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Canadian Minerals Yearbook (CMY) - 2009

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HIGHLIGHTS

- Canada produced 136 594 t of nickel from mine production in 2009, down from 259 588 t in 2008.
- Canada exported 210 000 t of nickel products in 2009 valued at \$3.5 billion, down from 325 000 t valued at \$7.5 billion in 2008.
- Supply and demand for nickel in 2010 are expected to be in balance with the production forecast, approaching 1.40 Mt, and with the usage forecast at 1.39 Mt.

World primary nickel production of refined and other forms of finished nickel in 2009 was estimated by the International Nickel Study Group at 1.33 Mt, compared to primary nickel usage of 1.23 Mt. This was down from production of 1.38 Mt and usage of 1.28 Mt in 2008.

CANADIAN PRODUCTION AND TRADE

In 2009, Canadian mine production of nickel was 136 594 t. Shipments of recoverable nickel in concentrates were 131 878 t and the production of primary refined nickel (Class I products with a nickel content of 99% or more and Class II products with a nickel content of less than 99%) was 116 909 t. Canadian use of primary nickel was reported as 5000 t. Canadian nickel exports in 2009 were 210 000 t valued at \$3.5 billion, down from 325 000 t valued at \$7.5 billion in 2008 due to lower domestic production and lower prices.

Ontario was the largest provincial producer of mined nickel, accounting for 33.6% of Canadian output of nickel in concentrates shipped in 2009; the vast majority of Ontario's production was from the Sudbury Basin. Manitoba, Newfoundland and Labrador, and Quebec produced 23.7%, 21.3%, and 21.3%, respectively, of Canada's output. Nickel was refined at Vale Inco's Sudbury and Thompson refineries, as well as at The Cobalt Refining Company Inc. in Alberta. The Cobalt Refining Company's main feed source for nickel was in the form of an intermediate nickel residue—a nickel and cobalt sulphide produced in Cuba at Moa Bay by leaching nickel laterite ore in sulphuric acid. The Xstrata Nickel smelter in Sudbury processed nickel concentrates and nickel-cobalt recyclables, and sent the matte to the Xstrata refinery in Norway for refining into nickel, copper, cobalt, and precious metals. Canada exported nickel and nickel products to more than 70 countries throughout the world. Its exports and imports of nickel in various products are shown in [Table 2](#).

PRICES AND INVENTORIES

The London Metal Exchange (LME) cash settlement nickel price averaged US\$14 644/t, a sharp decrease from the average of US\$21 107/t in 2008. Prices started the year at US\$12 710/t, peaked at US\$19 628/t in August, and ended the year at US\$18 640/t. The lowest price in 2009 was in March at US\$9690/t ([Figure 1](#)). LME inventories opened at 72 822 t. By year-end, inventories had increased to 158 010 t.

NICKEL USE

Nickel's resistance to corrosion, high strength over a wide temperature range, pleasing appearance, and suitability as an alloying agent make it useful in a wide variety of applications. The principal uses for primary nickel are: stainless steel (61%), other steel alloys (10%), nonferrous alloys (12%), metal plating applications (11%), and other nickel chemicals (6%). Nickel is intensively recycled; between 45% and 48% of nickel used to make stainless steel is in the form of stainless steel scrap.

