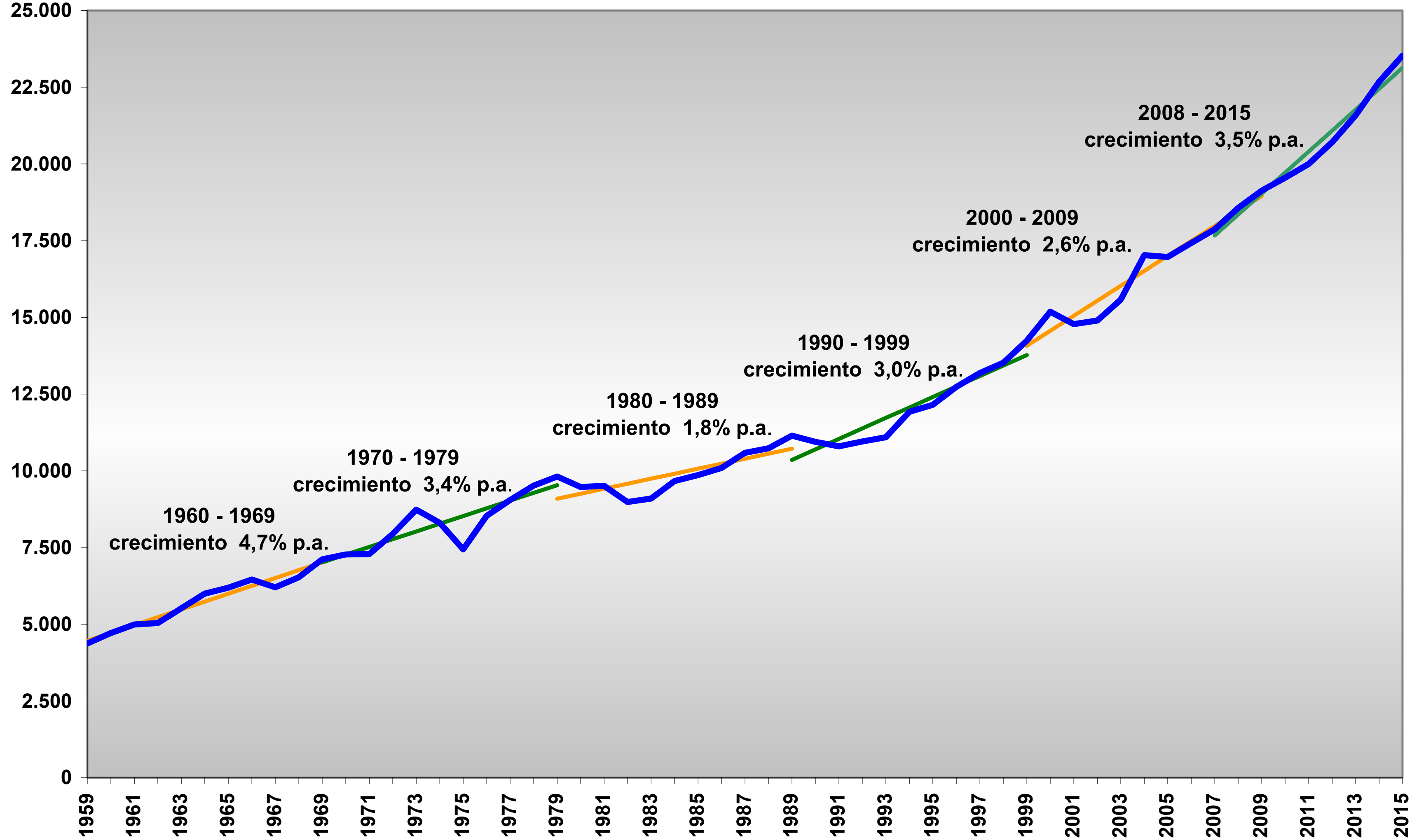
EN SU COMPAÑÍA, ¿FUE EL COBRE SUSTITUIDO DURANTE EL AÑO 2007? SI o NO?



Fuente: En cuesta del ICA realizada a 200 empresas.

CAMBIO EN LA DEMANDA DE COBRE

DEMANDA APARENTE MUNDIAL DE COBRE REFINADO
('000 MT)



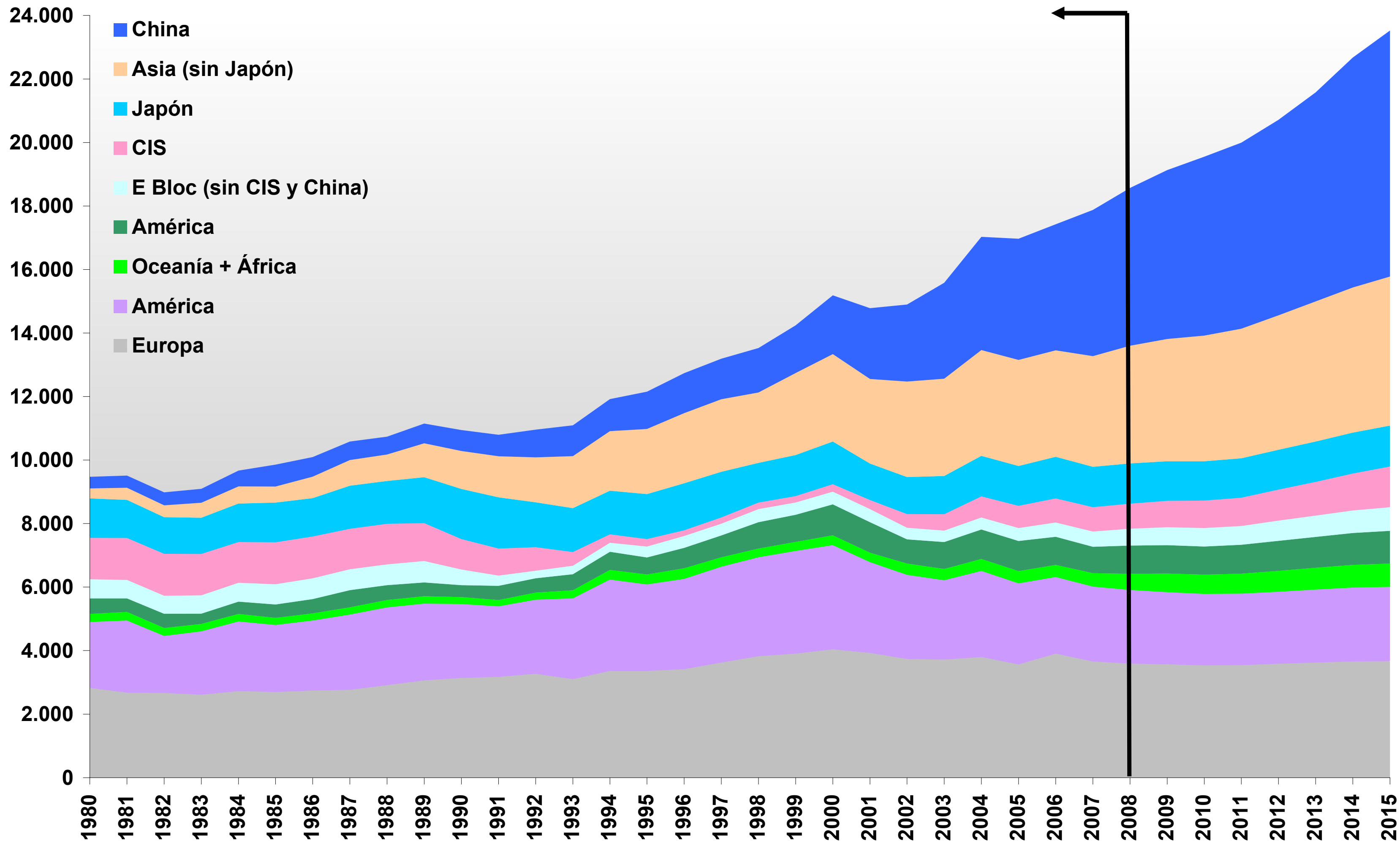
Fuente: BH, CRU, AMSA

CAMBIO EN LA DEMANDA DE COBRE

ANTOFAGASTA MINERALS

DEMANDA APARENTE MUNDIAL DE COBRE REFINADO

('000 TM)

