

# Mineral Industry Surveys

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## NICKEL IN MARCH 2007

Reported domestic nickel consumption in March, on a daily average basis, was 13% less than the total for February, according to the U.S. Geological Survey. Daily average use of nickel metal and ferronickel for stainless and heat resisting steels was 8% less than the corresponding average for February. Use of nickel metal to make superalloys (such as INCONEL 718 and WASPALOY) decreased by 21% from February levels, on a daily average basis. The decrease in the superalloy category was accompanied by a 35% decrease in the “Other nickel & nickel alloys” category (such as INCONEL 600 and Nickel 200). Sales to plating companies averaged 24.6 metric tons per day (t/d), slightly more than the February figure of 24.3 t/d. Percentages reported in this paragraph are based on data concealed to avoid revealing individual company proprietary data.

The United States imported 18,300 metric tons (t) of primary nickel in the first 2 months of 2007, about 30% less than the 26,300 t for the corresponding period of 2006. About 88%, or 16,000 t, of the primary nickel was Class I materials. Class I materials are refined products with a nickel content of 99% or greater (electrolytic cathode, briquets, granules, pellets, powders, rondelles, etc.). Trade data for March 2007 will appear in a subsequent report.

On March 31, stocks in London Metal Exchange (LME) warehouses worldwide totaled 5,232 t, up 57% from 3,342 t on February 28—the lowest end-of-month figure reported in at least 12 years. LME stocks have been minimal since mid-2006 owing to strong demand for austenitic stainless steel in Asia (International Nickel Study Group, 2007). World prices reflected the critically low stock levels. The average LME cash price for March was \$46,303 per metric ton (\$21.003 per pound), a record high. The monthly cash price has climbed steadily and sharply since early 2006.

Nickel consumers, producers, and traders continued to be concerned about tight nickel supplies and record high prices. Some traders argued that nickel prices would remain high for an extended period of time (Metal Bulletin, 2007). Others cautioned that the market was becoming overly speculative and that nickel prices could turn downward if key markets for

stainless steel in Europe and the United States softened. Some stainless steel producers have begun increasing the proportion of ferritic and low-nickel stainless steels in their production mixes to counter high nickel prices (Blamey, 2007). For example, Allegheny Technologies Inc. was offering the duplex stainless alloy AL 2003<sup>TM</sup> (3% nickel and 20.7% chromium) as a substitute for T316L (10% nickel and 16% chromium) (Hassey, 2007). POSCO (formerly Pohang Iron and Steel Co. Ltd.) was about to start commercial production of 445NF, which would substitute for 304 and other grades of austenitic stainless steel in the 300 series. The new POSCO product contains 20% chromium, 0.3% titanium, and 0.1% niobium (Mining Journal, 2007).

The average LME 3-months mean nickel price for March was \$43,613 per metric ton (\$19.783 per pound). Hedge funds and investment banks were becoming increasingly concerned about their holdings in the sub-prime mortgage market and could be forced to liquidate part of their positions in the LME nickel futures market in order to shore up non-commodity holdings elsewhere. The Bank of Japan, the Bank of Canada, the European Central Bank, and the U.S. Federal Reserve were preparing to inject additional liquidity into the financial system to ease the forecasted credit drought (Roubini, 2007).

## References Cited

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TABLE 1  
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE<sup>1</sup>

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
2006:					
March	6,370	776	68	7,220	22,100
April	6,510	788	59	7,350	29,500
May	6,500	850	59	7,410	36,900
June	6,520	758	59	7,340	44,200
July	6,170	677	52	6,900	51,100
August	6,370	788	59	7,210	58,300
September	6,090	823	57	6,970	65,300
October	6,300	851	57	7,210	72,500
November	6,030	709	52	6,790	79,300
December	5,170	655	52	5,880	85,200
January-December	75,100	9,350	712	85,200	XX
2007:					
January	6,380	854	55	7,290	7,290
February	6,030	759	55	6,840	14,100
March:					
Steel:					
Stainless and heat resisting	2,450	846	W	3,300	9,950
Alloy (excludes stainless)	233	--	--	233	701
Superalloys	1,060	--	W	1,060	3,560
Copper-nickel alloys	W	--	--	W	W
Electric, magnetic, and expansion alloys	8	--	--	8	31
Other nickel & nickel alloys	W	--	W	W	W
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	751	--	W	751	2,330
Chemical and chemical uses	W	--	--	W	W
Other uses	1,200	--	63	1,260	4,170
Total reported	5,700 <sup>2</sup>	846	63	6,610	20,700
Total all companies (calc) <sup>3</sup>	XX	XX	XX	13,000	40,700
2007: January-March	18,100	2,460	174	20,700	XX
2006: January-March	19,500	2,450	207	22,100	XX

