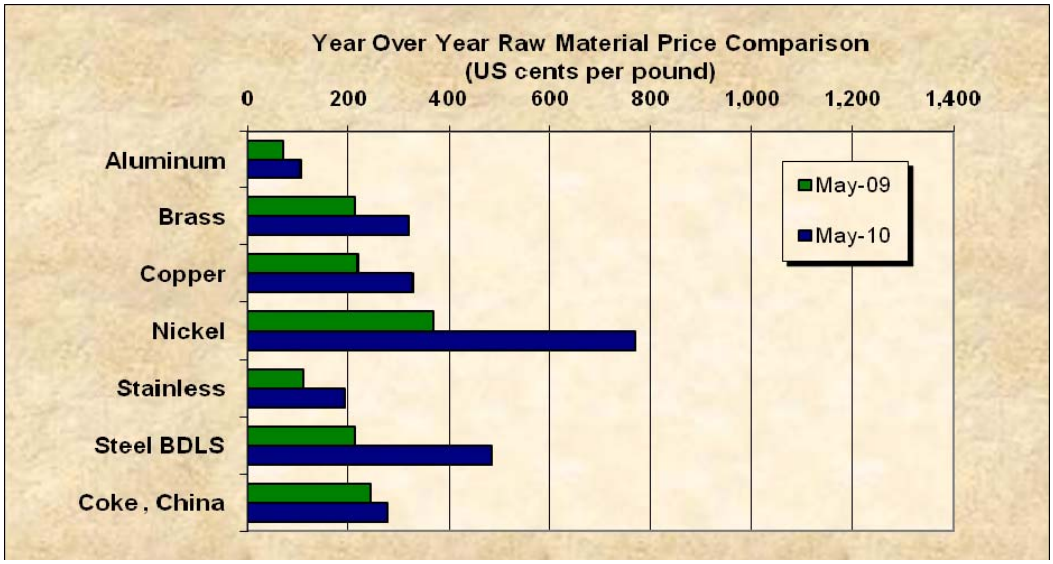
Material Impacts
On The Precision Machining Industry

June 2010

Holding Pattern!

Executive Summary



Quick Summary: The prices of all raw materials that we track rose as follows over the past year:

Aluminum: Up 48% from May 2009.
Brass: Up 49% from May 2009.
Copper: Up 49% from May 2009.
Nickel: Up 108% from May 2009.
Stainless: Up 75% from May 2009.
Steel, Busheling: Up 125% from May 2009.
China Coke, Up 13% from May 2009.

They may not call it **inflation**- YET. But all of the crucial raw materials we track are up- double and triple digit percentages. In addition to the fundamentals in our local markets, there are global issues that add more risk and thus price variability to our industry's raw materials. The issue of knowing where to find material remains just as important as price in the current market.

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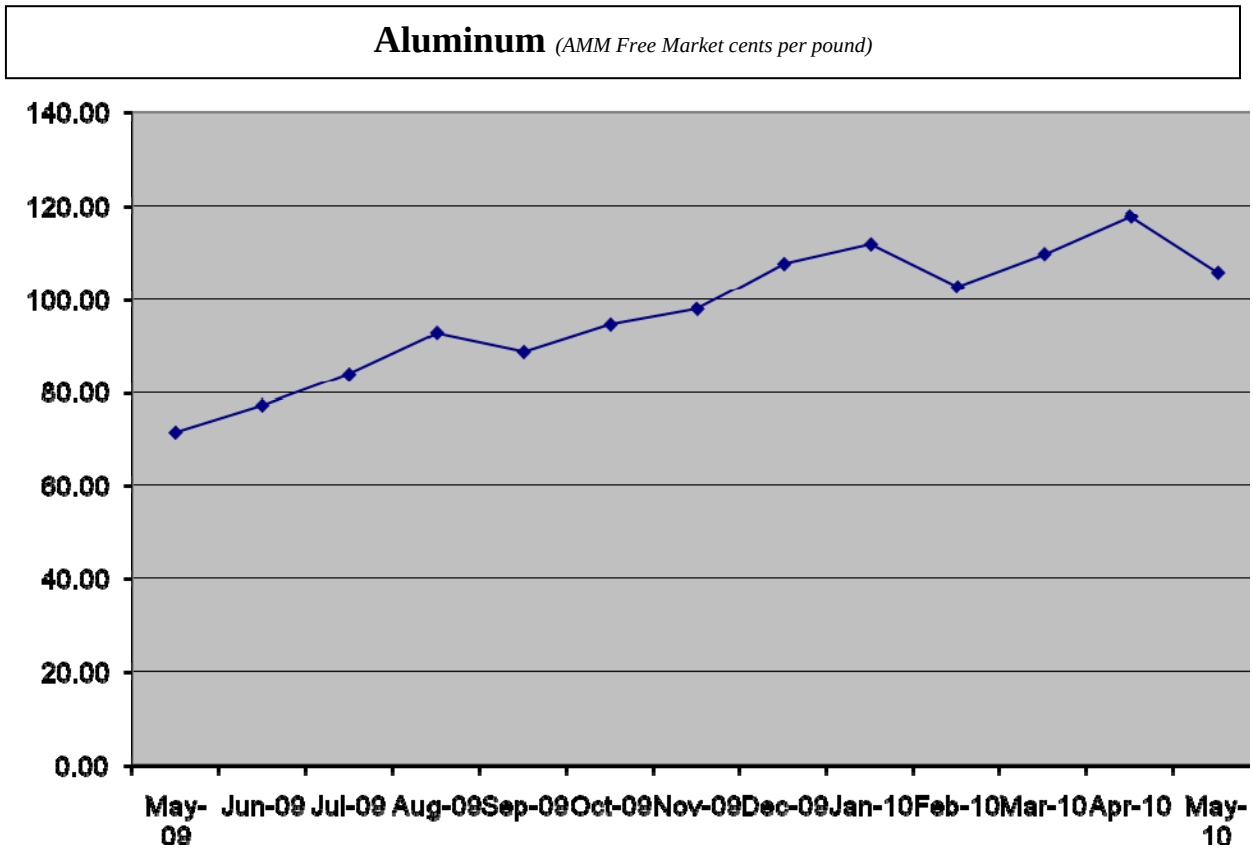