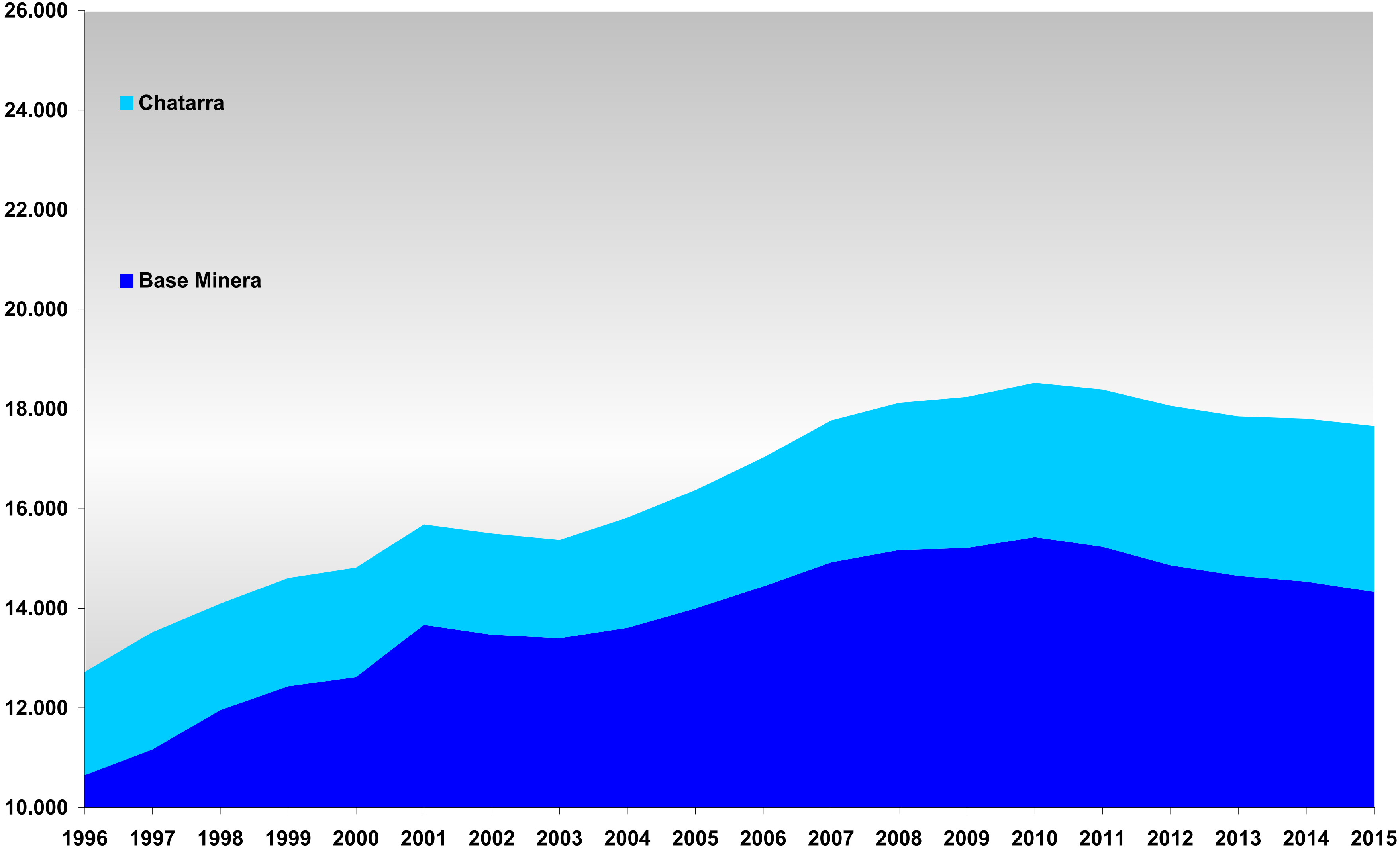


Fuente: BH, CRU, AMSA

LA OFERTA

LA OFERTA DE COBRE

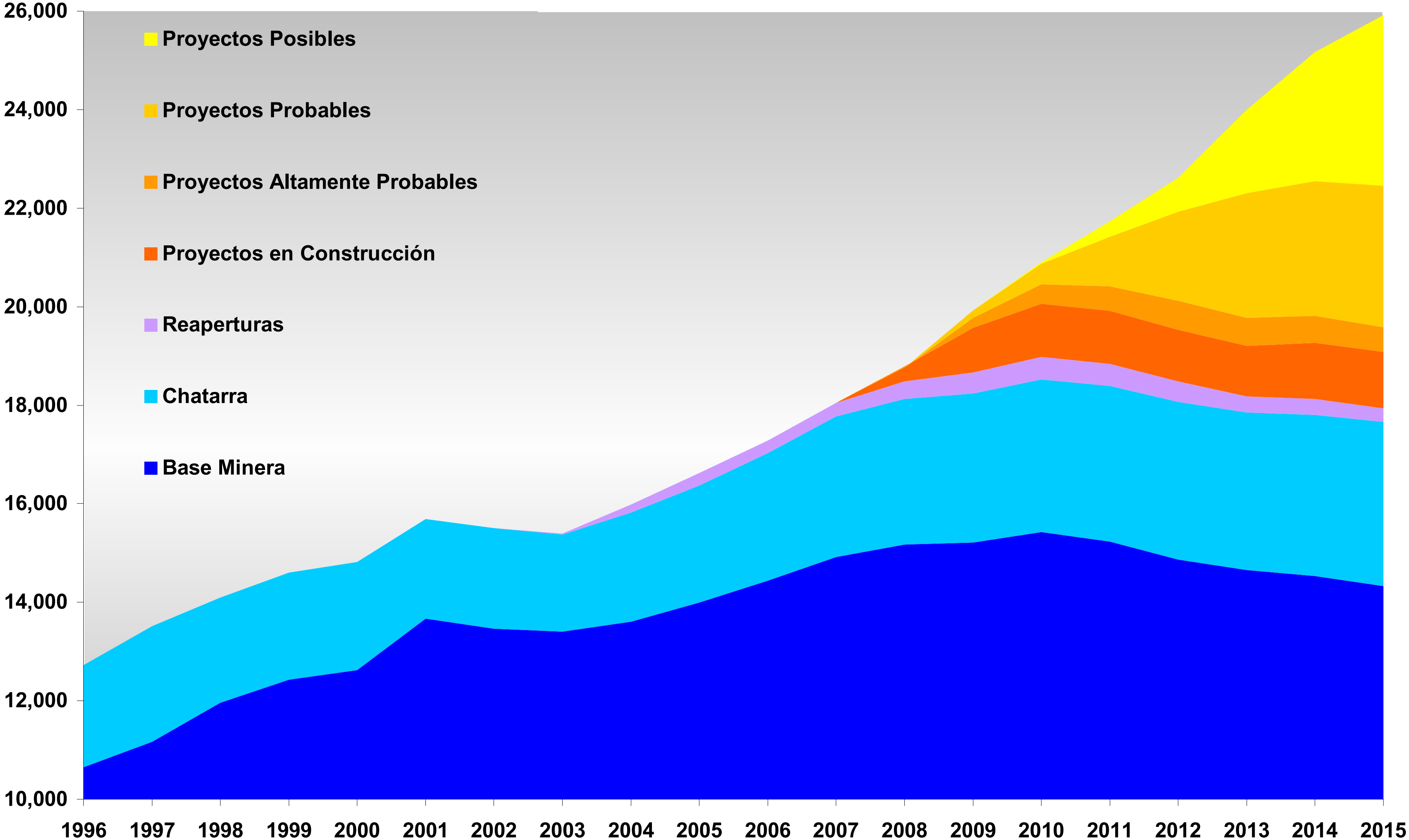
OFERTA MUNDIAL DE COBRE REFINADO
(´000 TM)



Fuente: BH, CRU, A.Gonzalez, AMSA

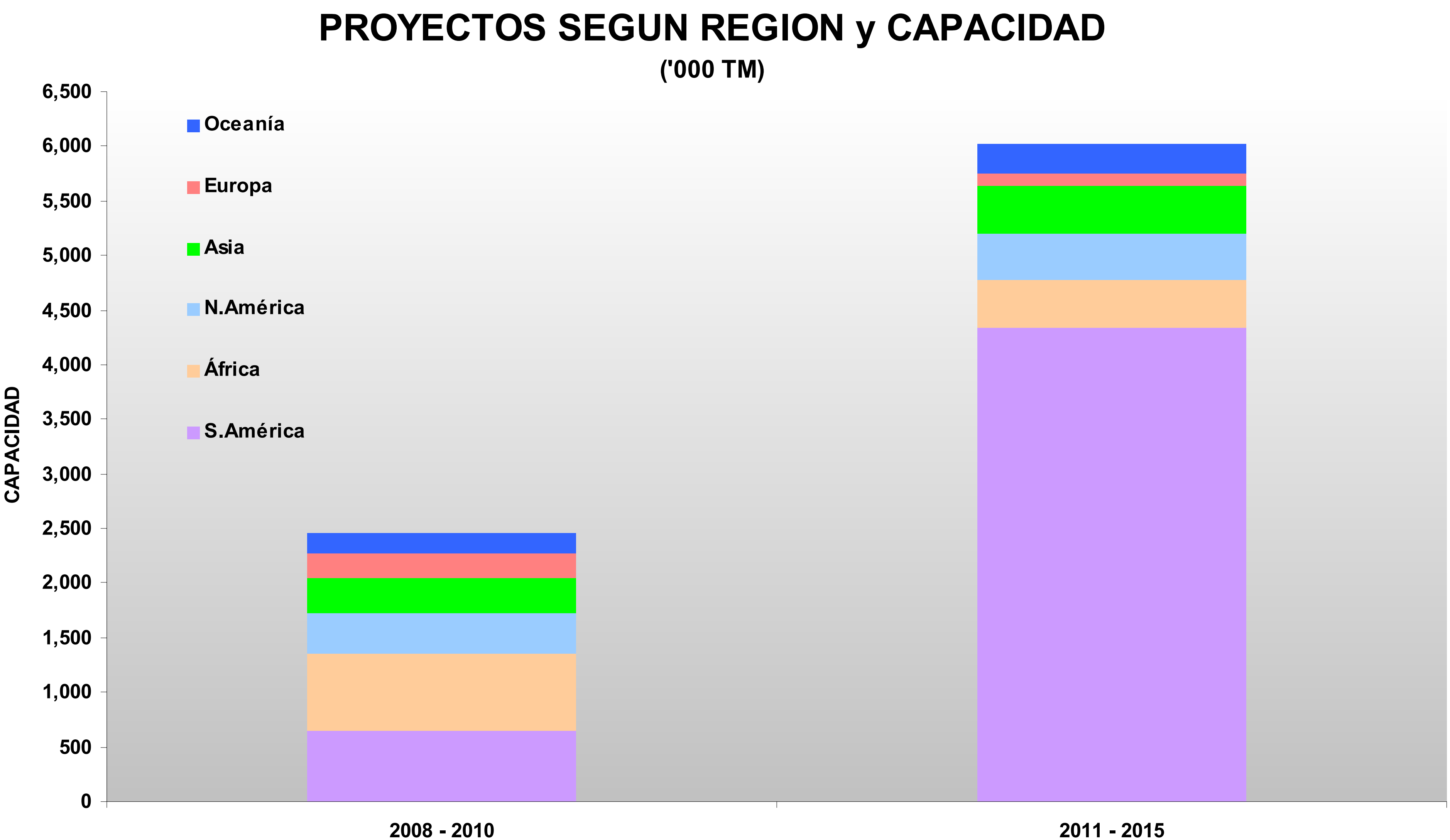
LA OFERTA DE COBRE

OFERTA MUNDIAL DE COBRE REFINADO
(´000 TM)