W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Of consumption, 3,550 metric tons were consumed as cathodes and pellets, the remainder as briquets and powder.

<sup>3</sup>Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (50.94%) to apparent primary consumption for 2004.

TABLE 2  
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS,  
BY FORM AND USE<sup>1,2</sup>

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
2006:				
March	1,880	409	154	2,440
April	2,100	332	170	2,610
May	2,490	292	154	2,940
June	2,250	307	145	2,710
July	2,010	333	151	2,500
August	1,990	439	166	2,590
September	1,840	413	151	2,410
October	1,550	364	153	2,070
November	1,780	364	165	2,300
December	1,890	380	159	2,430
2007:				
January	1,980	427	162	2,570
February	1,770	466 <sup>r</sup>	171 <sup>r</sup>	2,410
March:				
Steel (stainless, heat resisting and alloy)	768	458	(3)	1,230
Nonferrous alloys <sup>4</sup>	1,050	W	(3)	1,050
Foundry (cast irons)	(3)	W	--	(3)
Chemical (catalysts, ceramics, plating salt, etc.) and unspecified uses	82	W	168	250
Total	1,900	458	168	2,530

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Stocks held by companies that consume nickel in more than one end-use category are credited to the major category. Stocks are subject to revisions owing to inventory adjustments.

<sup>3</sup>Included in the "Chemical and unspecified uses" category.

<sup>4</sup>Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

TABLE 3  
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE<sup>1</sup>

(Metric tons, nickel content)

Period	Consumption			Stocks		
	Ferrous scrap <sup>2</sup>	Nonferrous scrap <sup>3</sup>	Total scrap	Ferrous scrap <sup>2</sup>	Nonferrous scrap <sup>3</sup>	Total scrap
2006:						
March	4,290	794	5,090	2,930	44	2,980
April	5,250	693	5,950	2,660	49	2,710
May	4,340	644	4,980	2,760	54	2,810
June	3,840	836	4,670	3,090	44	3,130
July	4,450	658	5,100	3,110	57	3,170
August	5,560	705	6,260	2,720	50	2,770
September	5,930	741	6,680	2,350	47	2,400
October	5,040	590	5,630	2,470	58	2,530
November	NA	506	NA	NA	45	NA
December	NA	465	NA	NA	48	NA
January-December <sup>4</sup>	46,500	7,980	53,500	XX	XX	XX
2007:						
January	NA	674	NA	NA	53	NA
February	NA	568 <sup>r</sup>	NA	NA	77	NA
March	NA	883	NA	NA	47	NA

<sup>r</sup>Revised. NA Not available. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

<sup>3</sup>Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

<sup>4</sup>Consumption data do not add to totals shown owing to missing data.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY<sup>1</sup>