OUTLOOK

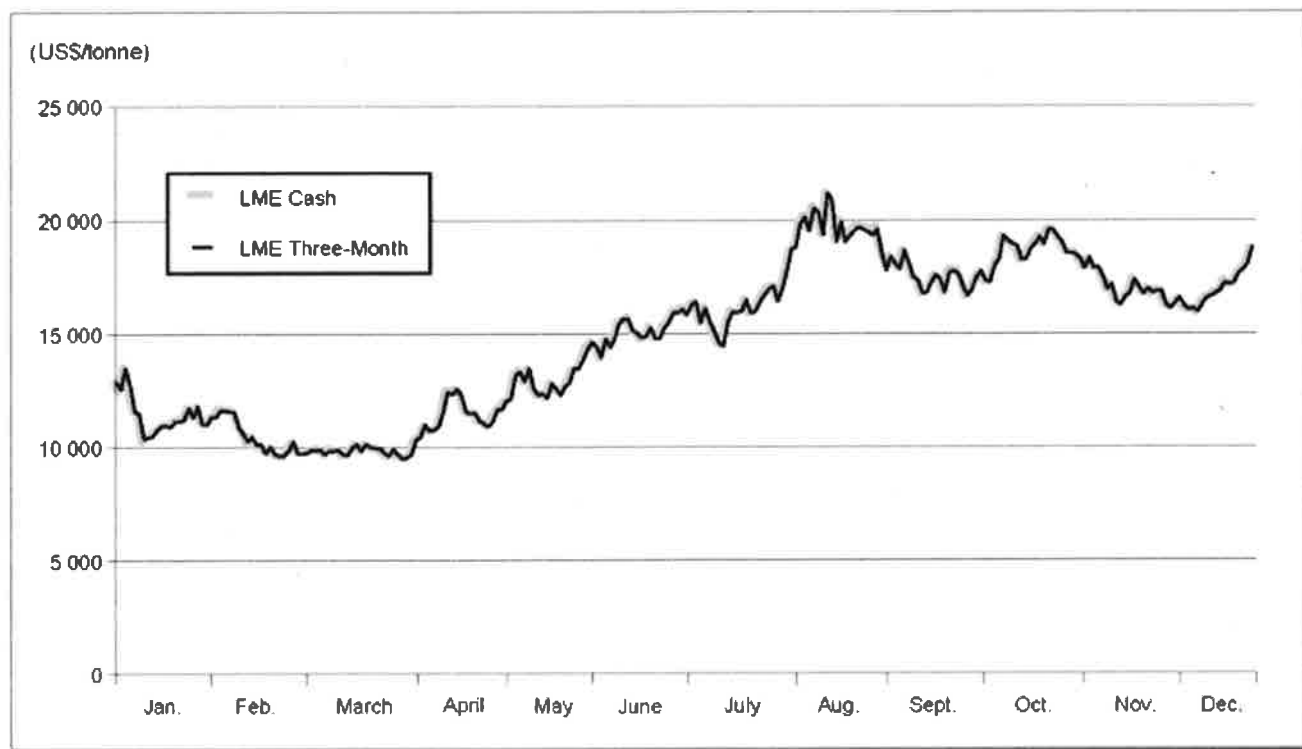
Strong demand in 2009 stainless steel production has resulted in increased demand for primary nickel. The International Nickel Study Group (INSG) forecasts 2010 primary nickel production will approach 1.40 Mt, up from 1.33 Mt in 2009, an increase of 5.25%. World primary nickel usage for 2010 is also forecast to increase to 1.39 Mt from 1.22 Mt in 2009. Importantly, the 2010 forecast does not include any adjustment factor for possible production disruptions. Labour disputes, such as at the Vale Inco facilities, do not appear to be nearing a resolution. The current INSG view for 2010 is for a broadly balanced market.

Notes: (1) Additional information on nickel and producing nickel operations in Canada can be found in earlier editions of the "Canadian Minerals Yearbook." (2) For definitions and valuation of mineral production, shipments and trade, please refer to the chapter entitled "Definitions and Valuation: Mineral Production, Shipments, and Trade." (3) Information in this review was current as of March 31, 2010. (4) This and other reviews, including previous editions, are available on the Internet at www.nrcan-rncan.gc.ca/mms-smm/busi-indu/cmy-amc/com-eng.htm.