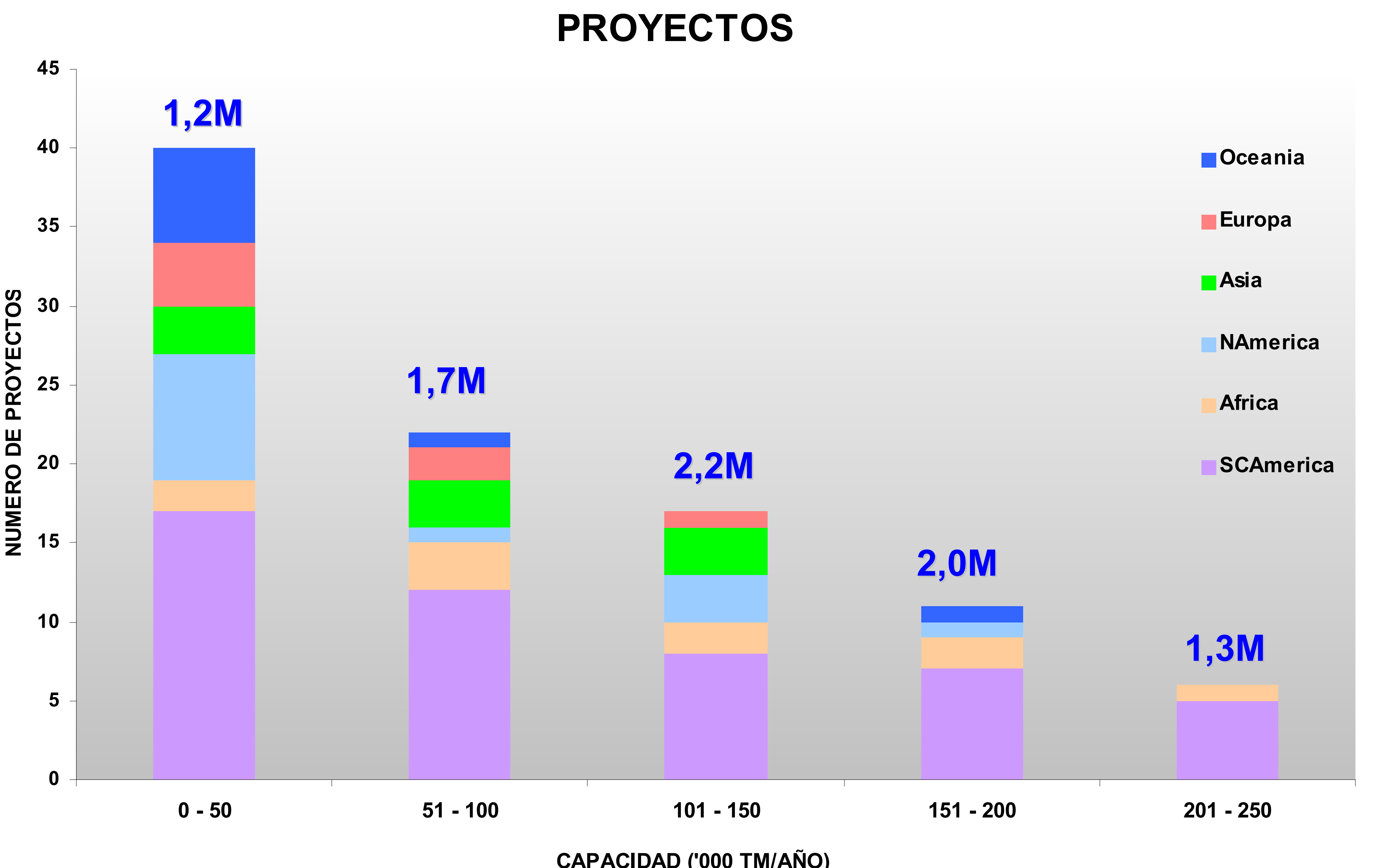
Fuente: BH, CRU, A.Gonzalez, AMSA

PROYECTOS AÑOS 2008 AL 2015



Fuente: BH, CRU, A.Gonzalez, AMSA

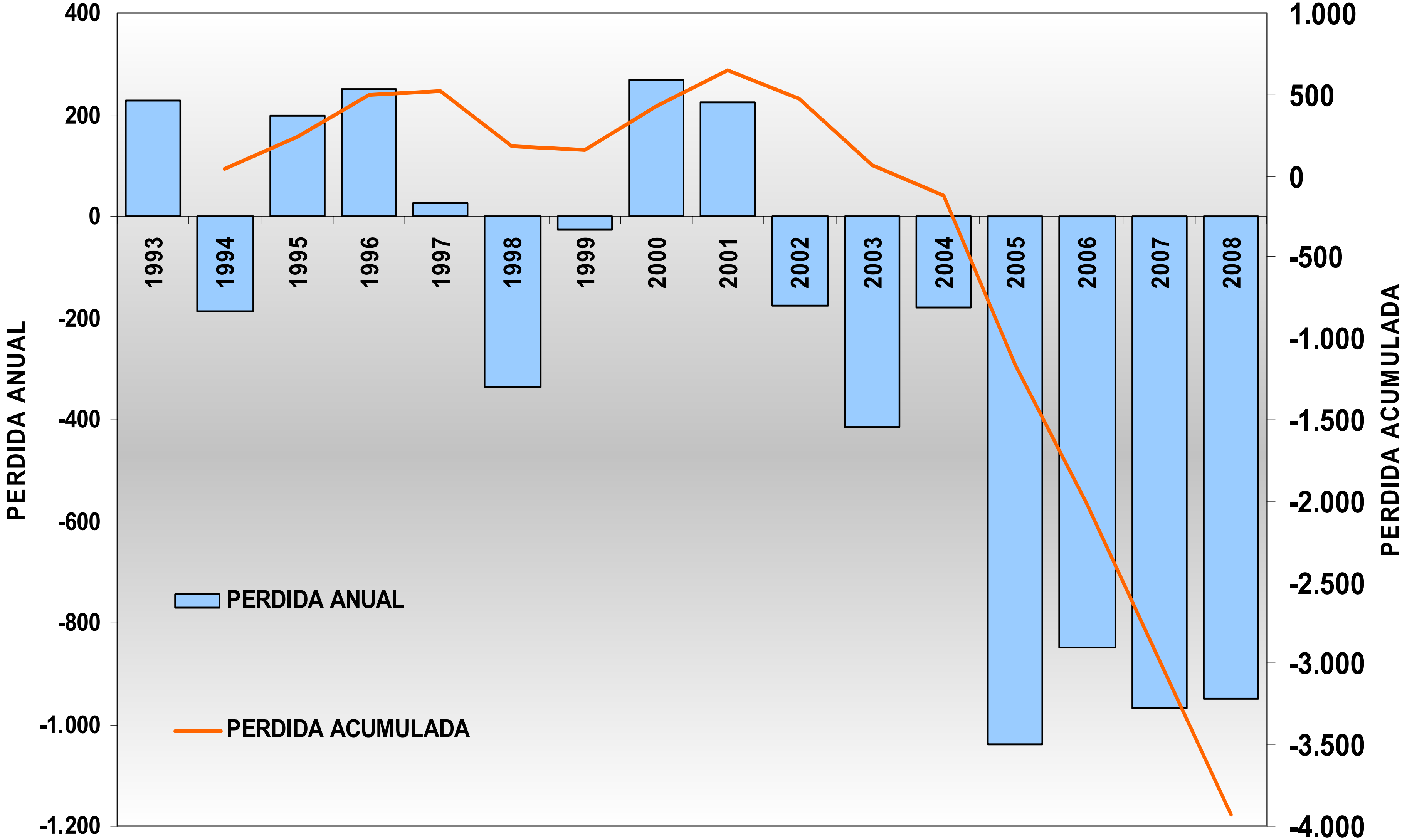
PROYECTOS AÑOS 2008 AL 2015



Fuente: BH, CRU, A.Gonzalez, AMSA

PERDIDAS DE PRODUCCION

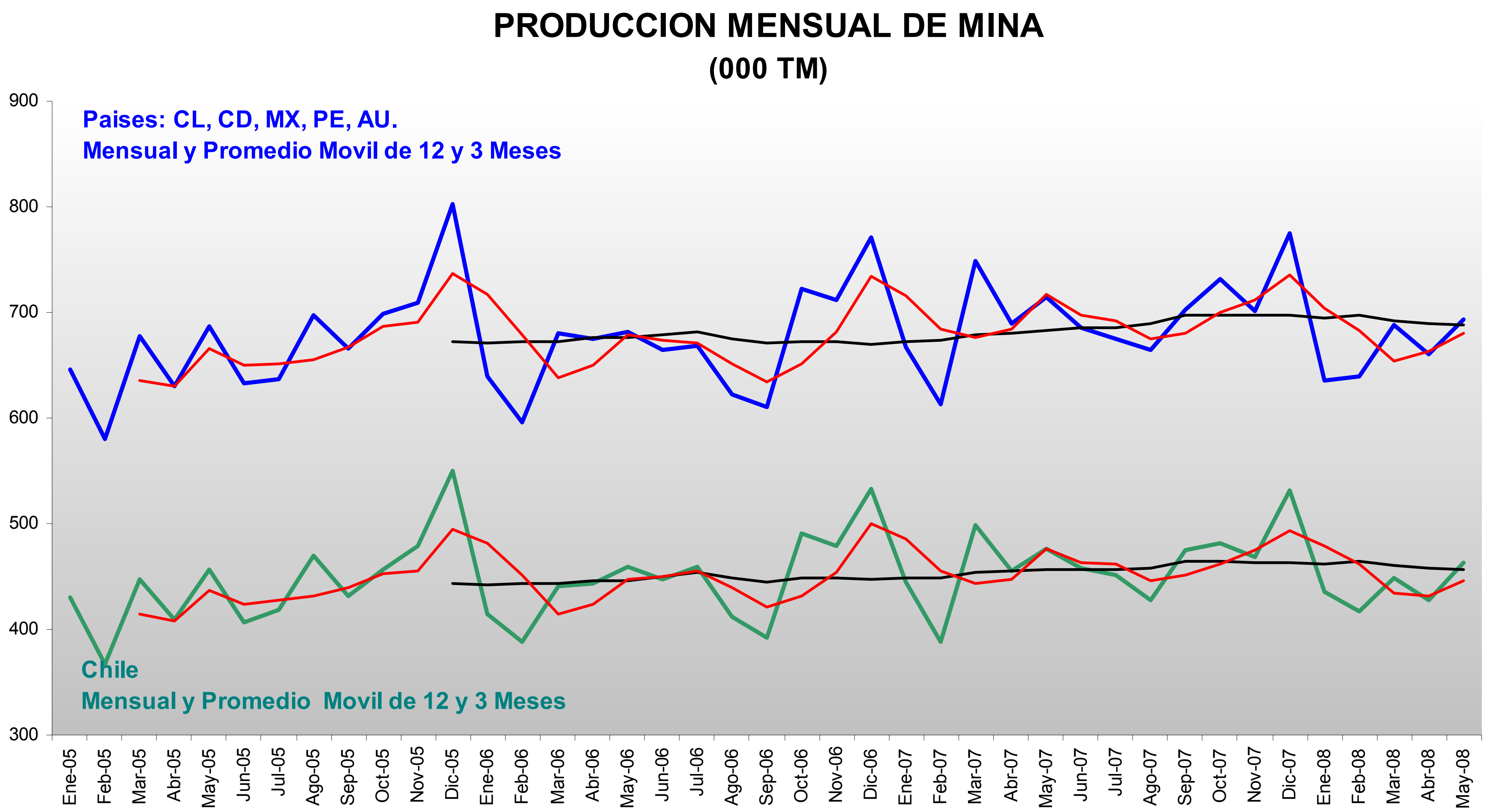
('000 TM)



Fuente: BH, AMSA

PROBLEMAS DE PRODUCCION

ANTOFAGASTA MINERALS



Fuente: Cochilco, AMSA, Otros

BALANCE

ANTOFAGASTA MINERALS

EL TESORO

MINERA MICHILLA S.A.

MINERA LOS PELAMBRES

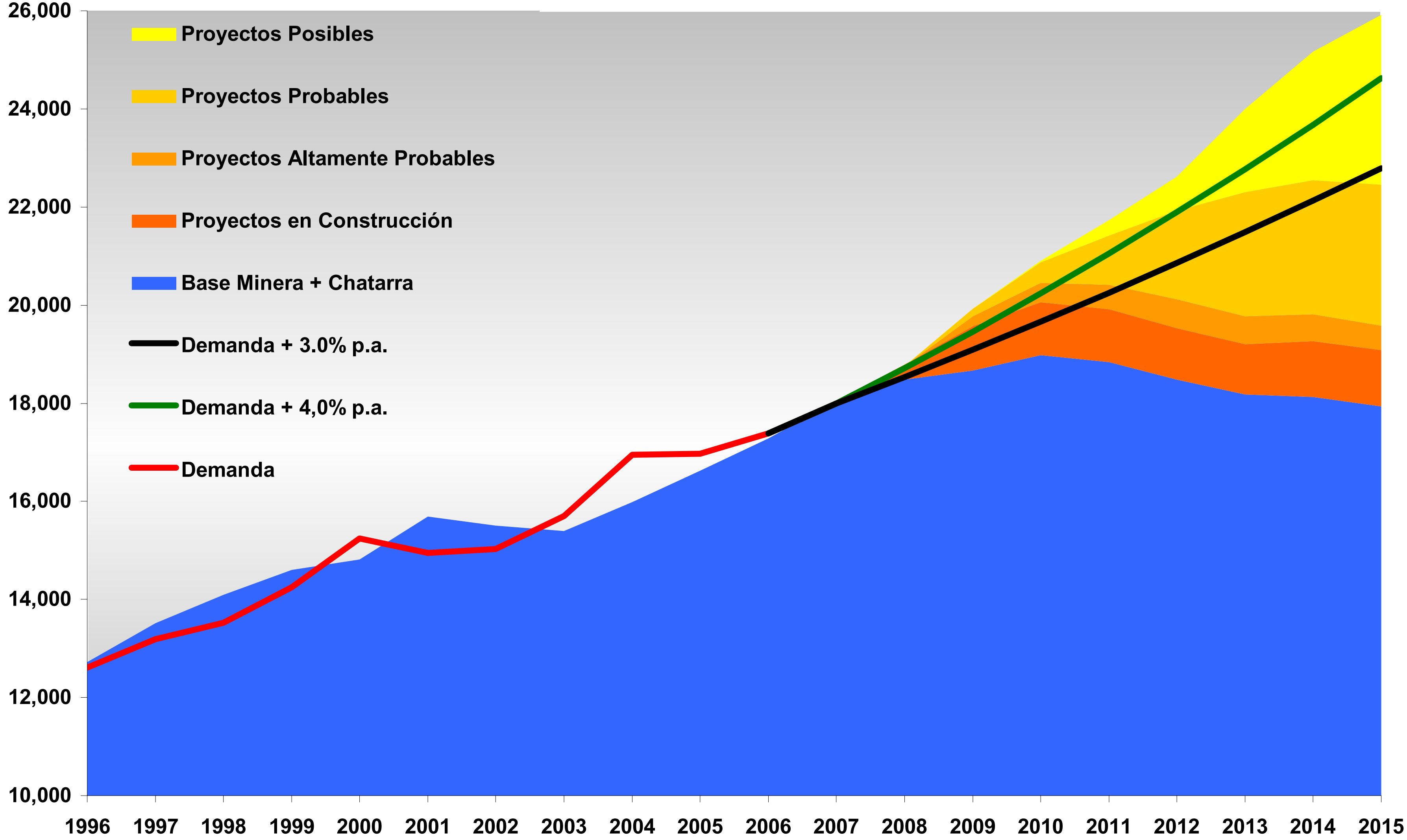
TETHYAN COPPER COMPANY LIMITED

ESPERANZA

BALANCE

OFERTA MUNDIAL DE COBRE REFINADO

(´000 TM)

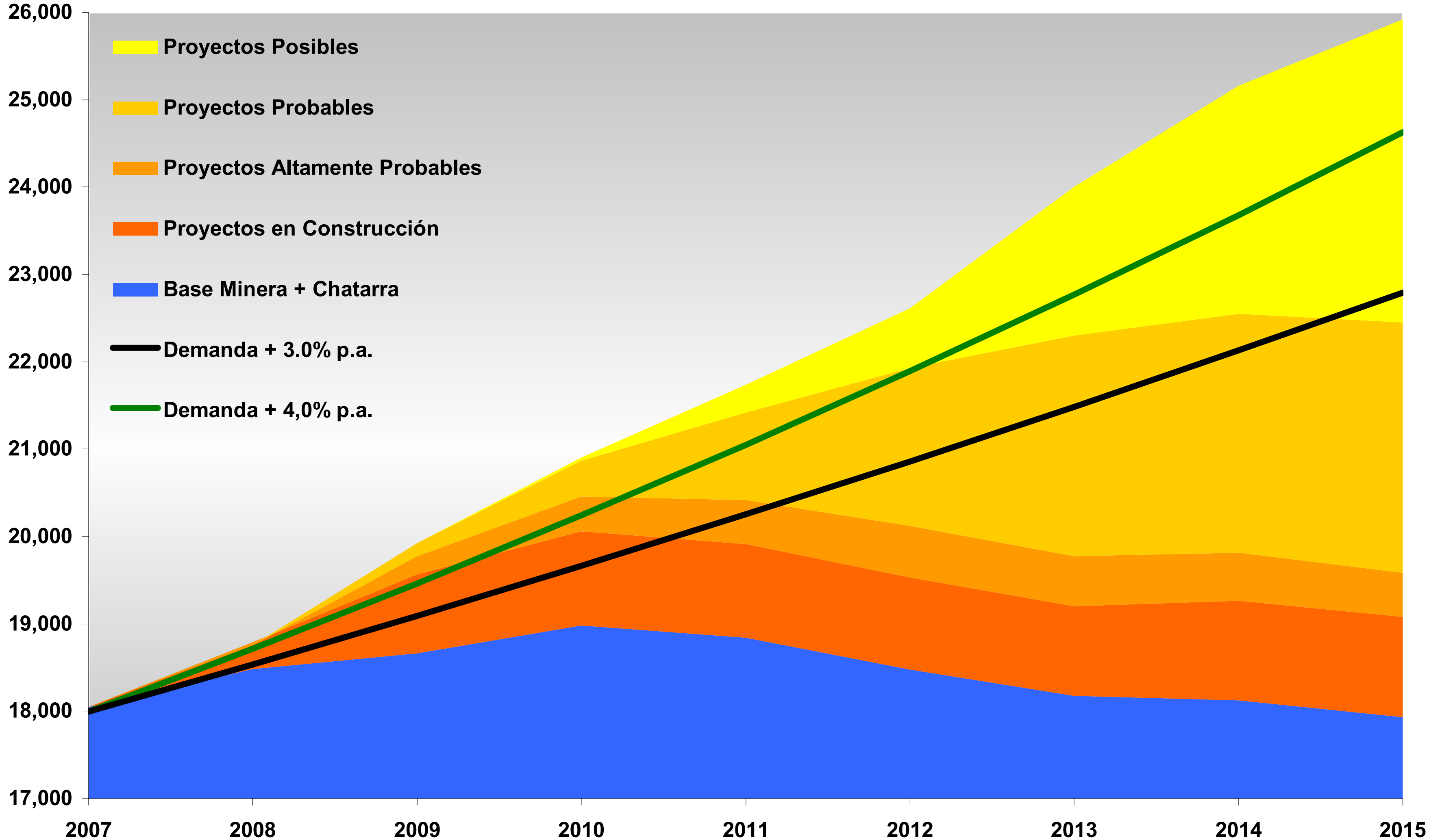


Fuente: BH, CRU, A.Gonzalez, AMSA

BALANCE

OFERTA MUNDIAL DE COBRE REFINADO

(´000 TM)