Due to delisting of Aluminum from Comex last fall, we are now tracking the AMM Free market indicator.

Aluminum is down 5.32% from January, but up 48% since May 2009.

May shipments of aluminum products from U.S. service centers totaled 97,000 tons, the third straight month of decline but 18.3% above year-ago volume. U.S. aluminum shipments for the first five months of the year total 492,300 tons, or 13.2% more than during the same period in 2009. U.S. aluminum inventories at the end of May of 280,400 tons were 0.7% lower than at the end of May last year and, at current shipping rates, represented a 2.9-month supply.

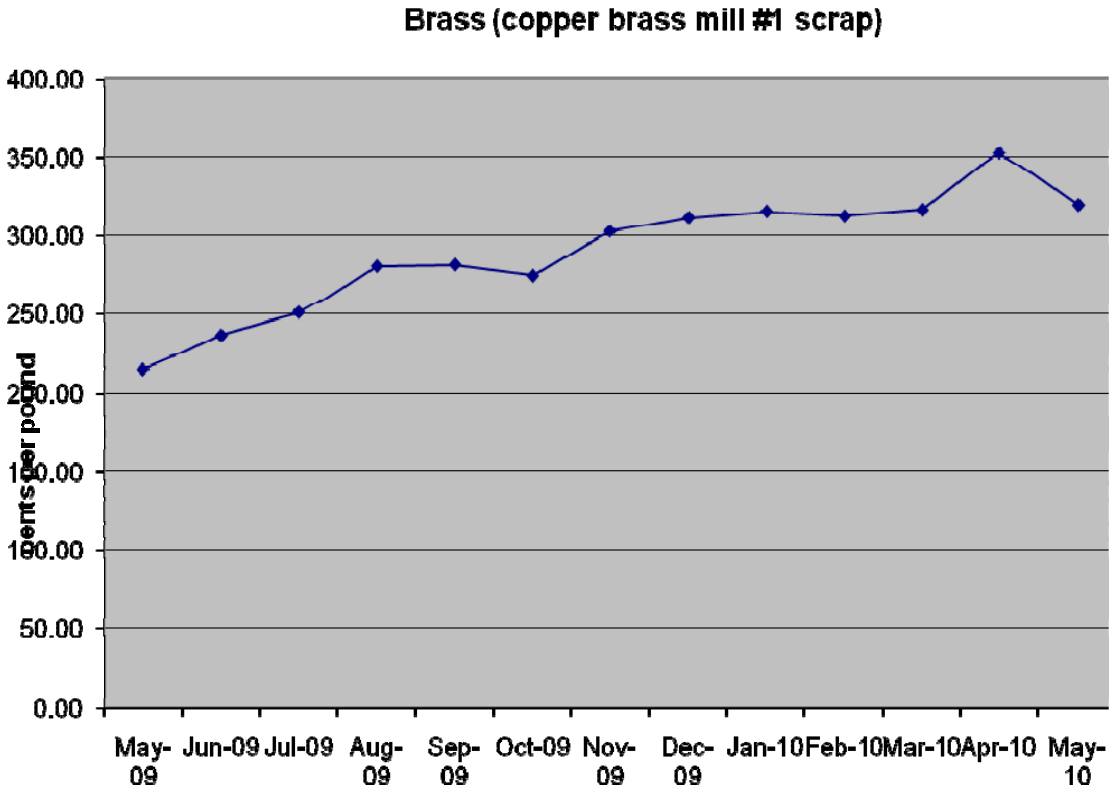
Canadian metals service center shipped 11,200 tons of aluminum products in May, or 11.6% more than in May 2009. Shipments for the year to date of 56,000 tons are up 3.9% from the same period last year. Inventories at the end of May of 32,800 tons of aluminum products were 6.0% above those at the end of the month last year and, at current shipping rates, equal to a 2.9-month supply.