Note to Readers

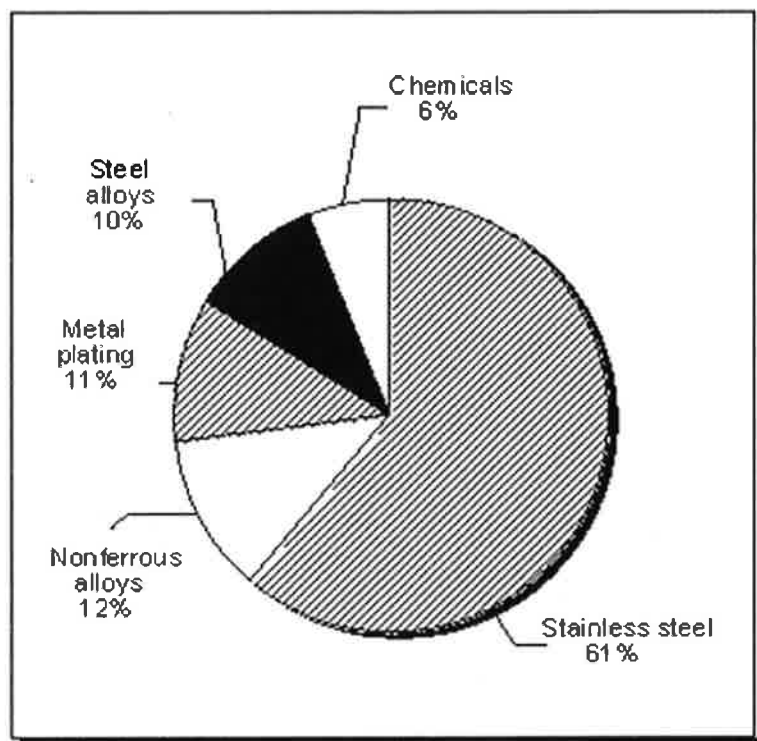
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Figure 1
London Metal Exchange Cash and Three-Month Price for Nickel, 2009



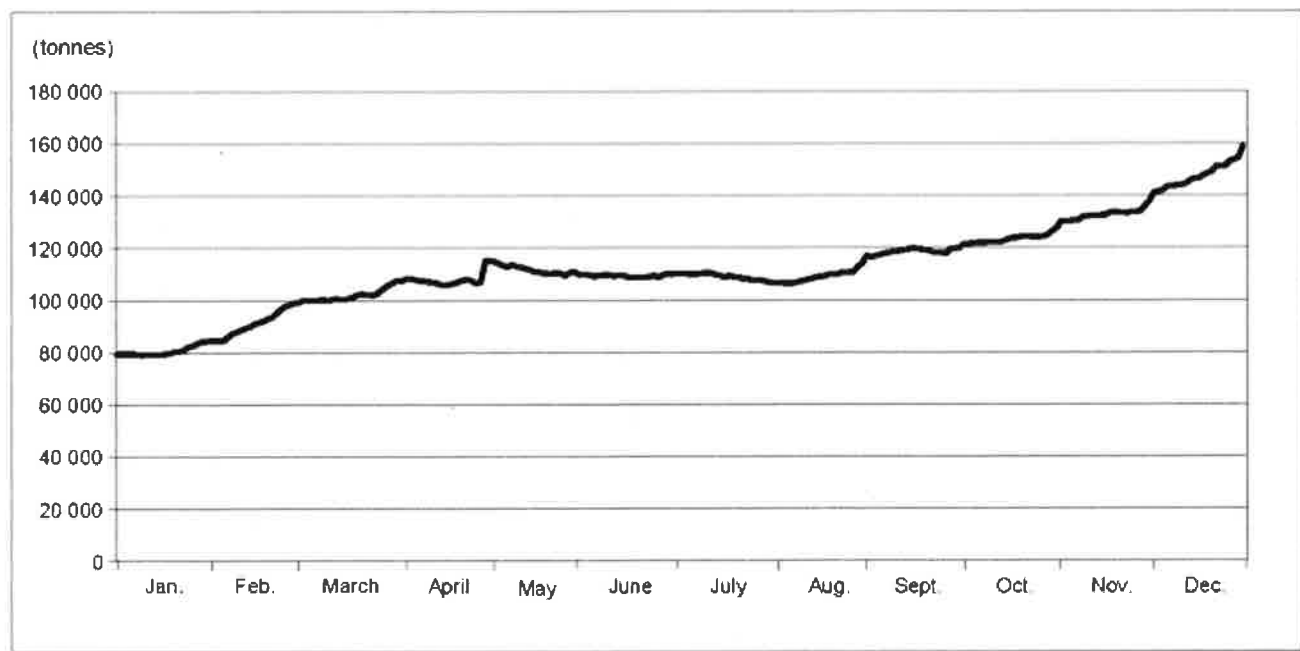
Source: London Metal Exchange.

Figure 2
World Primary Nickel Use



Source: International Nickel Study Group.

Figure 3
London Metal Exchange Inventory for Nickel, 2009



Source: London Metal Exchange.