(Metric tons, nickel content)<sup>2</sup>

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total <sup>3</sup>	Total year to date <sup>4</sup>	Wrought nickel
2006:										
February	9,740	575	1,310	178	379	771	435	13,400	28,800	74
March	12,300	695	1,530	67	567	817	369	16,400	45,200	124
April	12,900	730	1,300	121	621	1,100	287	17,100	62,200	83
May	10,400	1,170	1,090	107	561	1,370	279	15,000	77,200	99
June	10,900	648	1,050	67	713	1,500	326	15,200	92,400	174
July	9,460	802	1,530	98	731	1,540	215	14,400	107,000	105
August	11,000	785	1,200	80	543	1,620	290	15,500	122,000	88
September	10,100	739	1,020	72	418	1,150	336	13,800	136,000	78
October	8,150	542	1,220	161	575	1,060	358	12,100	148,000	88
November	10,300	513	932	99	564	881	311	13,600	162,000	61
December	7,450	609	1,570	76	526	957	168	11,400	173,000	59
January-December	125,000	8,780	14,600	1,210	6,850	13,500	3,680	173,000	XX	1,110
2007:										
January	8,330	536	627 <sup>r</sup>	107	476	728	348	11,200	11,200	51
February:										
Australia	118	20	--	--	10	--	--	148	1,280	--
Canada	4,170	333	--	94	71	497	11	5,180	10,900	(5)
China	--	--	--	--	14	1	8	23	59	2
Colombia	--	--	55	--	--	--	(5)	55	328	--
Dominican Republic	--	--	727	--	--	3	--	730	1,040	--
Finland	184	8	--	--	--	1	58	251	555	--
France	--	--	--	--	41	--	23	64	141	12
Germany	--	18	--	--	48	--	51	117	172	27
Japan	--	36	--	--	20	1	54	111	221	16
Mexico	--	--	--	--	26	151	(5)	177	335	--
New Caledonia	--	--	50	--	--	--	--	50	100	--
Norway	918	--	--	--	--	--	--	918	2,370	--
Russia	1,170	29	--	--	--	--	--	1,200	2,200	--
South Africa	18	20	--	--	--	--	--	38	114	--
Sweden	--	--	--	--	--	--	--	--	7	--
United Kingdom	7	78	--	--	198	--	--	283	481	2
Zimbabwe	20	--	--	--	--	--	--	20	60	--
Other	--	20	--	3	35	20	49	127	313	16
Total	6,610	562	832	97	463	674	254	9,490	20,600	75
2007: January-February	14,900	1,100	1,460	204	938	1,400	602	20,600	XX	126
2006: January-February	21,600	1,550	2,170	259	1,030	1,490	742	28,800	XX	150

<sup>r</sup>Revised. XX Not applicable. --Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemicals category includes chlorides (25%); sulfates (22%); other salts (22%); supported catalysts (22%); and oxide, sesquioxide, and hydroxide (65%).

<sup>3</sup>Excludes wrought nickel.

<sup>4</sup>May include revisions for prior months.

<sup>5</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF NICKEL, BY COUNTRY<sup>1</sup>

(Metric tons, nickel content)<sup>2</sup>

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total <sup>3</sup>	Total year to date	Wrought nickel
2006:										
February	125	87	8	8	860	2,950	370	4,410	10,300	106
March	87	92	5	69	942	2,700	631	4,520	14,900	114
April	189	111	22	8	975	2,540	387	4,230	19,100	151
May	79	100	6	8	2,070	3,420	636	6,320	25,400	119
June	48	64	(4)	4	1,420	2,910	454	4,890	30,300	84
July	39	73	3	4	2,120	3,090	358	5,690	36,000	101
August	25	78	3	5	2,010	3,120	673	5,920	41,900	96
September	68	67	(4)	9	2,000	4,170	556	6,870	48,800	89
October	13	71	1	5	2,420	2,630	591	5,740	54,500	85
November	47	106	3	11	2,650	3,140	491	6,450	61,000	66
December	57	71	--	7	2,610	3,350	389	6,480	67,400	61
January-December	882	1,030	66	150	21,300	38,100	5,920	67,400	XX	1,230
2007:										
January	64	88	2	2	3,160	4,440	254 <sup>4</sup>	8,010	8,010	144
February:										
Australia	--	1	--	--	20	1	--	22	36	8
Belgium	--	4	--	--	--	94	5	103	114	4
Canada	--	10	--	--	1,050	197	254	1,510	2,690	22
China	--	1	--	--	--	1,200	65	1,270	2,280	78
Germany	--	20	--	1	84	2	10	117	621	3
India	--	1	--	--	--	213	9	223	502	1
Italy	--	(4)	(4)	--	--	4	--	4	9	(4)
Japan	6	5	--	(4)	1,290	382	28	1,710	3,510	4
Korea, Republic of	--	5	--	--	79	257	5	346	586	8
Mexico	106	3	--	--	19	--	9	137	216	8
Netherlands	--	(4)	--	--	10	241	--	251	335	2
South Africa	--	--	--	--	--	--	--	--	3	(4)
Spain	--	--	--	--	--	1,090	(4)	1,090	2,170	--
Sweden	--	--	--	--	7	6	--	13	52	(4)
Taiwan	--	3	--	(4)	45	1,440	--	1,490	2,620	17
United Kingdom	--	13	--	--	22	13	26	74	190	2
Other	(4)	13	--	1	--	802	114	930	1,350	36
Total	112	79	(4)	2	2,620	5,940	525	9,280	17,300	192
2007: January-February	176	168	3	4	5,780	10,400	779	17,300	XX	336
2006: January-February	230	194	23	20	2,070	7,050	757	10,300	XX	263