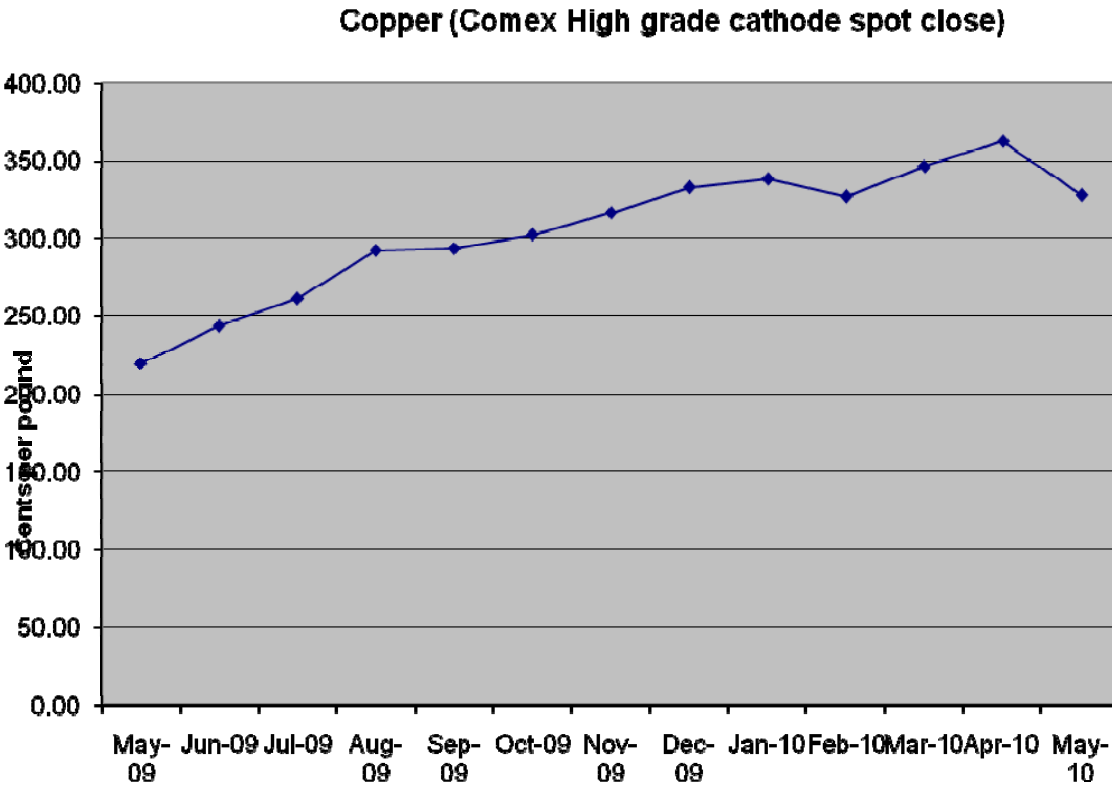
Source: http://msci.org/news/details.aspx?ArticleID=163

Commentary: We believe that aluminum prices will move with energy prices, which we do not believe are declining.

Average price in 2009: $.83 per pound

Copper and Brass *(cents per pound Comex Cathode and cents per pound copper brass mill number 1)*





Copper and Brass (cont'd)

Price increase announced effective Thursday June 17th, 2010 metal selling price for brass mill products increase 10 cents as will scrap value price. The Freight Fuel Surcharge increased April 7, 2010 to 30% up 3% from 27% over the standard freight rate.

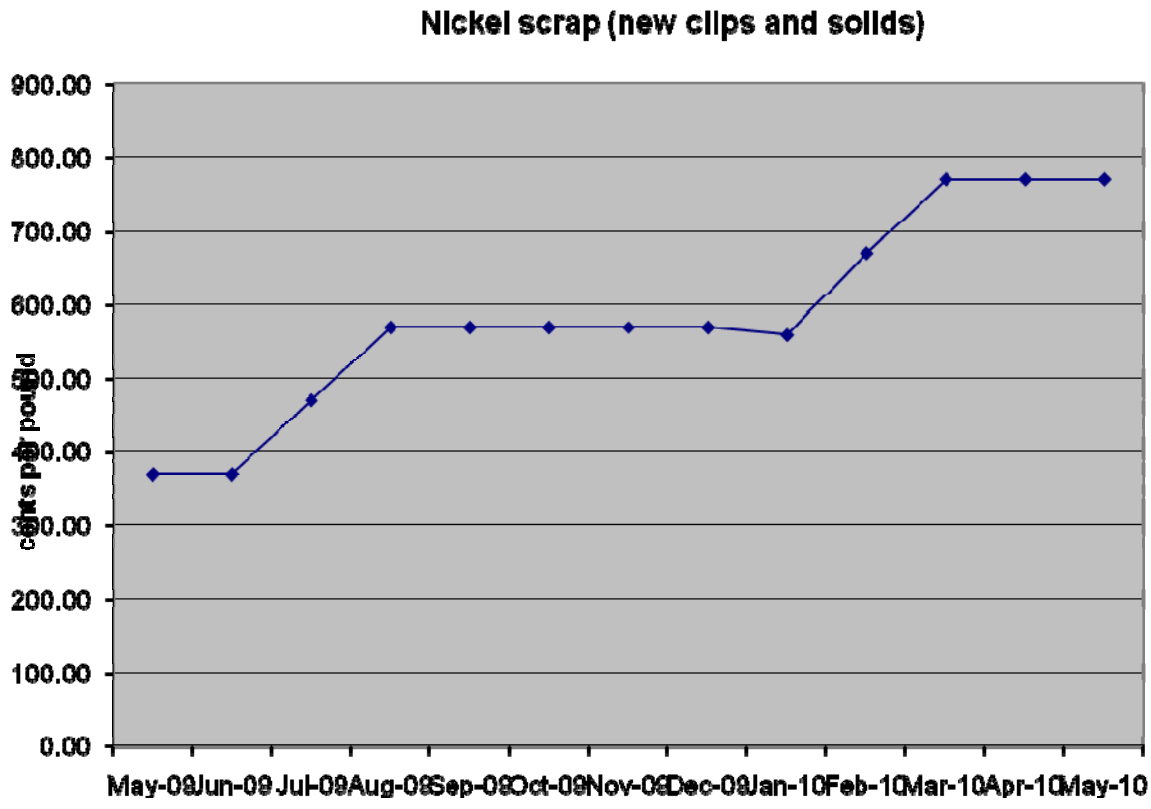
Role of inventory on price: https://www.chasebrass.com/company/index_surcharge.jsp

Brass scrap up 48.84% since May 2009. Copper 49.19% increase May 2009-May 2010.