TARIFFS

Description	Canada	EU	Japan
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Item No.		United States					
		MFN	GPT	USA	Canada	Conventional Rate (1)	WTO (2)
26.04	Nickel ores and concentrates	Free	Free	Free	Free	Free	Free
2620.99	Slag, ash and residues (other than from the manufacture of iron or steel) containing metals, arsenic or their compounds: other: other	Free	Free	Free	Free	Free	Free
2825.40	Hydrazine and hydroxylamine and their inorganic salt; other inorganic bases; other metal oxides, hydroxides and peroxides: nickel oxides and hydroxides	Free	Free	Free	Free	Free	4.8%
2827.35	Chloride, chloride oxides and chloride hydroxides; bromides and bromide oxides; iodides and iodide oxides: other chlorides: of nickel	3.5%	3%	Free	Free	5.5%	3.3%
2833.24	Sulphates; alums; peroxosulphates (persulphates): other sulphates: of nickel	3%	Free	Free	Free	5%	3.9%
3815.11	Reaction initiators, reaction accelerators and catalytic preparations, not elsewhere specified or included: supported catalysts: with nickel or nickel compounds as the active substance	Free	Free	Free	Free	6.5%	2.2%
7202.60	Ferro-alloys: ferro-nickel	6.5%	Free	Free	Free	Free	3.3%
7204.21	Ferrous waste and scrap; remelting scrap ingots of iron or steel: waste and scrap of alloy steel: of stainless steel	Free	Free	Free	Free	Free	Free
75.01	Nickel mattes, nickel oxide sinters and other intermediate products of nickel metallurgy	Free	Free	Free	Free	Free	Free-3%
7502.10	Unwrought nickel: nickel, not alloyed	Free	Free	Free	Free	Free	44 yen/kg
7502.20	Unwrought nickel: nickel alloys	Free	Free	Free	Free	Free	Free-3%
75.03	Nickel waste and scrap	Free	Free	Free	Free	Free	Free
75.04	Nickel powders and flakes	Free	Free	Free	Free	Free	Free-3%
7505.11	Nickel bars, rods, profiles and wire: bars, rods and profiles: of nickel, not alloyed	Free	Free	Free	Free	Free	3%
7505.12	Nickel bars, rods, profiles and wire: bars, rods and profiles: of nickel alloys	Free	Free	Free	Free	2.9%	3%
7505.21	Nickel bars, rods, profiles and wire: wire: of nickel, not alloyed	Free	Free	Free	Free	Free	3%
7505.22	Nickel bars, rods, profiles and wire: wire: of nickel alloys	Free	Free	Free	Free	2.9%	3%
75.06	Nickel plates, sheets, strip and foil	Free	Free	Free	Free	Free-3.3%	Free-3%
75.07	Nickel tubes, pipes, and tube or pipe fittings (e.g., for couplings, elbows, sleeves)	Free	Free	Free	Free	Free-2.5%	Free-3%
75.08	Other articles of nickel	Free-3%	Free	Free	Free	Free	3%

Sources: Canadian *Customs Tariff*, effective January 2010, Canada Border Services Agency; *Harmonized Tariff Schedule of the United States*, 2010; *Official Journal of the European Union* (Tariff Information), October 31, 2009 edition; *Customs Tariff Schedules of Japan*, 2010. GPT General Preferential Tariff; MFN Most Favoured Nation; WTO World Trade Organization.

(1) The customs duties applicable to imported goods originating in countries that are Contracting Parties to the General Agreement on Tariffs and Trade or with which the European Community has concluded agreements containing the most-favoured nation tariff clause shall be the conventional duties shown in column 3 of the Schedule of Duties. (2) WTO rate is shown; lower tariff rates may apply circumstantially.

TABLE 1. CANADA, NICKEL PRODUCTION BY PROVINCE, 2007-09

	2007		2008		2009 (p)	
	(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
MINE OUTPUT						
Nickel content of concentrates produced (1)	254 915	..	259 651	..	136 339	..
SHIPMENTS						
Recoverable content of nickel in concentrates shipped from Canadian mines						
Newfoundland and Labrador	71 850	2 878 032	79 807	1 851 920	28 023	476 585
Quebec	25 277	1 012 501	21 707	503 706	28 120	478 239
Ontario	113 795	4 558 171	113 848	2 641 850	44 253	752 615
Manitoba	33 617	1 346 546	30 835	715 526	31 235	531 205
Total	244 539	9 795 249	246 197	5 713 003	131 631	2 238 644
Finished nickel output = refined nickel in various shapes in Class I, plus Class II nickel (as defined by the International Nickel Study Group), which includes nickel oxide sinter	153 647	..	167 732	..	113 067	..