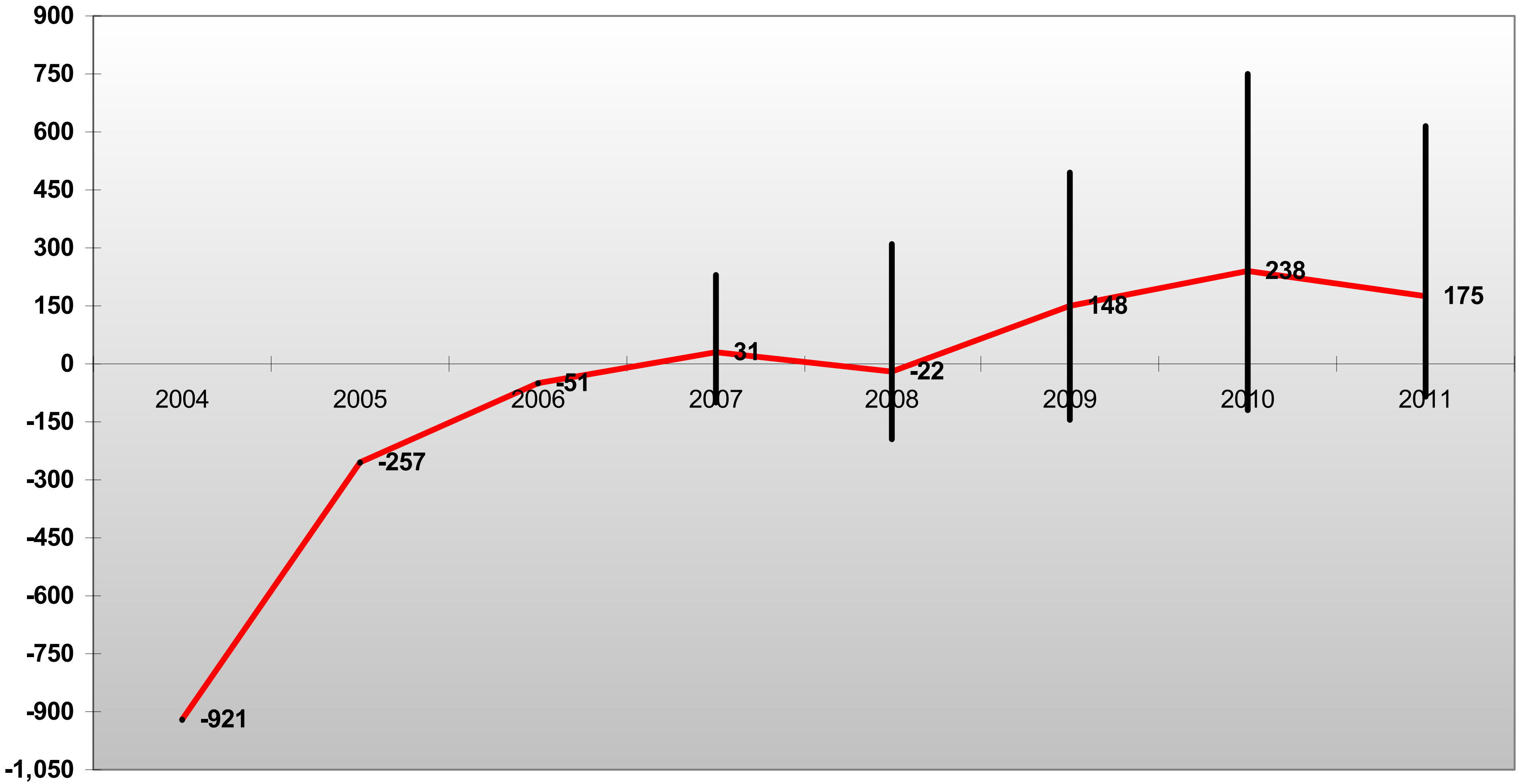


Fuente: BH, CRU, A.Gonzalez, AMSA

BALANCE DE MERCADO

BALANCE DE MERCADO SEGUN ANALISTAS

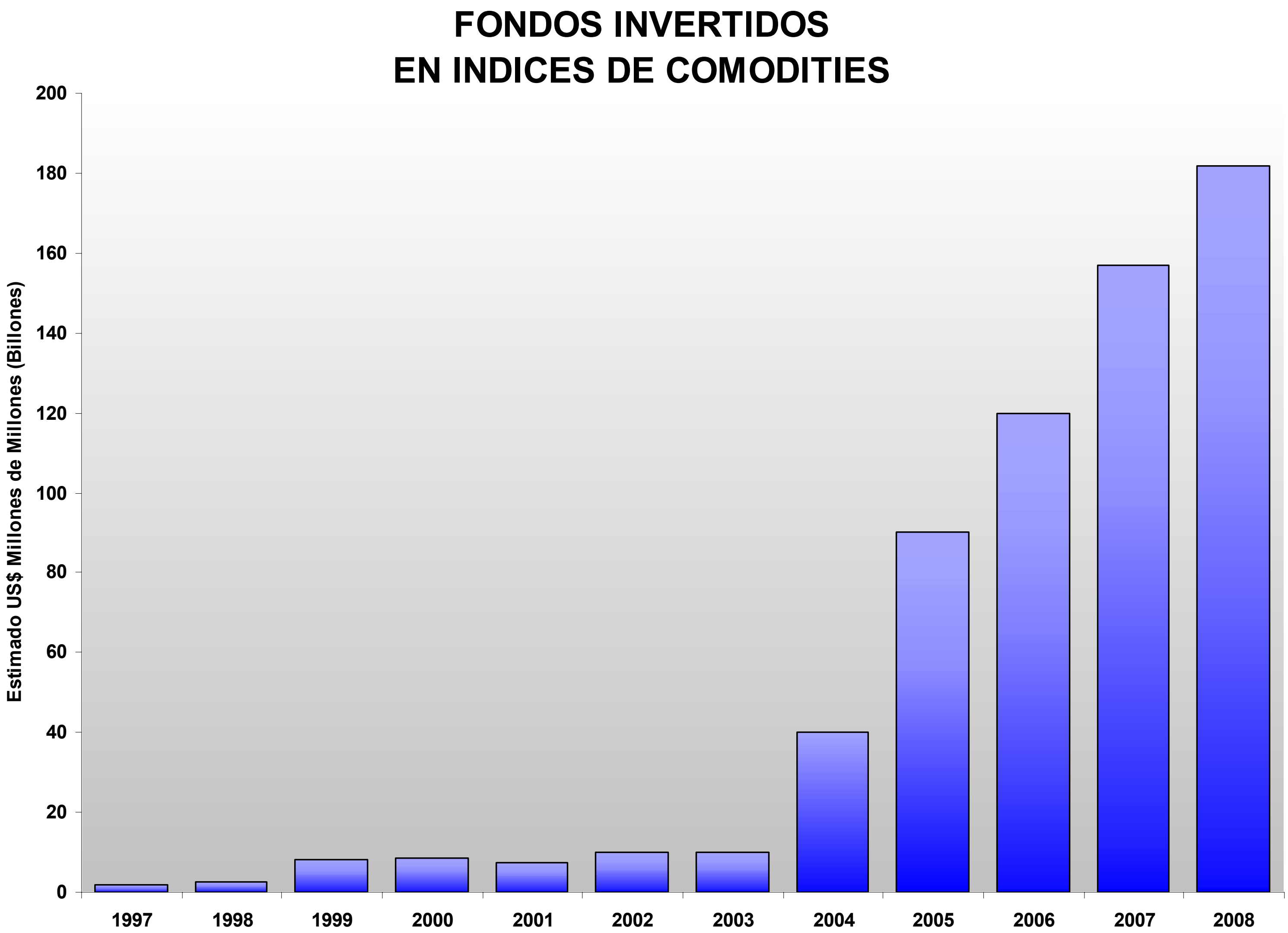
(000 TM)