Our sensemaking on copper and brass is that these metals "have a Ph.D in economics." As the ~~economy~~ Chinese economy as well as our own goes up, so does demand for these metals. In addition, the ~~investment~~ speculative community typically runs copper tags up in the market based on their expectations. Strong jobs reports and production orders are sending speculators signals that copper will rise. Globally- Chinese manufacturing output rose 16.5% over May a year ago. China is still importing copper, and has imported over 1.5 million tonnes in the first 4 months of 2010.

Average price in 2008 *(cents per pound)*: **338.99 per pound**
Average price in 2009 *(cents per pound)*: **248.98 per pound**

Nickel *(cents per pound, New Clips and Solids Chicago)*



Nickel up 37.5% since January and 108.11 % since May 2009.

Nickel cont'd

Nickel is currently trading at l double the level of last May. DOUBLE. So how do you intelligently manage risk when a move in either direction can clobber you? *In this pricing situation watch surcharges and inventory builds very carefully.*

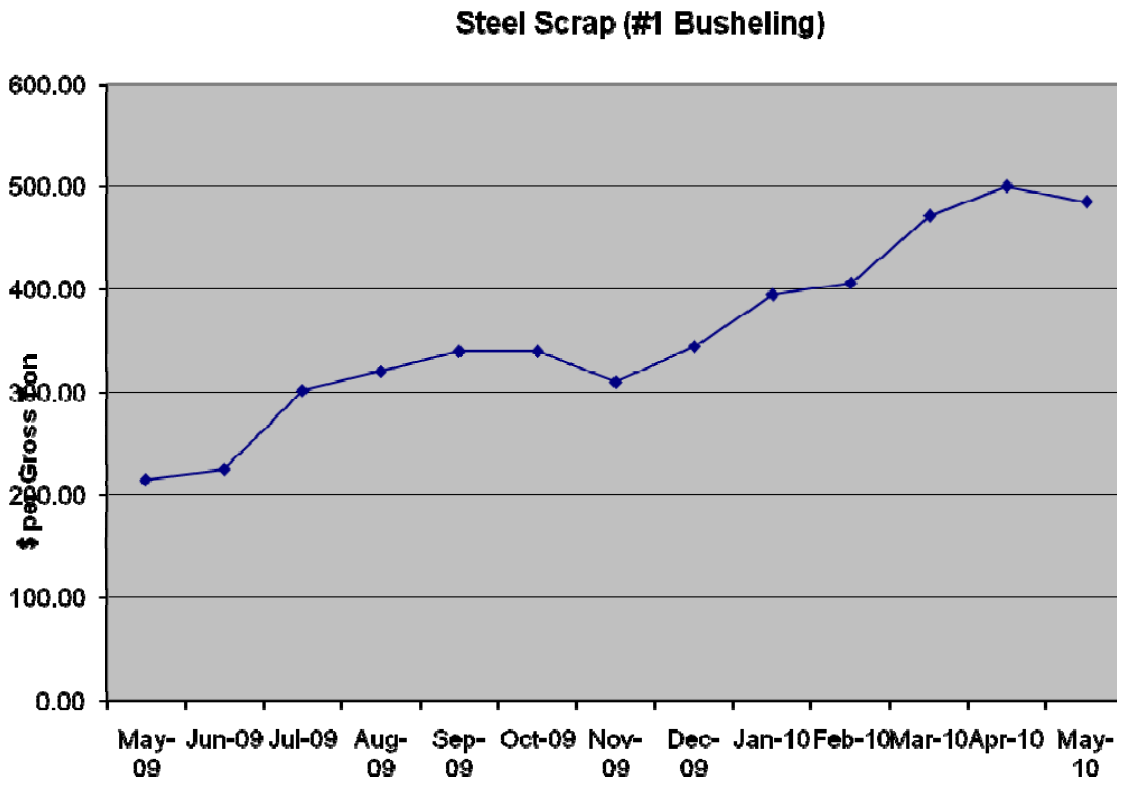
Average price in 2009: $4.82 per pound

Stainless

Stainless Surcharges: Schmolz + Bickenbach USA *Stainless 303 per pound* ***Raw Materials Surcharges****- January $0.67; February $0.70; March $0.82; April $0.89. May $0.98; June $1.14; These are calculated on a two month lag.*

We are seeing an increasing number of requests for assistance from shops trying to find various stainless steel bar items for machining in today's no-inventory environment. Spot purchases have been reported to be *highly variable* in terms of machinability. (Nickel is a key component of many steel alloy systems, especially stainless.)

Steel *(dollars per gross ton, Number 1 Busheling composite, Chicago, Cleveland, and Pittsburgh)*



Surcharges					
	Scrap	Manganese	Alloy 41XX	Alloy 43XX	Alloy 86XX
January	$11.60	$0.42	$2.37	$11.47	$4.77
February	$13.60	$0.36	$2.44	$12.98	$5.26
March	$14.15	$0.35	$3.10	$14.01	$5.96
April	$15.50	$ 0.13	$3.78	$17.27	$7.27
May	$18.75	$0.46	$4.24	$20.31	$8.49
June	$15.50	$0.21	$4.41	$22.73	$9.26

Steel busheling up 126% since May 2009, 23% since January. Holding relatively level for the current time.