Sources: Natural Resources Canada; Statistics Canada.

.. Not available; (p) Preliminary.

Note: Numbers may not add to totals due to rounding.

TABLE 2. CANADA, NICKEL TRADE, 2007-09

		2007		2008		2009 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
EXPORTS							
2604.00.40	Nickel ores and concentrates, (nickel content)						
	China	1 062	14 886	258	3 406	3	48
	Finland	8 423	317 224	17 669	308 103	—	—
	United States	—	—	18	8	—	—
	Total	9 485	332 110	17 945	311 517	3	48
2825.40	Nickel oxides and hydroxides (weight of material, not nickel content)						
	United States	295	3 786	196	2 965	141	1 463
	China	1	16	—	—	7	80
	Brazil	1	16	2	26	7	72
	South Africa	—	—	...	2	3	34
	Other countries	456	4 905	44	482	—	—
	Total	753	8 723	242	3 475	158	1 649
2827.35	Nickel chlorides (weight of material, not nickel content)						
	United States	—	—	2	5	4	8
	Other countries	...	...	...	...	—	—
	Total	...	...	2	5	4	8

2833.24	Nickel sulphates (weight of material, not nickel content)					
	Brazil	—	—	—	182	2 226
	United States	11	40	—	12	66
	Finland	109	3 274	162	1 690	—
	Other countries	7	47	5	118	—
	Total	127	3 361	167	1 808	2 292
3815.11	Catalysts and other reaction initiators, reaction accelerators and catalytic preparations with nickel or nickel compounds as the substance (weight of material, not nickel content)					
	India	—	—	—	353	4 773
	South Korea	—	—	—	8	80
	United States	26	42	22	111	51
	Other countries	...	4	...	1	16
	Total	26	46	22	473	4 920
7202.60	Ferronickel (weight of material, not nickel content)					
	United States	—	—	—	182	916
7204.21	Stainless steel waste and scrap (weight of material, not nickel content)					
	United States	81 898	128 015	93 737	145 434	91 180
	China	49 907	67 641	12 866	32 267	14 714
	Netherlands	13 747	48 249	10 254	27 500	8 823
	India	53 489	20 311	2 987	7 679	3 750
	South Korea	7 635	19 568	61 712	5 089	804
	Italy	9 270	34 504	5 556	12 897	844
	Taiwan	269 098	2 345	904	2 333	552
	Pakistan	47	166	140	178	1 922
	Other countries	84 759	23 491	2 903	8 186	1 689
	Total	569 850	344 290	191 059	241 563	156 363
7501.10	Nickel mattes (nickel content)					
	Norway	73 922	3 020 815	76 018	2 051 506	68 972
	Japan	—	—	890	10 585	—
	Total	73 922	3 020 815	76 908	2 062 091	1 217 068
7501.20	Nickel oxide sinters and other intermediate products of nickel metallurgy (weight of material, not nickel content)					
	United Kingdom	41 682	1 392 887	45 011	784 681	11 869
	China	3 859	8 487	11 720	174 770	5 546
	South Korea	4 736	169 311	12 164	220 988	3 236
	Taiwan	3 178	80 345	5 927	126 546	1 236
	Other countries	670	19 887	628	12 758	126
	Total	54 125	1 670 917	75 450	1 319 743	288 369
7502.10	Nickel unwrought, not alloyed (nickel content)					
	China	26 303	1 026 586	29 844	703 916	34 901
	United States	51 337	2 114 097	56 401	1 418 594	35 488