Fuente: Analistas Varios, AMSA

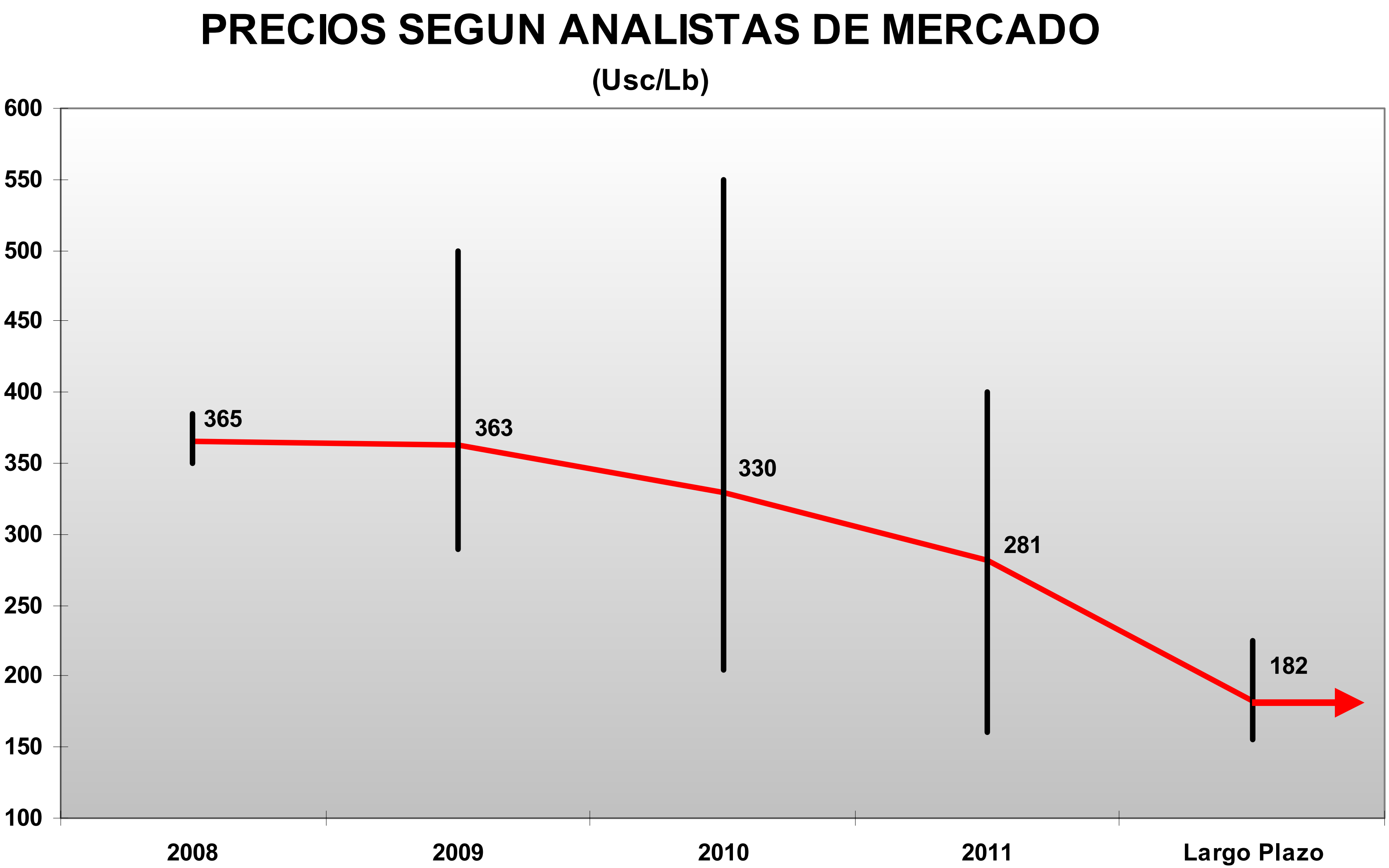
EL PRECIO DEL MAÑANA

COMODITIES LA NIÑA BONITA



Fuente: Goldman, AMSA

PRECIOS



Fuente: Analistas Varios, AMSA

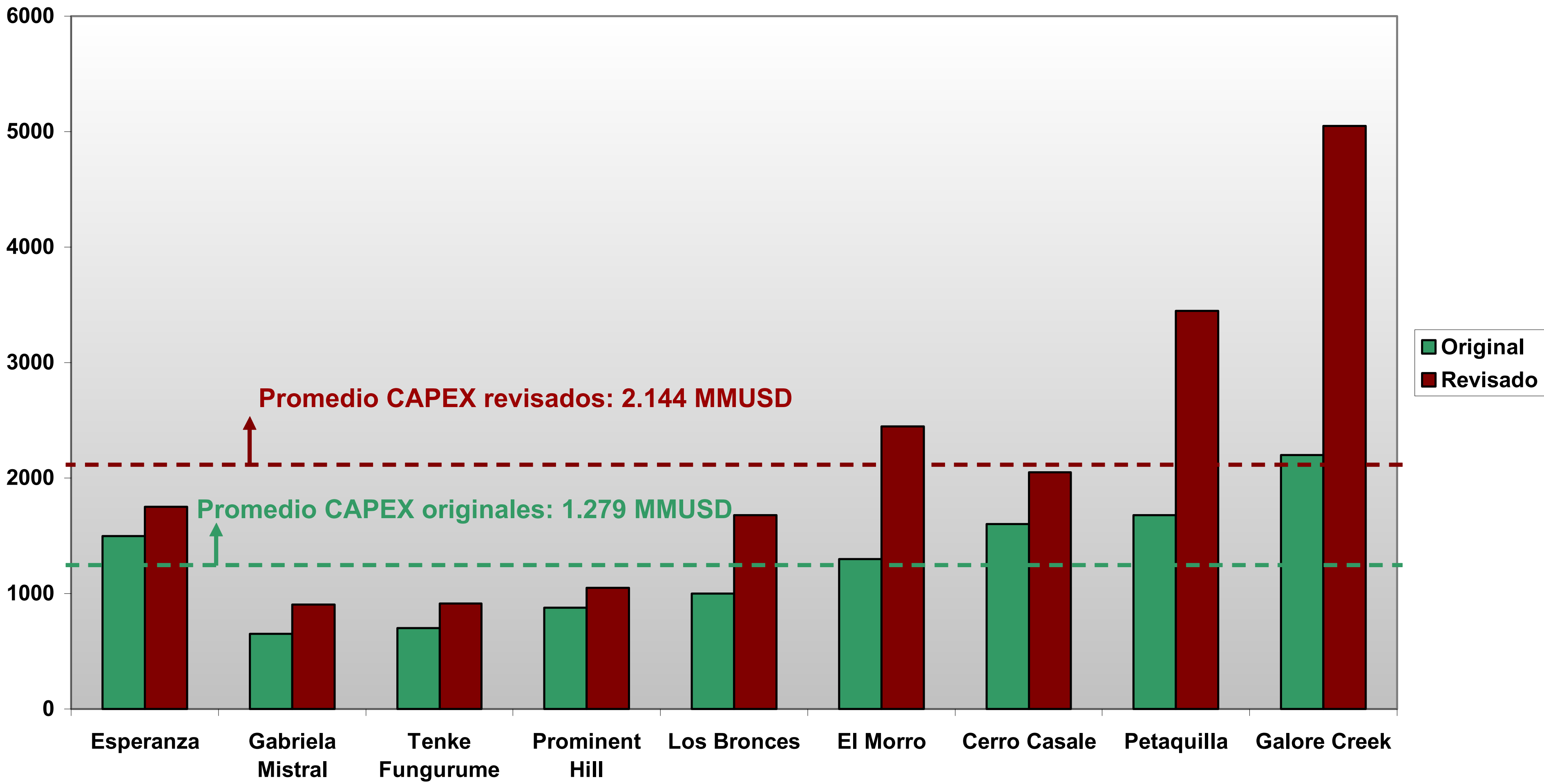
LOS
DESAFIOS DE LA MINERIA

GENERAR LA OFERTA

CAPEX

CAPEX DE GRANDES PROYECTOS

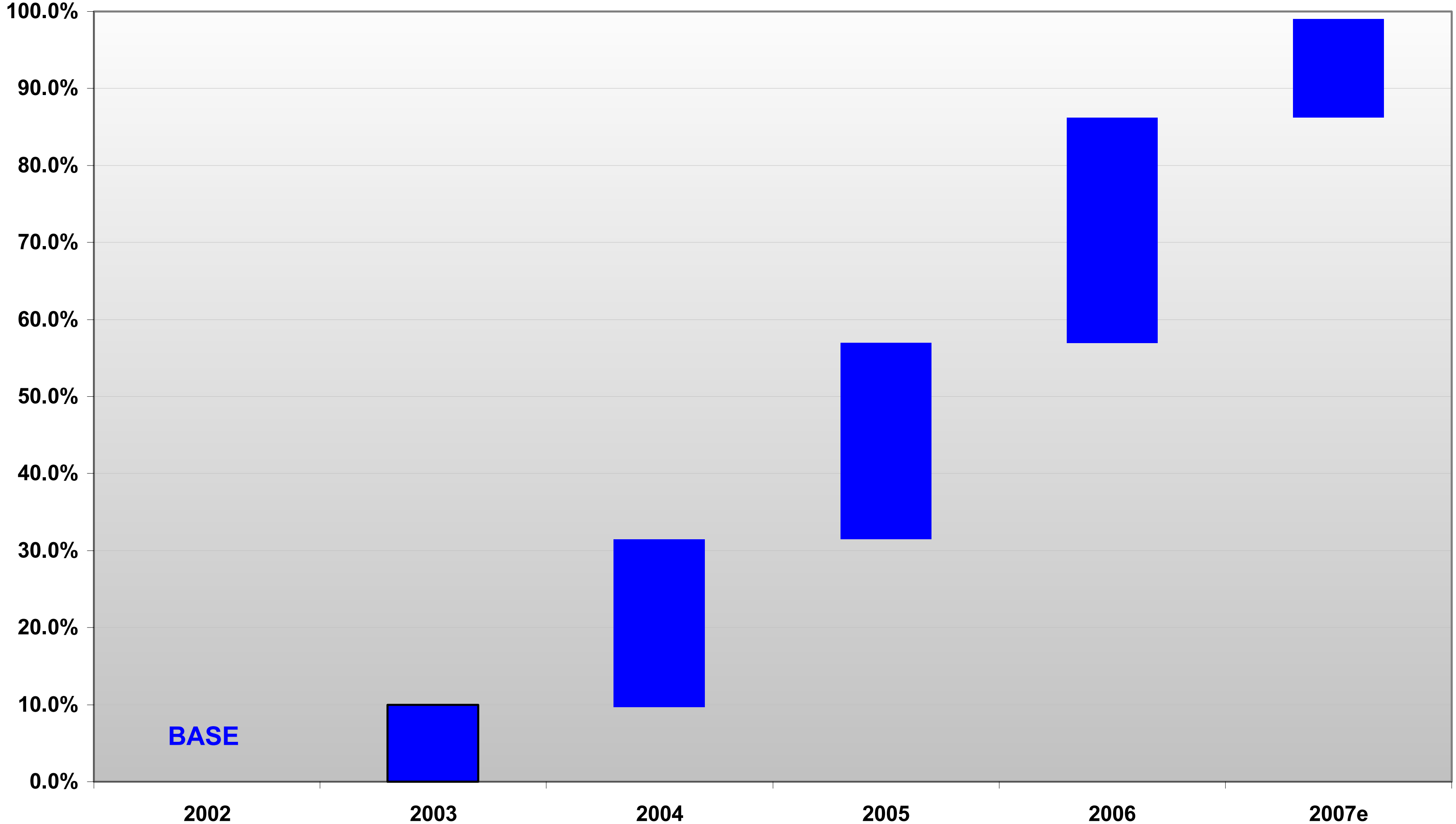
(ORIGINALMENTE ANUNCIADO V/S REVISADO EN MMUSD)



Fuente: CRU, AMSA

OPEX

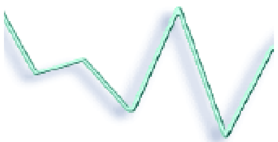
COSTO OPERATIVO DE MINA
EN LA INDUSTRIA MINERA DEL COBRE



Fuente: BH, AMSA

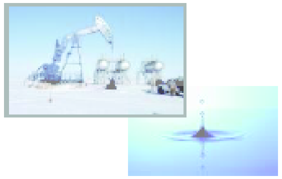
GRANDES TENDENCIAS

1. ***Volatility and cyclicality***



Increasing pressure to generate good financial results regardless of the cycle. Need to manage cyclicality and volatility.

2. ***Key Supplies' scarcity***

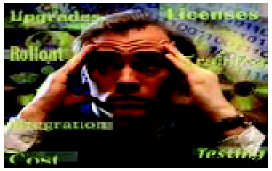


Demand for raw materials for mining is increasing pushing up costs for particular materials (e.g. energy, water, tires).

3. ***Shift in mining geographic distribution***

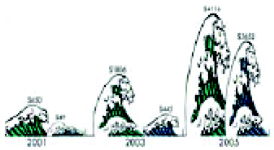
Shift in world reserves share from western world to eastern world. Increasing exploration and development in Africa and Middle East.

4. ***War for talent***



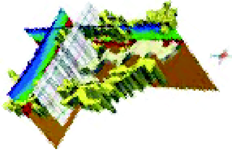
Engineering staff shortage worldwide. Tendency of Gen X to have more careers/jobs in a lifetime. Dealing with HR across different geographies.

5. ***Consolidation and the wave of M&A***



Increasing M&A activity. Main players are becoming larger (although they may not increase their share in certain markets or metals).

6. ***Innovation in technology***



Increasing innovation in mining technology.

7. ***Increasing environmental pressures***

Increasing pressure from governments on environmental regulation and site selection.

Fuente: AMSA

GRACIAS

ANTOFAGASTA MINERALS

TETHYAN COPPER COMPANY LIMITED

MINERA MICHILLA S.A.

ESPERANZA

EL TESORO

MINERA LOS PELAMBRES

RESPALDOS

CONSOLIDACION DE LA INDUSTRIA

Acuerdos Mineros	2005	2006	2007
Número de Acuerdos	762	1,026	1,732
Valor de Acuerdos (US$ Millones de millones)	69,8	133,9	158,9

Fuente: PriceWaterhouseCoopers, AMSA

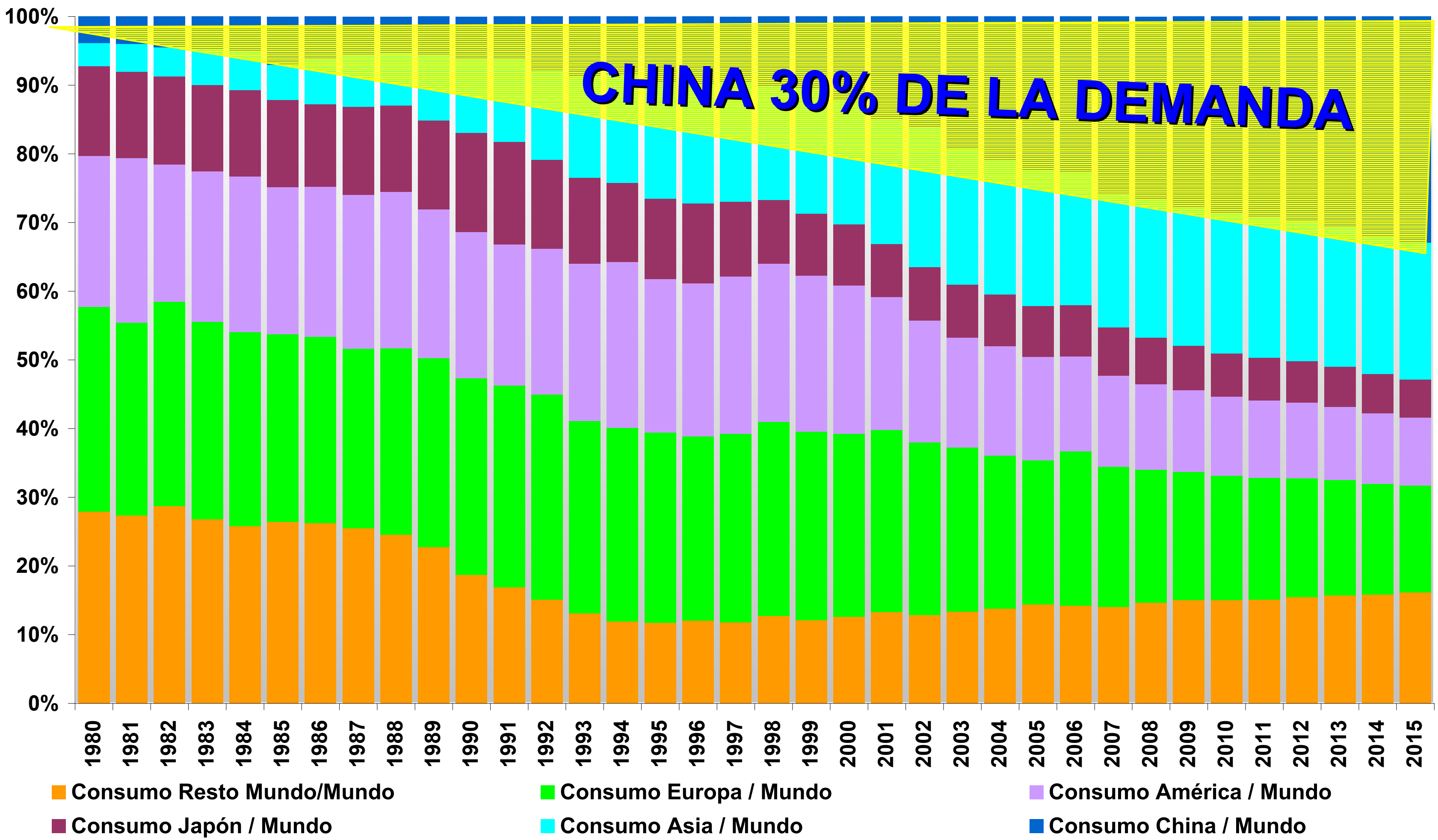
CONSOLIDACION DE LA INDUSTRIA

Year	Value US$bn	Buyer	Seller
2006	25.8	Freeport	Phelps Dodge
2006/2007	15.8	CVRD	INCO
Feb 2007	2.7	BHP Billiton Ltd & plc	BHP Billiton Ltd & plc (4.03%)
May 2007	5.4	Norilsk Nickel OAO	LionOre Mining Int.
Jul 2007	42.9	Rio Tinto plc	Alcan Inc
Jul 2007	3.9	Teck Cominco Ltd	Aur Resources Inc
Oct 2007	2.9	Xstrata plc	Jubilee Mines NL
Oct 2007	2.6	Market Purchase	AngloGold Ashanti (22%)
Nov 2007	13.2	UC Rusal	Norilsk Nickel OAO (25%)

Source: PriceWaterhouseCoopers, AMSA

CHINA
EL MAYOR CONSUMIDOR DE COBRE

PROPORCION DE LA DEMANDA APARENTE MUNDIAL DE COBRE REFINADO
('000 TM)