May Chinese Exports Hit New High. China is once again the world's largest steel exporter with net exports up nearly 400% in May to 4.98 million tonnes, the largest export month since September 2008. Sensemaking: Chinese steel exports in May 2010 were actually higher than China's steel exports for the entire second quarter of 2009.

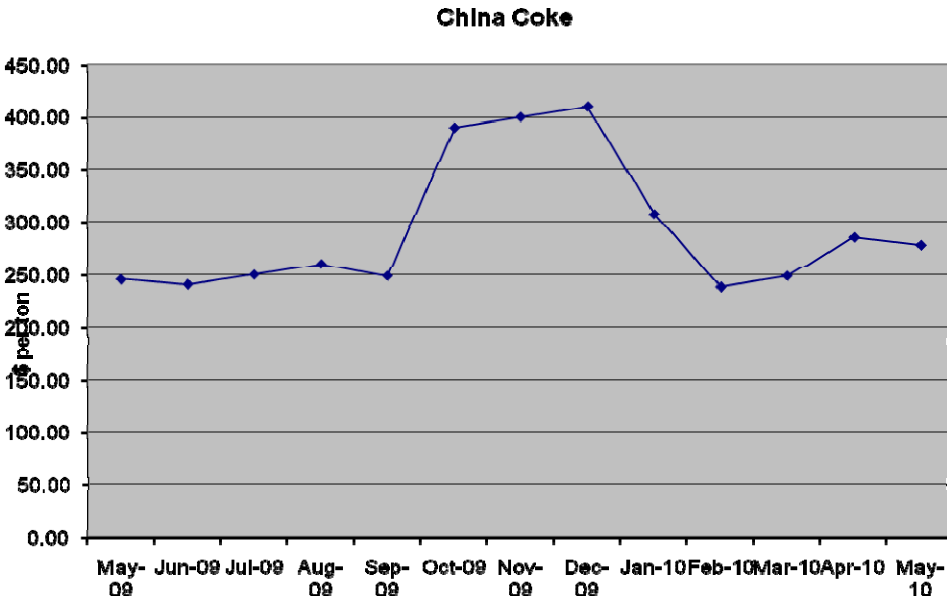
As China must import high cost raw materials, add energy, labor and use inefficient production methods to produce before transporting to the West for Export, the Chinese are, to quote Steel Analyst Michelle Applebaum "***Turning Gold into Straw.***"

Shipments of steel products from U.S. metals service centers totaled 2.92 million tons in May, a rise of 29.4% from May 2009 shipments. Shipments for the year to date of about 14.4 million tons were 16.7% above those during the first five months of last year. Steel inventories at the end of May totaled about 7.0 million tons, 7.8% higher than a year ago and, at current shipping rates, equal to a 2.4-month supply.

In Canada, May shipments of steel products totaled 463,000 tons in May, a 23.3% increase from May 2009. Year-to-date shipments total 2.36 million tons, or 14.4% more than during the same period last year. Month-end steel product inventories totaled 1.39 million tons, or 23.9% more than a year ago. At current shipping rates, inventories were equal to a 3.0-month supply. Source: http://msci.org/news/details.aspx?ArticleID=163

Average price in 2009: $276.66 per gross ton

China Coke (Chinese) ($ per metric tonne)



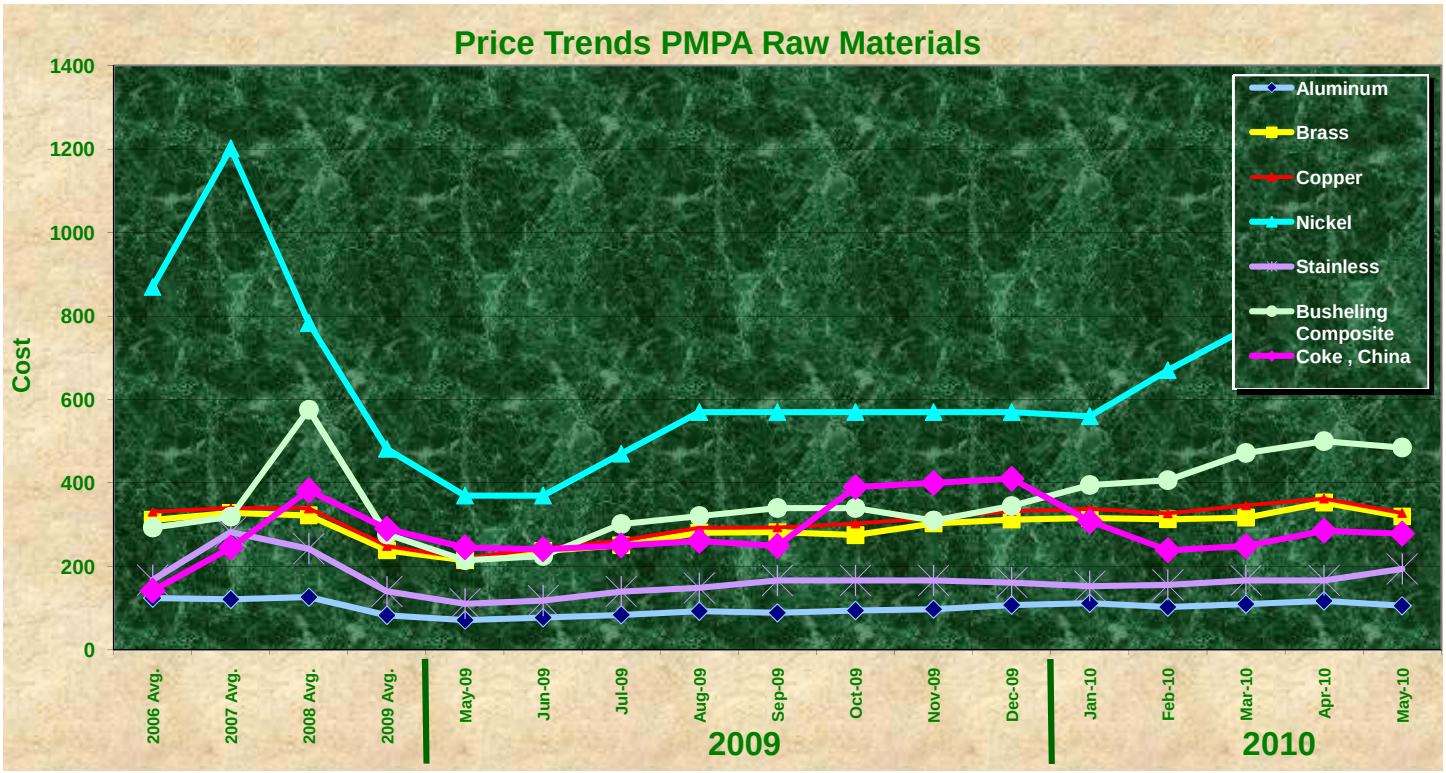
(Coke is used in blast furnaces to make hot metal iron for use in the basic oxygen steelmaking process. China accounts for half of the world's supply of coke, one third of which went to the European Union.)