	Netherlands	11 793	452 581	12 830	267 466	10 336	165 112
	Hong Kong	8 229	333 547	10 082	241 290	10 138	165 026
	Taiwan	5 592	253 323	4 209	105 869	2 943	47 919
	South Korea	1 902	76 957	1 712	39 357	2 081	32 639
	India	1 251	47 181	1 386	30 118	2 087	31 273
	Japan	2 496	106 112	2 844	64 138	1 450	23 751
	Turkey	839	36 974	1 029	23 032	924	17 844
	Spain	1 205	49 411	1 075	26 495	669	11 630
	Australia	975	39 758	1 113	25 720	799	11 395
	Italy	2 403	101 010	1 085	25 446	769	11 269
	Belgium	4 085	184 362	3 055	62 473	505	7 717
	Singapore	1 523	60 542	2 341	57 520	510	7 388
	Iran	164	5 409	364	9 235	357	6 421
	Pakistan	54	1 524	229	4 636	310	4 857
	Thailand	310	14 709	170	3 965	273	4 642
	Indonesia	280	13 212	168	3 988	203	3 570
	South Africa	1 144	62 753	—	—	200	2 530
	United Arab Emirates	128	3 985	251	5 435	118	1 757
	Vietnam	172	6 729	109	3 098	81	1 734
	Other countries	5 789	202 598	692	15 838	239	3 631
	Total	127 974	5 193 360	130 989	3 137 629	105 381	1 695 415
7502.20	Nickel unwrought, alloyed (weight of material, not nickel content)						
	United States	46	2 272	161	2 589	...	36
	Hong Kong	—	—	...	6	1	22
	Poland	1	12	...	9	1	21
	South Africa	—	—	...	2	...	12
	Other countries	1	86	...	4	—	—
	Total	48	2 370	161	2 610	2	91
7503.00	Nickel waste and scrap (weight of material, not nickel content)						
	United States	2 839	33 828	4 812	59 716	3 952	37 947
	Norway	189	4 040	62	1 320	162	1 371
	Japan	—	—	58	745	81	1 184
	Netherlands	1 102	16 705	1 383	6 241	296	853
	Other countries	427	7 862	51	1 120	105	366
	Total	4 557	62 435	6 366	69 142	4 596	41 721
7504.00	Nickel powders and flakes alloyed and unalloyed (weight of material not nickel content)						
	United States	3 587	148 524	3 876	123 070	2 275	50 543
	Japan	5 767	252 905	6 165	176 604	1 685	31 500
	China	2 198	94 142	2 511	68 223	1 510	26 793

	Belgium	1 155	47 836	1 093	25 142	769	12 752
	South Korea	762	33 658	634	18 611	610	11 336
	Taiwan	111	4 832	117	3 632	280	4 881
	Germany	138	7 690	98	4 417	419	4 707
	Brazil	255	13 705	472	10 809	105	2 312
	Singapore	139	3 382	180	5 331	82	1 183
	Thailand	45	1 137	96	2 985	32	648
	New Caledonia	—	—	36	631	36	621
	Sweden	3	187	9	483	11	567
	Other countries	135	6 328	227	8 183	50	1 565
	Total	14 295	614 326	15 514	448 121	7 864	149 408
7505.11	Bars, rods and profiles of nickel, not alloyed (nickel content)						
	United Arab Emirates	—	—	—	—	...	3
	China	—	—	—	—	...	...
	United States	—	—	...	8	—	—
	Total	—	—	...	8	...	3
7505.12	Bars, rods and profiles of nickel alloy (weight of material, not nickel content)						
	United States	10	155	80	672	20	174
	Poland	...	2	...	3	...	22
	Germany	—	—	—	—	...	4
	Other countries	5	147	5	190	...	...
	Total	15	304	85	865	20	200
7505.21	Nickel wire, not alloyed (weight of nickel wire plus coating if any, not nickel content)						
	Chile	—	—	...	12	...	6
	Belgium	...	...	—	—	—	—
	United States	12	555	6	348	—	—
	Total	12	555	6	360	...	6
7505.22	Wire, nickel alloy (weight of alloy plus coating, if any, not nickel content)						
	United States	27	1 188	37	1 403	9	471
	China	—	—	—	—	1	83
	Other countries	2	91	56	2 738	...	12
	Total	29	1 279	93	4 141	10	566
7506.00	Nickel plates, sheets, strip and foil						
	United States	1	49	1	78	32	376
	Taiwan	—	—	—	—	1	38
	Philippines	4	125	1	15	1	11
	Other countries	10	293	1	85	1	10
	Total	15	467	3	178	35	435
		(n.a.)	(\$000)	(n.a.)	(\$000)	(n.a.)	(\$000)