<sup>1</sup>Revised. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemicals category includes chlorides (25%); sulfates (22%); other salts (22%); supported catalysts (22%); and oxide, sesquioxide, and hydroxide (65%).

<sup>3</sup>Excludes wrought nickel.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY<sup>1</sup>

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
2006:									
February	434	292	550	276	2	198	335	2,090	4,200
March	1,040	398	516	302	41	335	204	2,840	7,040
April	400	427	472	224	25	251	127	1,930	8,960
May	404	338	596	262	17	382	266	2,270	11,200
June	486	338	524	259	31	373	276	2,290	13,500
July	578	581	526	242	10	457	182	2,580	16,100
August	705	522	427	338	3	217	133	2,350	18,400
September	373	281	501	272	14	183	143	1,770	20,200
October	517	464	492	390	34	316	160	2,370	22,600
November	336	482	755	355	26	237	133	2,330	24,900
December	351	485	431	363	25	465	149	2,270	27,200
January-December	6,180	4,990	6,270	3,640	234	3,620	2,250	27,200	XX
2007:									
January	438	481	573	204	29	307 <sup>2</sup>	91	2,120	2,120
February:									
Australia	80	--	2	--	--	--	(2)	82	282
Belgium	--	--	(2)	2	--	--	--	2	10
Canada	2	--	4	--	--	4	13	23	56
China	(2)	--	(2)	1	--	(2)	58	59	103
France	--	6	68	39	--	7	4	124	398
Germany	261	63	228	240	18	60	1	871	1,590
Italy	--	274	--	--	--	--	(2)	274	559
Japan	(2)	--	3	10	--	50	4	67	100
Mexico	--	--	(2)	--	--	4	9	13	18
Netherlands	--	--	(2)	--	(2)	--	13	13	24
Sweden	--	39	134	3	--	45	--	221	541
United Kingdom	21	44	1	1	3	19	23	112	216
Other	26	33	12	15	--	(2)	23	109	194
Total	390	459	452	311	21	189	148	1,970	4,090
2007: January-February	828	940	1,030	515	50	496	239	4,090	XX
2006: January-February	991	670	1,030	630	7	403	472	4,200	XX

<sup>1</sup>Revised. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7  
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY<sup>1</sup>

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
2006:									
February	411	1,650	91	321	19	277	336	3,110	6,390
March	1,040	1,800	63	473	33	281	360	4,050	10,400
April	955	1,730	71	371	30	245	246	3,650	14,100
May	687	1,610	95	394	19	236	326	3,360	17,400
June	550	1,650	75	426	21	226	286	3,230	20,700
July	317	1,230	61	391	16	194	261	2,470	23,100
August	606	1,460	95	400	16	234	292	3,110	26,200
September	814	1,350	62	443	14	494	207	3,380	29,600
October	829	1,430	66	412	21	1,170	253	4,180	33,800
November	488	1,170	80	361	14	182	223	2,520	36,300
December	387	1,430	55	537	14	226	198	2,850	39,200
January-December	7,550	18,000	881	4,890	252	4,410	3,240	39,200	XX
2007:									
January	417	1,340	48	395	6	255	244	2,700	2,700
February:									
Australia	(2)	--	(2)	--	(2)	1	2	4	10
Belgium	67	207	2	14	--	2	(2)	291	628
Canada	12	104	18	34	2	42	18	230	424
China	--	148	2	49	--	48	13	260	445
France	201	225	--	27	(2)	6	1	460	708
Germany	33	200	2	88	(2)	8	6	336	526
India	--	2	(2)	(2)	--	(2)	--	2	22
Ireland	--	--	(2)	(2)	--	1	1	2	7
Israel	9	56	(2)	1	--	1	(2)	66	187
Italy	67	29	2	28	--	3	2	131	223
Japan	230	16	(2)	66	4	14	3	333	536
Korea, Republic of	--	13	1	30	--	12	1	57	177
Mexico	6	31	8	6	--	58	65	174	474
Netherlands	--	5	(2)	15	--	1	1	23	46
Singapore	(2)	10	1	2	(2)	6	2	21	68
Spain	--	1	--	13	--	(2)	(2)	15	36
Sweden	--	2	(2)	2	--	(2)	3	7	21
Switzerland	1	1	--	4	(2)	(2)	1	7	11
Taiwan	1	4	--	4	--	3	1	13	28
United Kingdom	42	194	4	70	1	6	4	321	622
Other	19	32	3	55	2	53	33	197	455
Total	688	1,280	43	508	9	265	157	2,950	5,650
2007: January-February	1,110	2,620	91	903	15	520	401	5,650	XX
2006: January-February	883	3,110	158	679	54	922	587	6,390	XX

XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8  
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
March 2007:		
Stainless and heat resisting steels	100	(1)
Alloy steels	99	1
Superalloys	89	11
Copper-nickel alloys	96	4
Other nickel-base alloys	100	(1)

<sup>1</sup>Less than ½ unit.

TABLE 9  
NICKEL PRICES

Date	Platts Metals Week				American Metal Market <sup>2</sup>		
	Cathode NY Dealer \$/lb.	LME Cash mean <sup>1</sup> \$/t	LME Cash mean <sup>1</sup> \$/lb.	18/8 Stainless steel scrap free market \$/long ton (gw)	18/8 Stainless steel scrap Pittsburgh \$/long ton (gw)	304 Stainless steel scrap: solids,clips Pittsburgh \$/long ton (gw)	316 Stainless steel scrap: solids,clips Pittsburgh \$/long ton (gw)
2006:							
Average for month of:							
March	6.949	14,893.043	6.755	1,499	1,493	XX	XX
April	8.184	17,931.806	8.134	1,656	1,531	XX	XX
May	9.425	21,064.524	9.555	1,909	1,813	XX	XX
June	9.664	20,747.045	9.411	1,963	2,088	XX	XX
July	11.750	26,568.571	12.051	2,275	2,138	XX	XX
August	13.808	30,727.955	13.938	2,493	2,419	XX	XX
September	13.634	30,117.381	13.661	2,534	2,681	XX	XX
October	14.822	32,692.500	14.829	2,584	2,662	XX	XX
November	14.535	32,099.773	14.560	2,561	XX	2,783	3,750
December	15.657	34,559.079	15.676	2,728	XX	2,805	3,881
Yearly average	10.982	24,243.860	10.997	2,090	2,090	XX	XX
2007:							
Average for week ending:							
March 2	20.541-21.466	44,529.500	20.198	3,450-3,550	XX	3,150-3,175	4,200-4,300
March 9	20.166-21.559	44,280.000	20.085	3,550-3,650	XX	3,475-3,500	4,850-4,900
March 16	21.434-23.362	47,989.000	21.767	3,800-3,925	XX	3,475-3,500	4,850-4,900
March 23	22.410-23.836	48,020.000	21.782	3,875-3,925	XX	3,475-3,500	4,850-4,900
March 30	21.638-21.729	45,517.500	20.646	3,800-3,850	XX	3,475-3,500	4,850-4,900
April 6	21.839-24.188	50,106.875	22.728	4,000-4,150	XX	3,900-3,950	5,500-5,600
April 13	23.494-24.057	50,474.375	22.895	3,950-4,100	XX	3,900-3,950	5,500-5,600
April 20	23.934-24.027	50,154.500	22.750	4,100-4,150	XX	3,900-3,950	5,500-5,600
April 27	23.290-24.698	50,318.500	22.824	4,000-4,100	XX	3,900-3,950	5,500-5,600
May 4	23.723-24.315	51,137.500	23.196	4,140-4,185	XX	3,900-3,950	5,500-5,600
May 11	24.115-24.840	52,981.875	24.032	4,000-4,050	XX	4,150-4,200	5,700-5,800
May 18	24.409-25.188	53,206.000	24.134	3,700-3,800	XX	4,150-4,200	5,700-5,800
May 25	23.220-24.989	51,861.000	23.524	3,300-3,400	XX	4,150-4,200	5,700-5,800
June 1	23.218-23.554	50,731.250	23.011	2,800-3,000	XX	3,700-3,800	5,000-5,100
Average for month of:							
January	16.177	36,795.227	16.690	2,866	XX	2,913	4,105
February	18.309	41,171.125	18.675	3,141	XX	3,163	4,250
March	21.238	46,303.409	21.003	3,738	XX	3,488	4,875
April	23.139	50,249.474	22.793	4,069	XX	3,925	5,550
May	23.737	52,160.833	23.660	3,638 <sup>3</sup>	XX	4,040	5,570