News Flash, China is now a net importer of Coke.
http://tinyurl.com/2ful862

Average price in 2009: **$290.12 per ton**

Bottom line: *Prices are up substantially over their price a year ago, even though some seem to be leveling off in the past two months. Ultimately, all materials that we use, and their transportation, require large amounts of energy to produce and ship. We believe that material prices are unlikely to move counter to the trend of energy prices.*

-Miles Free
Director, Industry Research and Technology
PMPA
18 June 2010


Price Trends PMPA Raw Materials
Cost
1400
1200
1000
800
600
400
200
0
Aluminum
Brass
Copper
Nickel
Stainless
Busheling
Composite
Coke , China
2006 Avg.
2007 Avg.
2008 Avg.
2009 Avg.
May-09
Jun-09
Jul-09
Aug-09
Sep-09
Oct-09
Nov-09
Dec-09
Jan-10
Feb-10
Mar-10
Apr-10
May-10
2009
2010

PMPA Raw Materials Index

	Aluminum	Brass	Copper	Nickel	Stainless	Busheling Composite	Coke , China
2006 Avg.	124.62	311.58	331.19	869.17	167.50	293.25	141.75
2007 Avg.	121.49	328.17	339.86	1201.67	282.65	319.17	244.75
2008 Avg.	126.64	322.50	338.99	783.33	242.43	575.50	382.34
2009 Avg.	82.77	238.42	248.98	481.67	140.12	276.86	290.12
May-09	71.50	215.00	219.75	370.00	110.90	215.00	245.71
Jun-09	77.25	237.00	243.80	370.00	118.00	225.00	241.22
Jul-09	84.00	251.00	261.65	470.00	140.00	301.67	250.24
Aug-09	92.75	281.00	292.30	570.00	148.50	320.67	260.73
Sep-09	88.75	282.00	293.45	570.00	166.50	340.00	249.01
Oct-09	94.48	275.00	302.65	570.00	166.50	340.00	390.00
Nov-09	97.81	303.00	316.60	570.00	166.50	310.00	400.00
Dec-09	107.62	312.00	332.75	570.00	161.50	345.00	410.00
Jan-10	111.75	316.00	338.00	560.00	153.00	395.00	308.00
Feb-10	102.71	313.00	327.00	670.00	156.00	406.67	238.80
Mar-10	109.70	317.00	346.00	770.00	166.75	471.67	249.00
Apr-10	117.63	353.00	362.60	770.00	166.75	500.00	285.54
May-10	105.80	320.00	327.85	770.00	194.00	485.00	278.27
Jan10- Jan 09 **$Change**	**36.95**	**163.00**	**180.80**	**110.00**	**6.00**	**140.00**	**52.00**
Jan10-Jan09 **%Change**	***49.40***	***106.54***	***115.01***	***24.44***	***4.08***	***54.90***	***20.31***
Jan 10- Mar 10 $**Change**	***-5.95***	***4.00***	***-10.15***	***210.00***	***41.00***	***90.00***	***-29.73***
Jan 10- Mar 10 **%Change**	***-5.32***	***1.27***	***-3.00***	***37.50***	***26.80***	***22.78***	***-9.65***
May 09-May 10 $Change	***34.30***	***105.00***	***108.10***	***400.00***	***83.10***	***270.00***	***32.56***
May 09-May 10 %Change	***47.97***	***48.84***	***49.19***	***108.11***	***74.93***	***125.58***	***13.25***
2009 Average	***82.77***	***238.42***	***248.98***	***481.67***	***140.12***	***276.86***	***290.12***

Prices are as published, do not include surcharges.

Aluminum, Amm Free Market after September 2009,cents/pc

Brass Scrap, Copper Brass mill #1,cents/pound

Copper, Comex High Grade Cathode, cents/pound

Nickel, Scrap clips and solids,cents per pound

Stainless, 303 CD bars, cents/pound

SteelBusheling, #1, AMM Composite, $/gross Ton

Coke- anecdotal press reports

About the commodities selected for tracking:

PMPA Raw Materials Index

The items selected were chosen as indicators of costs for the materials commonly used by our industry.
They were selected because they were available and published, rather than a transaction price which might be confounded with other commercial objectives or geographic market peculiarities.