Fuente: BH, AMSA

BALANCE

Fuente: BH, CRU, A.Gonzalez, AMSA

S U S T I T U C I Ó N

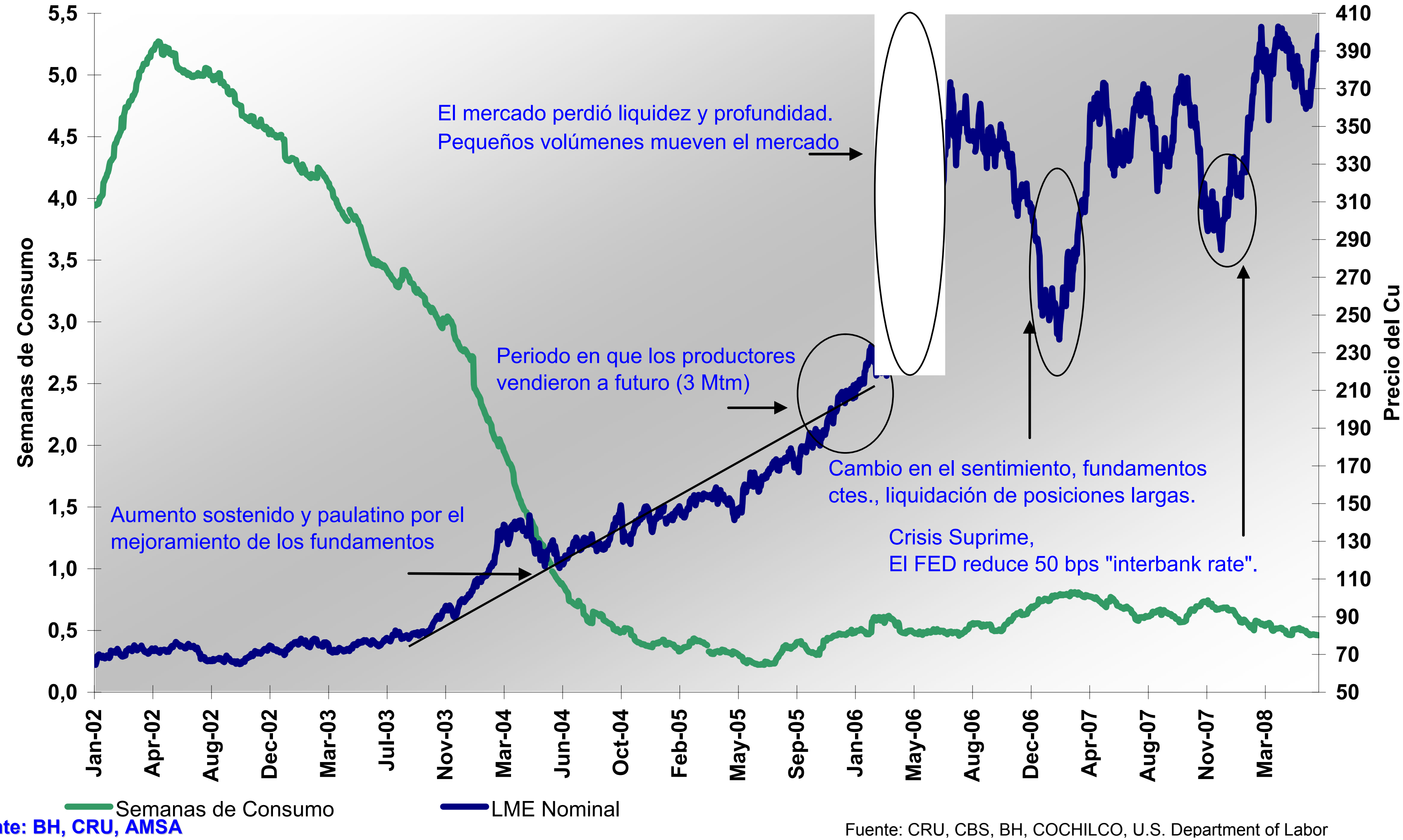
Product	Refined demand	Substitution	Energy efficiency	Key trends
Building wire	■	●	●	Limited threat from aluminium and copper clad aluminium
Other LV cables	■	●	●	
Auto wiring harness	▣	↓	●	Substitution by aluminium
Utility power cables	▣	↘	●	Some risk of substitution by aluminium, copper clad aluminium, superconductors
Industrial power cables	▣	↘	●	
Telecom cables	▣	↓	●	Extensive substitution by fibre optics & wireless
LAN cables	▣	↘	●	
Electronic wire & cable	▪	●	↗	
Magnet wire	▣	↘	↗	Risk of substitution by aluminium, but energy efficiency considerations likely to favour copper
Winding strip	▣	↘	↗	
Alloy rod & bar	·	↘	●	Some risk of substitution by other materials
Alloy wire	▪	↘	↗	
Plumbing tube	▣	↓	●	Strong substitution by plastic, plastic aluminium composites
Commercial tube	■	●	↗	Higher demand, but some risk of substitution by aluminium, new technologies
Alloy tube	▪	●	●	Substitution by stainless steel, titanium
Electronic SSF	■	●	↗	Increased number of electronic devices, but may suffer from economisation
Coinage strip	·	↘	●	Move to cashless systems
Ammunition strip	·	↘	●	Substitution by plastics, new technology
Heat exchanger strip	▪	↓	↗	Substitution by aluminium
Roofing/guttering strip	·	↓	●	Some substitution by other metals, plastics
Copper rod & bar	▣	↘	●	Limited substitution from aluminium
Others	■	●	↗	Increased use of copper for health applications