7507.11 to 7507.20	Tubes, pipes and tube or pipe fittings, alloyed and unalloyed (weight of material, not nickel content)					
	United States	..	9 128	..	16 421	10 748
	Singapore	—	—	..	173	563
	Kuwait	—	—	..	58	337
	United Arab Emirates	..	282	..	939	304
	United Kingdom	..	250	..	322	256
	France	..	...	..	1	207
	Israel	..	34	..	49	186
	China	..	44	..	533	156
	South Korea	..	1 457	..	302	114
	Japan	..	26	..	14	112
	Netherlands	..	233	..	460	104
	Other countries	..	4 632	..	1 994	189
	Total	..	16 086	..	21 266	13 276
7508.00	Other articles of nickel (weight of material, not nickel content)					
	United States	..	15 859	..	18 053	16 403
	France	..	1 812	..	2 271	3 594
	United Kingdom	..	174	..	523	668
	Poland	..	79	..	227	600
	Germany	..	247	..	367	436
	Brazil	..	1 982	..	997	343
	Sweden	..	22	..	62	160
	Other countries	..	1 274	..	3 574	439
	Total	..	21 449	..	26 074	22 643
Total exports		..	11 292 893	..	7 650 618	3 595 397
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)
IMPORTS						
2604.00.00.20	Nickel ores and concentrates (nickel content)					
	Australia	1 641	78 768	1 560	35 431	201 771
	South Africa	3 243	140 468	...	...	488
	United States (1)	—	—	14	268	1 051
	Other countries	159	4 640	31	15	7
	Total	5 043	223 876	1 605	35 714	209 521
2620.99.00.90	Ash and residues: other (containing mainly nickel)					
	United States	117 097	3 737	310 482	11 621	204 646
	South Africa	29 971	13 190	5 078	2 327	17 794
	Qatar	—	—	—	—	1 282
	Norway	15 502	5 044	—	—	9 763
	Australia	741	4 074	—	—	27

	Japan	54 414	6 449	8 949	4 288	21 847	2 240
	Germany	1 398	3 824	356	2 957	24 270	975
	Suriname	30 697	1 867	218	674	3 152	861
	France	15 283	1 144	15 201	846	100	574
	Other countries	21 167	2 334	2 159	324	260	164
	Total	286 270	41 663	342 443	23 037	283 141	37 482
2825.40	Nickel oxides and hydroxides (weight of material, not nickel content)						
	United States	1 964	8 515	1 512	4 928	976	4 498
	South Korea	—	—	...	...	17	199
	Japan	—	—	20	223	19	145
	Other countries	76	666	26	348	...	5
	Total	2 040	9 181	1 558	5 499	1 012	4 847
2827.35	Nickel chlorides (weight of material, not nickel content)						
	France	87	632	24	183	40	218
	Germany	...	...	11	79	23	159
	Norway	6	191	7	600	10	71
	United States	56	346	17	104	8	52
	Other countries	37	231	11	73	1	7
	Total	186	1 400	70	1 039	82	507
2833.24	Nickel sulphates (weight of material, not nickel content)						
	United States	3 940	13 559	4 106	10 739	1 771	4 575
	Japan	...	...	—	—	175	1 108
	China	217	2 101	182	1 162	143	803
	Finland	108	955	91	641	159	747
	Belgium	228	1 855	176	1 222	19	96
	Other countries	11	101	3	27	7	23
	Total	4 504	18 571	4 558	13 791	2 274	7 352
3815.11	Catalysts and other reaction initiators, reaction accelerators and catalytic preparations with nickel or nickel compounds as the substance (weight of material, not nickel content)						
	United States	845	20 783	262	4 596	622	14 834
	Denmark	125	2 617	62	1 354	386	7 696
	South Africa	—	—	—	—	45	815
	Belgium	...	2	—	—	43	776
	India	70	922	75	1 149	39	577
	Germany	99	1 874	153	3 187	35	511
	Other countries	234	2 815	258	6 856	26	356
	Total	1 373	29 013	810	17 142	1 196	25 565
7202.60	Ferronickel (weight of material, not nickel content)						
	United States	2	27	...	5	...	3
	Canada	4	104	—	—	—	—