Aluminum- Delisted on Comex in September 2009, AMM Free Market price thereafter.

Brass Scrap, Copper Brass mill, #1 was chosen as indicative of the general trend for high quality Brass Scrap for recycling.

Copper, Comex High Grade Cathode was chosen as indicative of costs for "new Copper" to be added to the existing Brass Metal inventory available.

Nickel, Scrap clips and solids was chosen as a proxy indicator for understanding Stainless Steel and High Temp alloys which typically are high % Nickel content.(303-8-10%; 316 10-12%; Hastelloy- Greater than 50%)

Stainless- 303 bars this number is published but we do not see it as realistic and provide it strictly for information.

Steel- Busheling Composite. This indicator was selected as it correlated to the #1 bundles we used prior, now obsolete. It is a factor in the determination of most mill surcharges.

Coke- Coke is used in blast furnace production of Iron in order to produce steel by the Basic Oxygen Process (BOP). Blast furnaces use the coke to provide support for the burden (iron ore, limestone, bushellings, sinter etc.), sensible heat, and carbon monoxide reactant to reduce the oxide in the ore to pure iron. Coke itself is produced by blending a mixture of low- and high- volatility and ash coals and processing them at very high temperatures to distill out volatile organics leaving a strong porous cellular solid which is the critical ingredient for the Blast furnace- BOP producer.
This process is daunting from an environmental impact point of view. ***Without coke, there is no blast furnace iron; Without blast furnace iron, there is no BOP steel.***

Quarterly averages have been calculated and used for this report for years prior to 2005 in order to tidy up the presentation of data.

Miles Free

Quarterly Averages
PMPA Material Impacts

	Aluminum	Brass	Copper	Nickel	Stainless	Steel BDLS	Coke , China
2003	65.60	77.50	78.21	310.23	111.00	114.55	
	65.84	79.48	80.15	312.50	105.00	124.05	
	66.77	81.93	82.02	325.12	102.00	131.00	
3rd Qtr.	66.07	79.64	80.13	315.95	106.00	123.20	
	69.79	87.04	88.20	359.67	102.00	132.00	
	70.67	92.22	92.76	419.72	105.33	145.33	
	73.52	98.76	99.67	452.50	106.00	162.43	
4th Qtr.	71.33	92.67	93.54	410.63	104.44	146.59	
2004	76.29	108.80	110.28	562.50	106.00	182.00	
	80.40	120.00	121.60	565.00	106.00	275.00	182.00
	84.65	137.00	139.70	525.00	121.50	295.00	460.00
1st Qtr.	80.45	121.93	123.86	550.83	111.17	250.67	321.00
	88.65	136.00	137.10	500.00	121.50	270.00	450.00
	80.85	123.50	124.70	425.00	121.50	240.00	410.00
	83.45	128.00	129.25	500.00	121.50	250.00	325.00
2nd Qtr.	84.32	129.17	130.35	475.00	121.50	253.33	395.00
	84.30	130.00	131.30	550.00	121.50	395.00	
	84.30	131.00	131.55	520.00	121.50	395.00	
	90.95	135.00	139.90	520.00	153.50	375.00	310.5
3rd Qtr.	86.52	132.00	134.25	530.00	132.17	388.33	310.50
	91.30	142.00	147.35	600.00	157.00	415.00	239.00
	89.45	140.00	144.50	500.00	157.00	430.00	239.00
	94.25	145.00	149.10	500.00	157.00	430.00	280.00
4th Qtr.	91.67	142.33	146.98	533.33	157.00	425.00	252.67
2005	93.60	145.00	149.50	500.00	157.00	370.00	280.00
	95.05	144.00	150.25	550.00	157.00	315.00	230.00
	96.65	146.00	151.05	550.00	157.00	255.00	230.00
1st Qtr.	95.10	145.00	150.27	533.33	157.00	313.33	246.67
	93.50	149.00	154.20	600.00	157.00	270.00	230.00
	85.50	144.00	161.40	650.00	160.00	215.00	230.00
	80.25	149.00	153.00	650.00	160.00	145.00	210.00
2nd Qtr.	86.42	147.33	156.20	633.33	159.00	210.00	223.33
	84.40	153.00	163.00	560.00	160.00	170.00	210.00
	89.80	168.00	177.95	540.00	160.00	230.00	210.00
	89.00	173.00	187.65	540.00	160.00	285.00	210.00
3rd Qtr.	87.73	164.67	176.20	546.67	160.00	228.33	210.00
	91.90	181.00	196.80	520.00	166.00	235.00	185.00
	101.55	193.00	218.00	480.00	166.00	285.00	130.00
	105.10	208.00	228.00	500.00	166.00	280.00	150.00
4th Qtr.	99.52	194.00	214.27	500.00	166.00	266.67	155.00
2005 Average	92.19	162.75	174.23	553.33	160.50	254.58	208.75