XX Not applicable.

<sup>1</sup>Mean of the cash buyer price and the cash seller and settlement price.

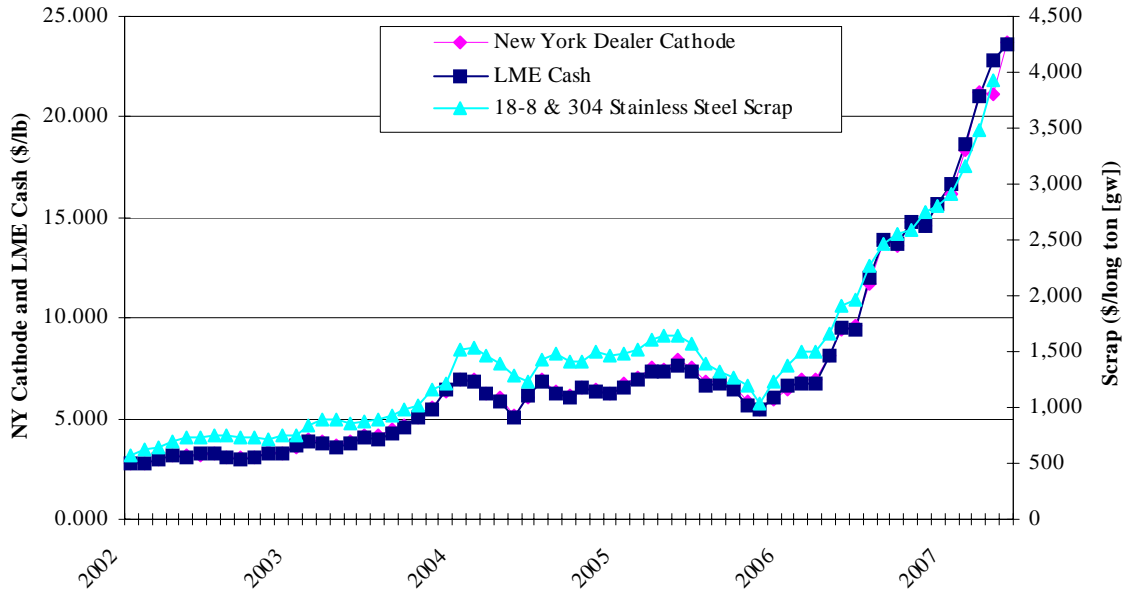
<sup>2</sup>On November 1, 2006, American Metal Market (AMM) changed its price listings for austenitic stainless steel scrap. AMM has begun reporting prices for Type 316 solids & clips and has changed its listing for 18-8 bundles, solids & clips to Type 304 solids & clips. See November AMM Scrap Iron & Steel Prices section for details. All prices remain in dollars per gross (long) ton. More complete AMM price data will appear in subsequent U.S. Geological Survey Mineral Industry Surveys. AMM monthly averages are calculated by the U.S. Geological Survey.

<sup>3</sup>Confirmed by Platts Metals Week.



### 2002-2007 AVERAGE MONTHLY PRICES

[Derived from Platts Metals Week (MW) and American Metal Market (AMM) quotations]  
 Stainless steel scrap: AMM 2002-2003; MW 2004-Oct. 2006; AMM 304, Nov. 2006 to present



### 2002-2007 STOCKS

End of month stocks for the London Metal Exchange (LME) actually represent opening reported stocks for the first business day of the following month