ANTOFAGASTA MINERALS

AÑO 2003
EL COMIENZO DEL UNA NUEVA HISTORIA

PRECIO DEL COBRE NOMINAL v/s INVENTARIO MEDIDO EN SEMANAS DE CONSUMO

2002 a la fecha

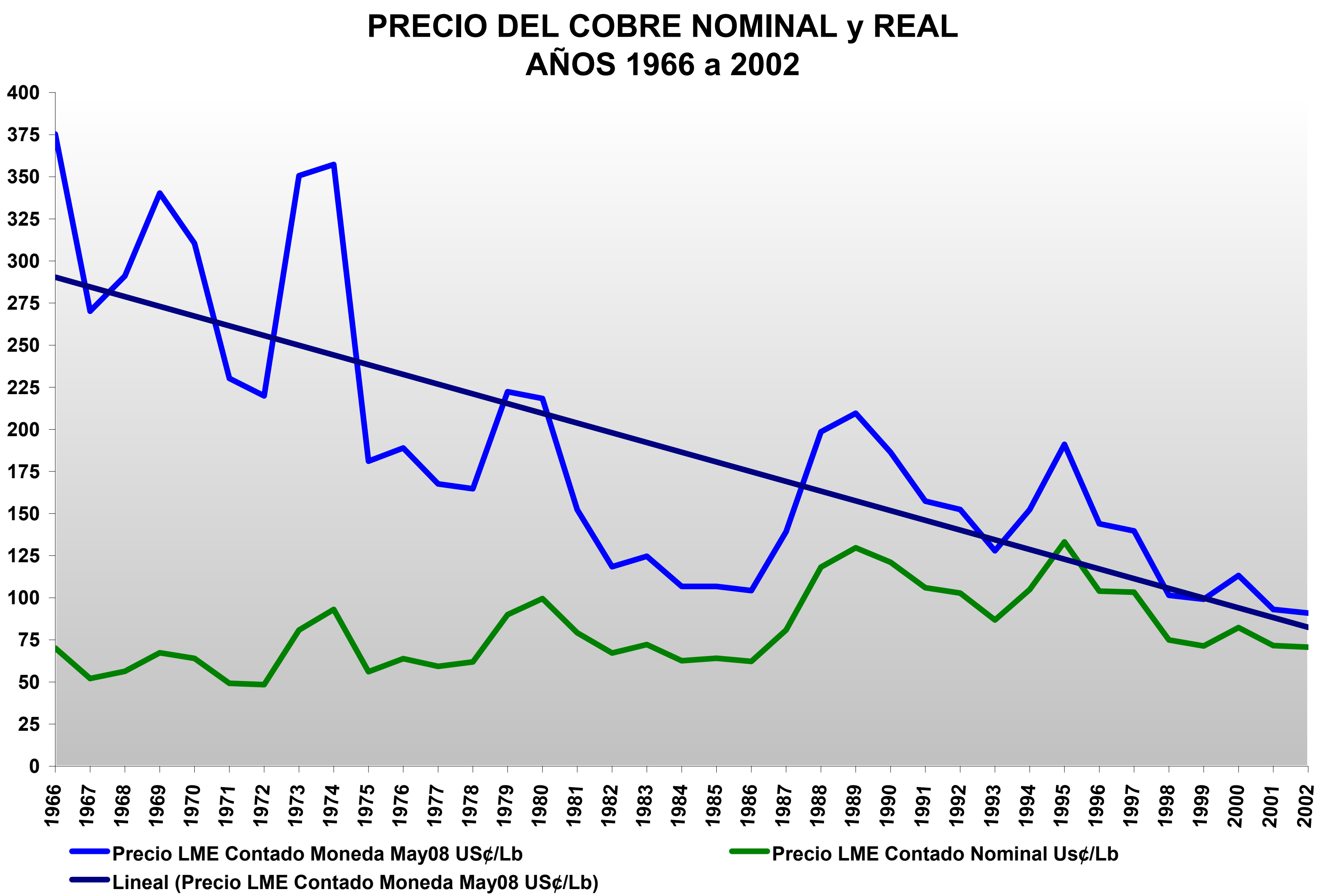


Fuente: BH, CRU, AMSA

Fuente: CRU, CBS, BH, COCHILCO, U.S. Department of Labor

AÑOS 1966 AL 2002
UNA HISTORIA DE PERDIDA DE VALOR

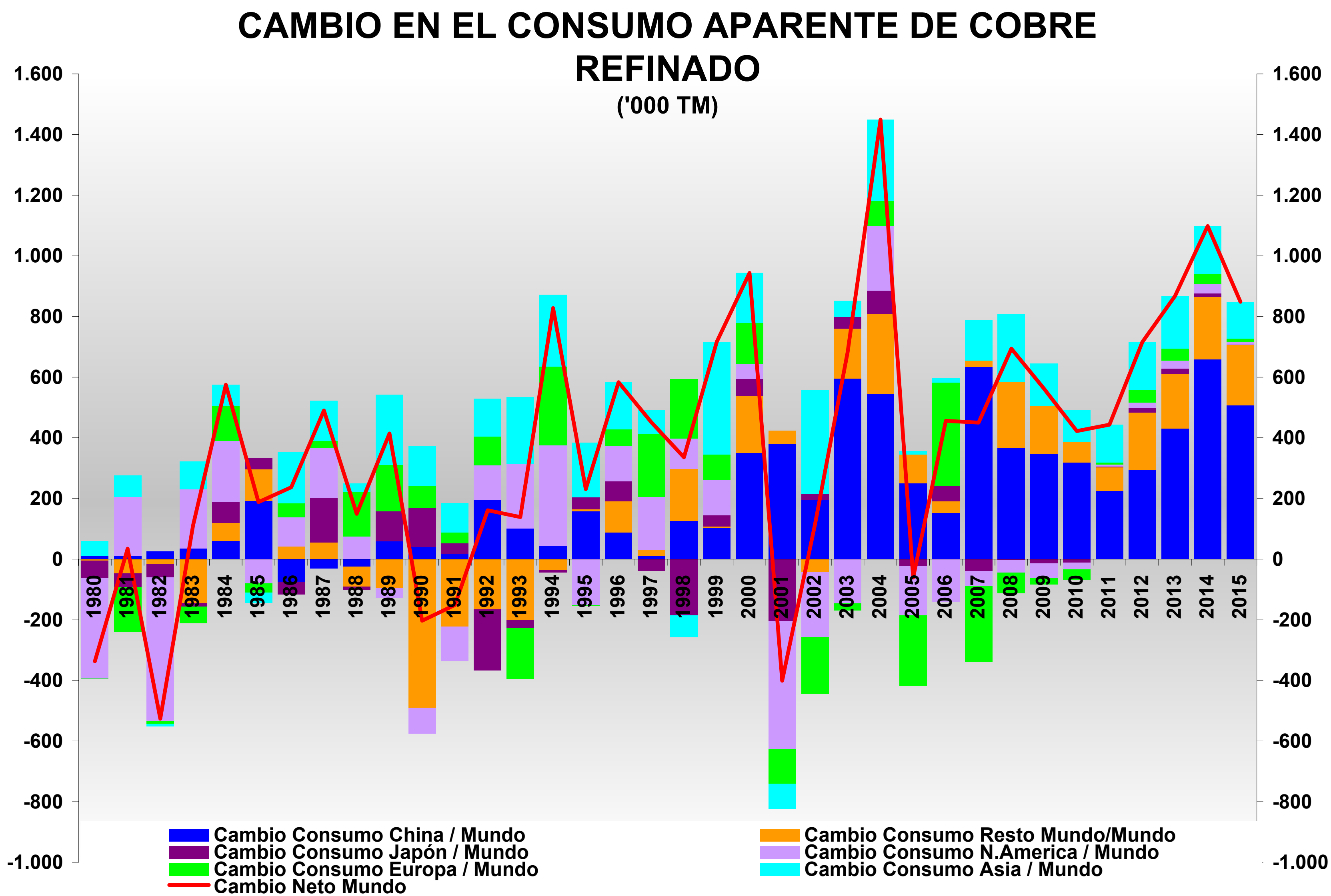
ANTOFAGASTA MINERALS



Fuente: BH, CRU, A.Gonzalez, AMSA

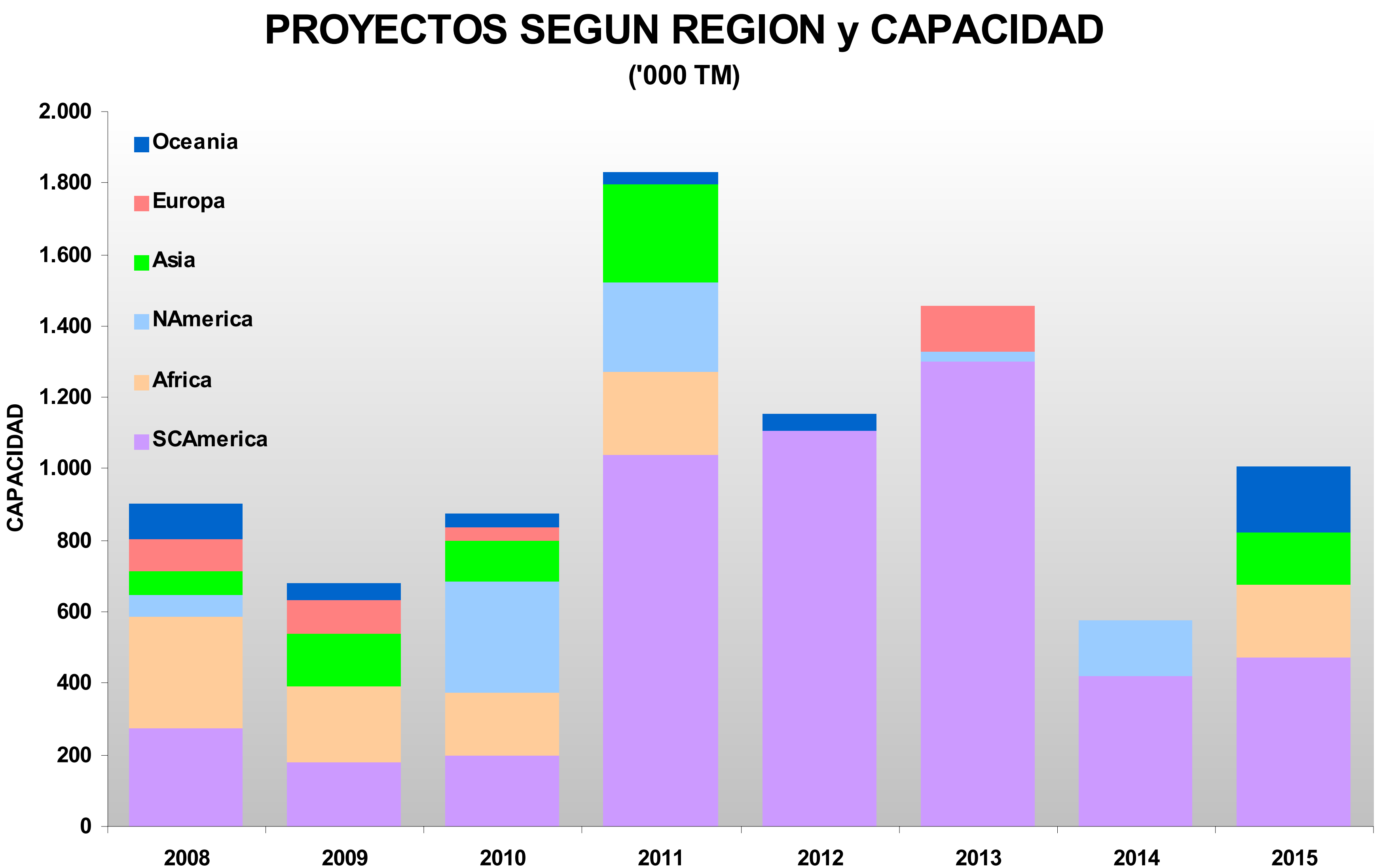
CHINA
IMPORTANTE EN EL CAMBIO DE LA DEMANDA

ANTOFAGASTA MINERALS



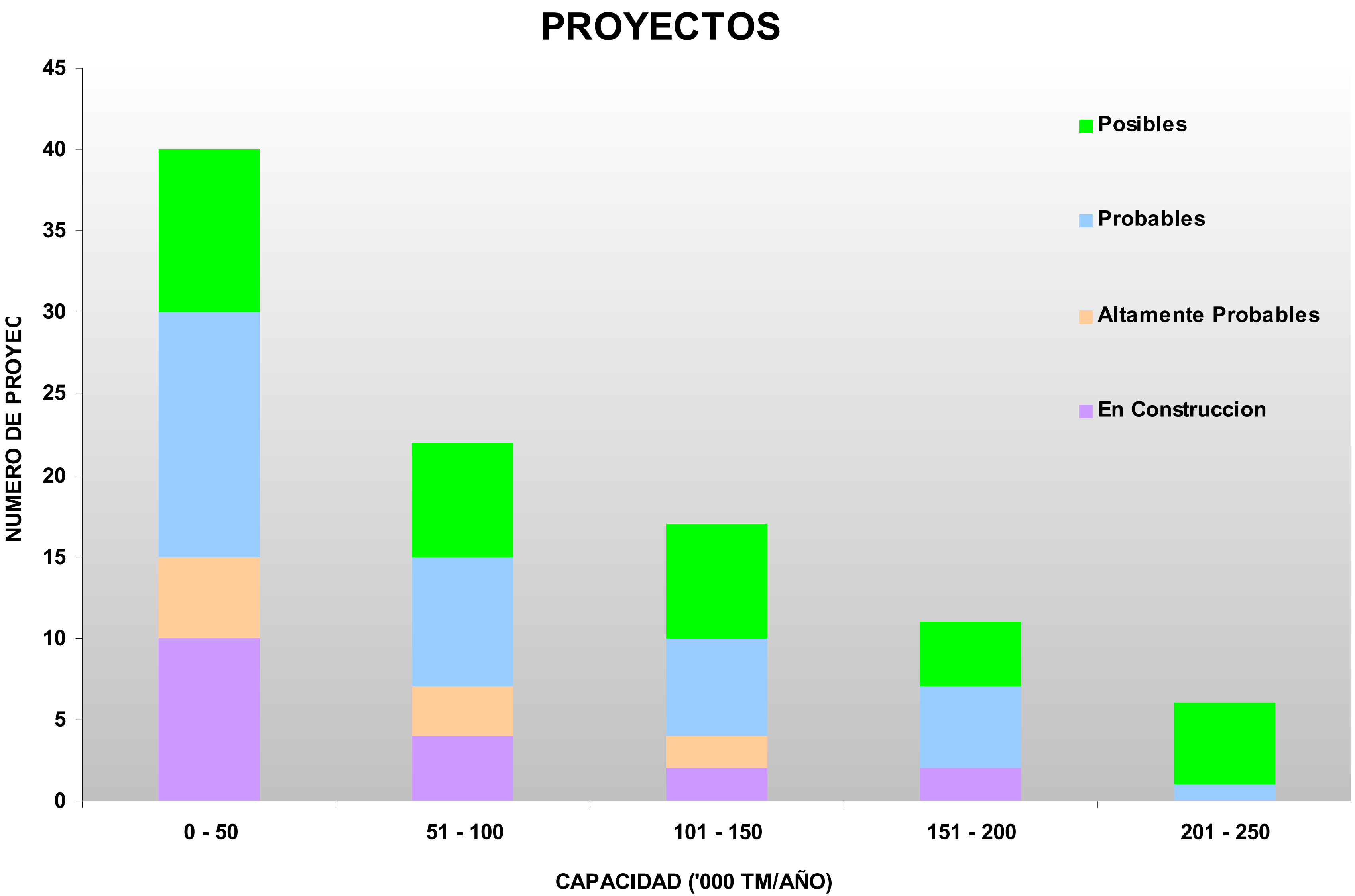
Fuente: BH, CRU, A.Gonzalez, AMSA

PROYECTOS AÑOS 2008 AL 2015



Fuente: BH, CRU, A.Gonzalez, AMSA

PROYECTOS AÑOS 2008 AL 2015



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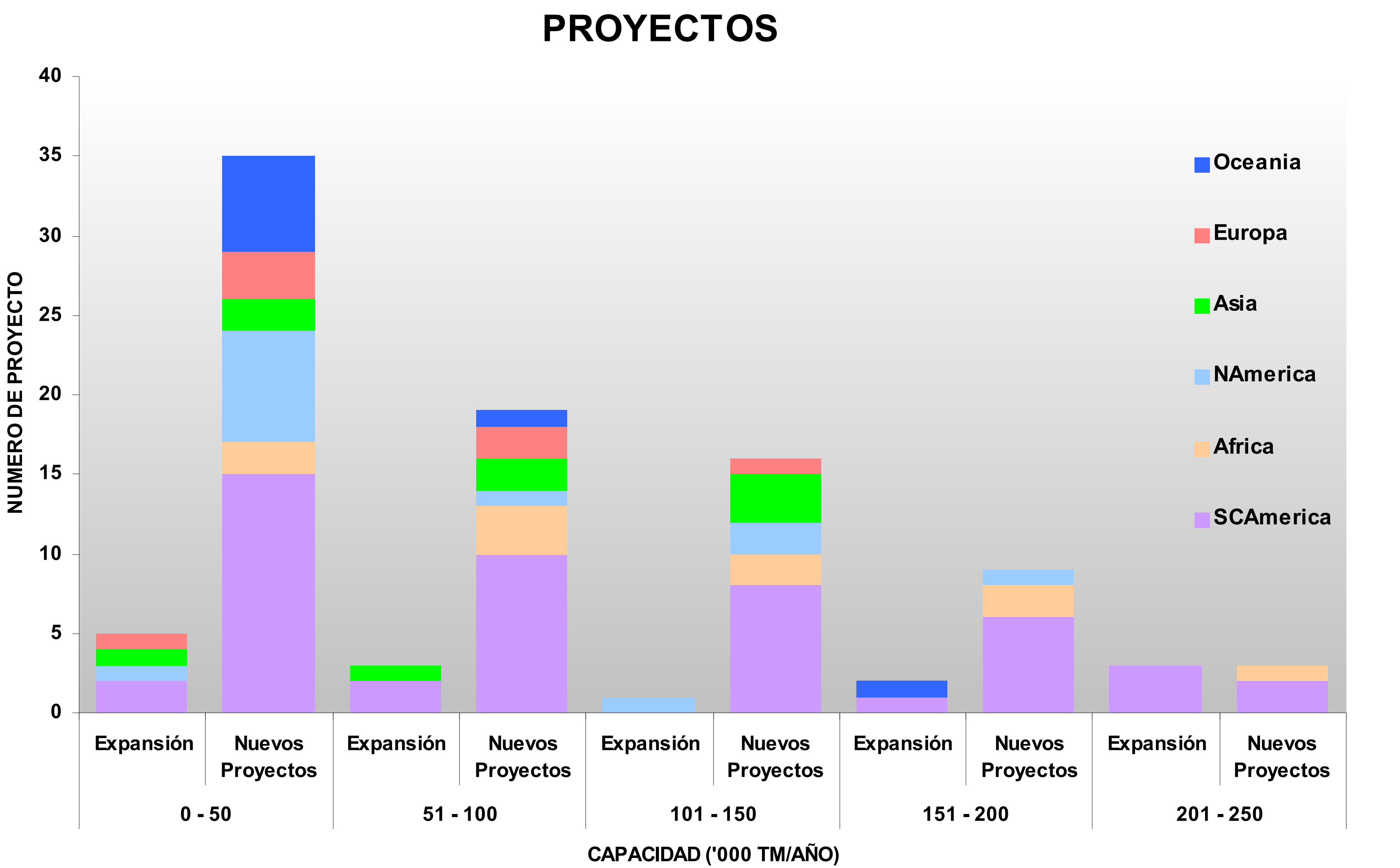
PROYECTOS AÑOS 2008 AL 2015



Fuente: BH, CRU, A.Gonzalez, AMSA

PRECIOS

ANTOFAGASTA MINERALS

PROYECCIONES DEL PRECIO DEL COBRE (Usc/lb)

Analista	Fecha	2008	2009	2010	2011	Largo Plazo
Barclays Capital	Jun-08	378	372	340	317	225
Bloomsbury	Jul-08	362	345	364		
Brook Hunt	Jun-08	350	290	225	160	160
CRU (Quarterly)	Jul-08	370	318	205	195	192
Cazenove	Jul-08	350	350	300		
Citigroup	Jul-08	384	500	550	400	160
Cochilco	Jul-08	370	340			
Desjardins Securities	Jul-08	350	400			200
Deutsche Bank	Jun-08	376	366	310	275	200
Goldman Sachs	Jul-08	385	430	373	317	170
Goldman Sachs / JB Were	May-08	363	375	360	360	203
HSBC	Ago-08	364	321	264	226	160
JP Morgan	May-08	372	297	216		169
Lehman Brothers	Jun-08	363	386	340	318	
Macquarie	May-08	360	315	285	233	200
Merril Lynch	Jun-08	360	379	328	250	155
Morgan Stanley	Jun-08	380	410	375	325	200
Reuters Mean 44 Analyst	Jul-08	366	351			
Societe Generale	Jun-08	358	340			160
Standard Bank	Jul-08	360	331	322		
UBS	May-08	350	400	450		175
PROMEDIO		365	363	330	281	182
MAXIMO		385	500	550	400	225
MINIMO		350	290	205	160	155