Table A Supplemental Calculations

Quarterly Averages
PMPA Material Impacts

	Aluminum	Brass	Copper	Nickel	Stainless	Steel BDLS	Coke , China
2006	115.50	221.00	229.65	550.00	166.00	280.00	120.00
	122.25	229.00	233.65	550.00	166.00	275.00	148.00
	116.50	245.00	250.35	550.00	135.00	294.00	148.00
1st Qtr.	118.08	231.67	237.88	550.00	155.67	283.00	138.67
	130.60	320.00	348.30	700.00	135.00	294.00	138.00
	146.00	373.50	407.55	810.00	135.00	315.00	138.00
	120.00	345.00	369.10	810.00	135.00	342.00	140.00
2nd Qtr.	132.20	346.17	374.98	773.33	135.00	317.00	138.67
	121.50	357.00	382.95	910.00	135.00	342.00	140.00
	116.60	351.00	366.50	1150.00	135.00	342.00	125.00
	122.25	348.00	372.20	1150.00	135.00	285.00	125.00
3rd Qtr.	120.12	352.00	373.88	1070.00	135.00	323.00	130.00
	129.10	327.50	356.00	1050.00	245.00	275.00	164.50
	127.10	318.00	334.55	1050.00	245.00	245.00	164.50
	128.00	304.00	323.45	1150.00	243.00	230.00	150.00
4th Qtr.	128.07	316.50	338.00	1083.33	244.33	250.00	159.67
2006 Average	124.62	311.58	331.19	869.17	167.50	293.25	141.75
2007	128.50	266.00	265.15	1250.00	243.00	260.00	185.00
	130.00	281.00	285.25	1250.00	253.00	295.00	185.00
	125.50	306.50	314.35	1350.00	265.00	365.00	190.00
1st Qtr.	128.00	284.50	288.25	1283.33	253.67	306.67	186.67
	128.85	358.00	367.40	1350.00	287.00	365.00	185.00
	129.25	367.00	375.05	1350.00	335.00	335.00	190.00
	125.35	338.50	346.55	1350.00	335.00	295.00	245.00
2nd Qtr.	127.82	354.50	363.00	1350.00	319.00	331.67	206.67
	122.65	353.00	375.40	1350.00	342.80	295.00	260.00
	117.30	339.00	359.50	1250.00	342.80	305.00	250.00
	110.00	347.00	363.60	980.00	262.63	330.00	250.00
3rd Qtr.	116.65	346.33	366.17	1193.33	316.08	310.00	253.33
	113.25	359.00	374.95	980.00	235.04	330.00	360.00
	117.25	320.00	335.60	980.00	245.25	320.00	360.00
	110.00	303.00	315.50	980.00	245.25	335.00	277.00
4th Qtr.	113.50	327.33	342.02	980.00	241.85	328.33	332.33
2007 Average	121.49	328.17	339.86	1201.67	282.65	319.17	244.75

Quarterly Averages
PMPA Material Impacts

	Aluminum	Brass	Copper	Nickel	Stainless	Steel BDLS	Coke , China
2008	119.00	320.00	331.70	980.00	246.06	415.00	277.00
	139.75	374.00	386.35	980.00	246.06	415.00	365.30
	143.75	382.00	398.95	980.00	238.62	430.00	365.30
1st Qtr.	134.17	358.67	372.33	980.00	243.58	420.00	335.87
	140.00	389.00	402.80	980.00	244.09	600.00	389.40
	137.00	379.00	397.85	930.00	267.10	700.00	389.40
	146.30	373.00	389.55	840.00	267.10	785.00	389.00
2nd Qtr.	141.10	380.33	396.73	916.67	259.43	695.00	389.27
	150.00	378.00	407.75	840.00	264.47	890.00	875.00
	133.25	343.00	362.85	770.00	255.35	883.00	438.07
	123.75	322.00	342.95	770.00	243.21	853.00	438.07
3rd Qtr.	135.67	347.67	371.18	793.33	254.34	875.33	583.71
	110.25	274.00	285.70	660.00	223.94	570.00	232.00
	96.75	184.00	201.10	370.00	206.58	130.00	232.00
	79.85	152.00	160.35	300.00	206.58	235.00	197.50
4th Qtr.	95.62	203.33	215.72	443.33	212.37	311.67	220.50
2008 Average	126.64	322.50	338.99	783.33	242.43	575.50	382.34
2009	74.80	153.00	157.20	450.00	147.00	255.00	256.00
	67.75	156.00	162.25	450.00	124.00	255.00	270.80
	66.50	180.00	184.95	450.00	116.00	220.00	270.80
1st Qtr.	69.68	163.00	168.13	450.00	129.00	243.33	265.87
	70.00	216.00	220.35	370.00	116.00	195.00	236.93
	71.50	215.00	219.75	370.00	110.90	215.00	245.71
	77.25	237.00	243.80	370.00	118.00	225.00	241.22
2nd Qtr.	72.92	222.67	227.97	370.00	114.97	211.67	241.29
	84.00	251.00	261.65	470.00	140.00	301.67	250.24
	92.75	281.00	292.30	570.00	148.50	320.67	260.73
	88.75	282.00	293.45	570.00	166.50	340.00	249.01
3rd Qtr.	88.50	271.33	282.47	536.67	151.67	320.78	253.33
	94.48	275.00	302.65	570.00	166.50	340.00	390.00
	97.81	303.00	316.60	570.00	166.50	310.00	400.00
	107.62	312.00	332.75	570.00	161.50	345.00	410.00
4th Qtr.	99.97	296.67	317.33	570.00	164.83	331.67	400.00
2009 Average	82.77	238.42	248.98	481.67	140.12	276.86	290.12
2010	111.75	316.00	338.00	560.00	153.00	395.00	308.00
	102.71	313.00	327.00	670.00	156.00	406.67	238.80
	109.70	317.00	346.00	770.00	166.75	471.67	249.00
1st Qtr.	108.05	315.33	337.00	666.67	158.58	424.45	265.27

Table A Supplemental Calculations