Fuente: BH, CRU, A.Gonzalez, AMSA

BALANCE DE MERCADO

ANTOFAGASTA MINERALS

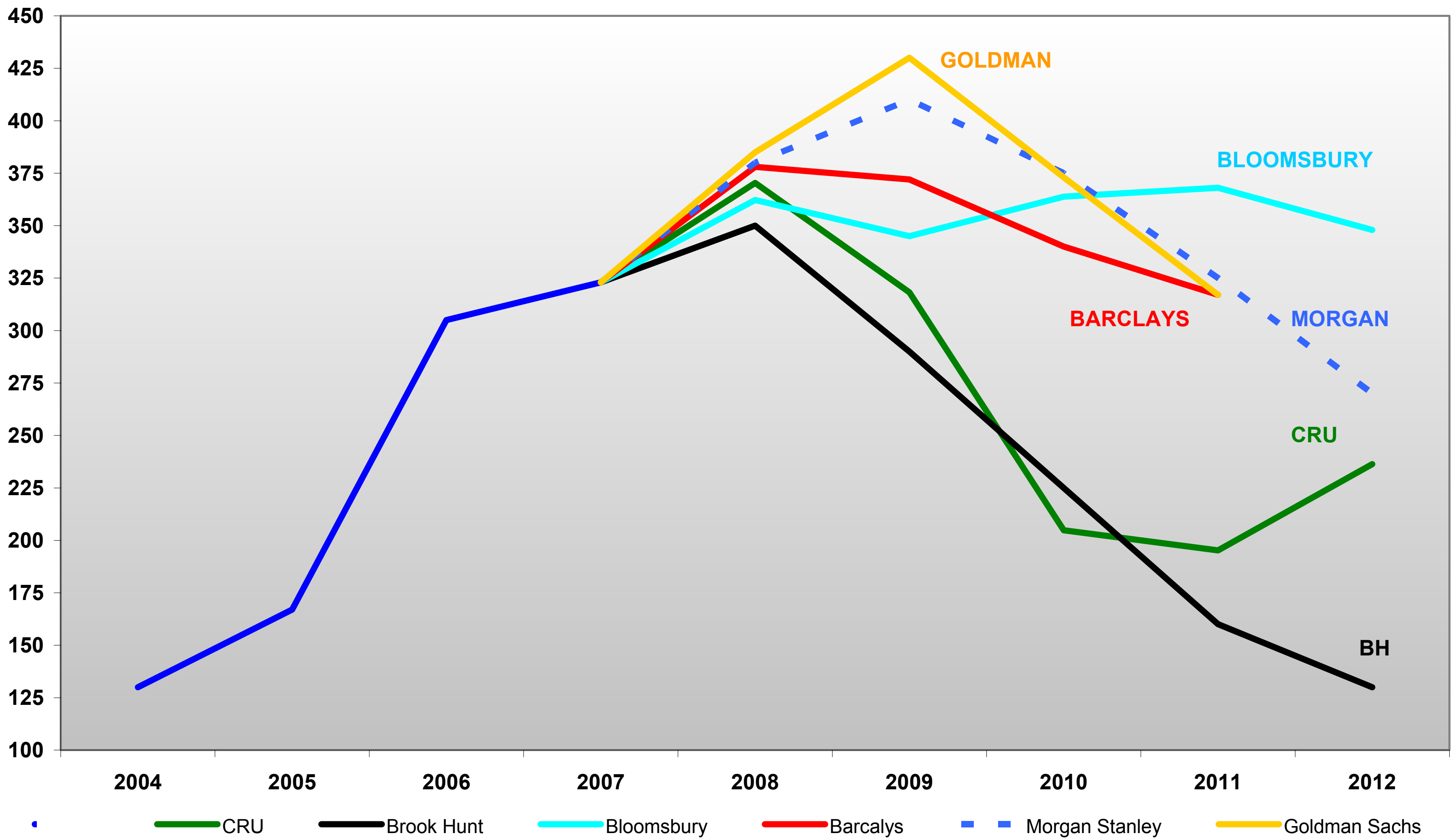
BALANCE DE COBRE REFINADO (Miles ton. Cobre Fino)

Analista	Fecha	2004	2005	2006	2007	2008	2009	2010	2011
Brook Hunt	Jun-08	-1.095	-374	-140	230	308	494	748	501
Bloomsbury	Jul-08	-1.067	-406	-201	-84	-60	396	-59	-85
CRU	Jul-08	-840	-276	-66	-57	-154	328	607	101
Barclays Capital	Jun-08	-814		-175	-32	-138	-147		
Codelco	Ene-08			168	-72	127	213	285	186
Citigroup	Jul-08	-803	-147	340	167	-42	-17	-120	-31
Deutsche Bank	Jun-08		-440	-130	110	-110	180	490	
Desjardins Securities	Jul-08			-60	-24	-50	-50		
Goldman Sachs	May-08	-838	-356	-109	172	15	30	54	
HSBC	Jun-08	-852	-248	-130	-82	-184	180	233	218
ICSG	May-08	-912	-131	295	-37	85	430		
IWCC	May-08	-797	-107	-15	191	97	441		
Lehman Brothers	Jun-08			-228	122	-112	19	362	615
Macquarie	Abr-08	-950	20	173	32	-36	89	207	199
Merril Lynch	Mar-08			-127	38	-197	-146	-32	101
Morgan Stanley	Jun-08	-1.026	-417	-83	55	-193	-43	-9	15
RBC Capital	Mar-08	-891	-247	-133	-9	290	395	361	110
Societe Generale	Jun-08	-1.040	-330	-180	20	0	100		
Standard Bank	Jul-08	-990	-93	84	-21	20	175		
UBS	Abr-08	-900	-300	-300	-100	-100	-100	200	
PROMEDIO		-921	-257	-51	31	-22	148	238	175
MAXIMO		-797	20	340	230	308	494	748	615
MINIMO		-1.095	-440	-300	-100	-197	-147	-120	-85

Fuente: AMSA

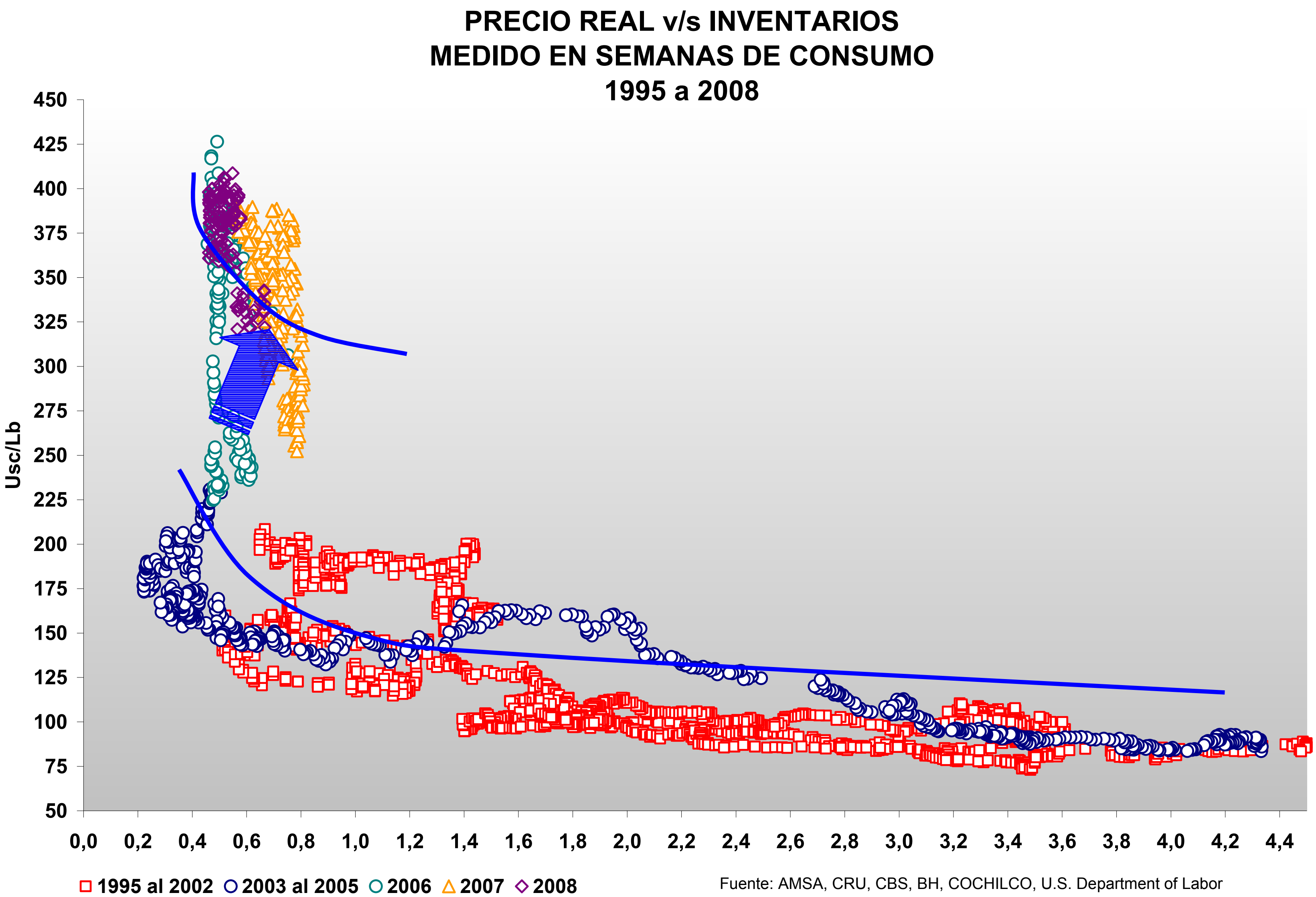
PRECIOS

PROYECCIONES DE PRECIO DE DISTINTOS ANALISTAS
(Usc/lb)



Fuente: BH, CRU, A.Gonzalez, AMSA

BALANCE OFERTA y DEMANDA DE COBRE



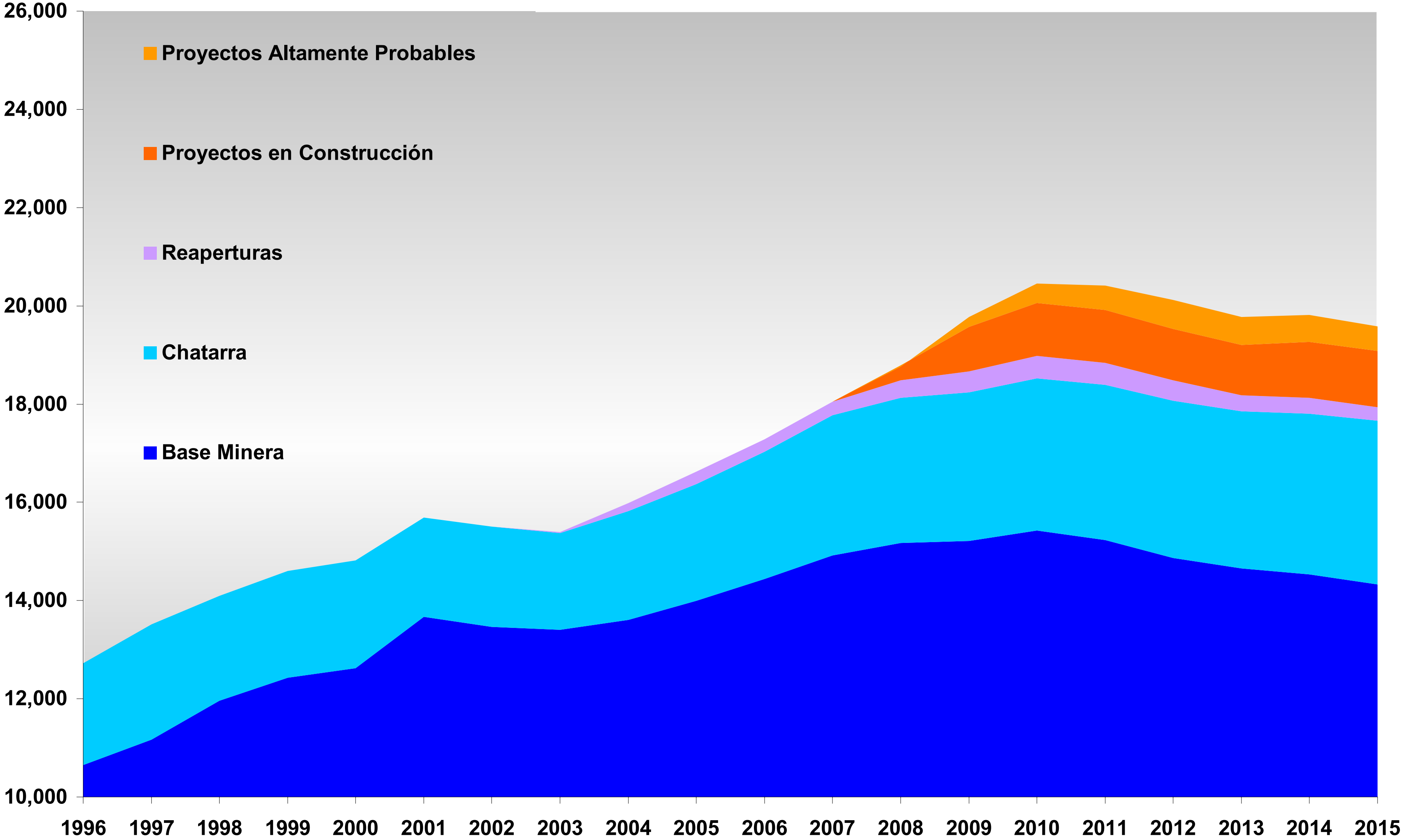
Fuente: BH, CRU, A.Gonzalez, AMSA

LA OFERTA DE COBRE

ANTOFAGASTA MINERALS

OFERTA MUNDIAL DE COBRE REFINADO

(´000 TM)



Fuente: BH, CRU, A.Gonzalez, AMSA

EL TESORO

ANTOFAGASTA MINERALS

ESPERANZA

MINERA LOS PELAMBRES

MINERA MICHILLA S.A.

ANTOFAGASTA MINERALS
ESPERANZA
EL TESORO
EL TESORO
MINERA LOS PELAMBRES
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