	China	...	2	...	4	—	—
	South Africa	1	13	—	—	—	—
	Total	7	146	...	9	...	3
7204.21	Stainless steel waste and scrap (weight of material, not nickel content)						
	United States	28 699	58 541	22 671	50 654	223 146	25 934
	Norway	..	...	—	—	512	628
	South Africa	—	—	7	16	15	33
	Other countries	6	15	7	17	42	14
	Total	28 705	58 556	22 685	50 687	223 715	26 609
7501.10	Nickel mattes (nickel content)						
	Indonesia	—	—	—	—	318	3 619
	Switzerland	—	—	—	—	3	145
	Other countries	1 221	5 125	1	22	...	7
	Total	1 221	5 125	1	22	321	3 771
7501.20	Nickel oxide sinters and other intermediate products of nickel metallurgy (weight of material, not nickel content)						
	Botswana	15 305	68 333	2 155	4 425	15 947	27 194
	Germany	33 680	91 638	22 341	66 807	8 975	15 188
	United States	12 000	18 377	9 278	14 259	2 349	3 594
	Other countries	16	58	154	513	66	91
	Total	61 001	178 406	33 928	86 004	27 337	46 067
7502.10	Nickel unwrought, not alloyed (nickel content)						
	Canada	16	652	6	181	178	3 078
	Norway	489	20 554	106	2 420	144	2 820
	Brazil	—	—	12	318	63	1 198
	Australia	—	—	42	852	60	1 155
	United Kingdom	86	3 816	767	20 017	37	558
	Russia	40	1 167	233	5 898	26	491
	Finland	498	19 484	140	3 737	18	355
	Other countries	81	3 018	65	1 574	32	549
	Total	1 210	48 691	1 371	34 997	558	10 204
7502.20	Nickel unwrought, alloyed (weight of material, not nickel content)						
	United States	302	6 039	159	2 996	35	720
	Canada	64	2 931	4	130	25	421
	Russia	—	—	—	—	21	404
	United Kingdom	55	1 722	124	3 878	10	250
	Belgium	—	—	—	—	5	108
	Other countries	382	1 740	308	1 454	25	189
	Total	803	12 432	595	8 458	121	2 092
7503.00	Nickel waste and scrap (weight of material, not nickel content)						

	United States	19 780	95 930	16 330	69 231	5 439	17 324
	Norway	55	1 048	224	1 590	505	1 374
	Zimbabwe	62	1 644	29	245	214	599
	United Kingdom	67	369	19	106	99	463
	Belgium	—	—	—	—	33	202
	Netherlands	26	255	39	465	39	101
	Other countries	175	1 093	545	2 512	63	165
	Total	20 165	100 339	17 186	74 149	6 392	20 228
7504.00	Nickel powders and flakes, alloyed and unalloyed (weight of material, not nickel content)						
	Australia	1 003	40 006	674	16 216	722	13 155
	United States	136	5 353	105	4 766	129	5 338
	United Kingdom	11	475	2	185	174	3 019
	Russia	5	271	6	148	36	2 099
	Belgium	17	1 095	27	1 329	26	943
	Ireland	4	207	8	347	15	505
	Other countries	40	2 569	33	1 234	22	546
	Total	1 216	49 976	855	24 225	1 124	25 605
7505.11	Bars, rods and profiles of nickel, not alloyed (nickel content)						
	United States	12	346	57	1 637	23	856
	United Kingdom	16	463	3	176	3	145
	Other countries	...	18	...	8	...	19
	Total	28	827	60	1 821	26	1 020
7505.12	Bars, rods and profiles of nickel alloy (weight of material, not nickel content)						
	United States	825	34 742	636	31 293	505	22 671
	Germany	57	1 738	46	1 931	33	1 159
	United Kingdom	7	356	7	342	7	299
	Japan	9	163	5	109	4	118
	Austria	1	23	2	104	7	109
	Other countries	29	920	27	973	6	245
	Total	928	37 942	723	34 752	562	24 601
7505.21	Nickel wire, not alloyed (weight of nickel wire plus coating, if any, not nickel content)						
	Germany	1	75	31	1 072	11	296
	United States	39	756	10	501	5	266
	France	...	...	—	—	9	264
	Austria	2	111	2	63	5	114
	Other countries	...	4	...	6	2	21
	Total	42	946	43	1 642	32	961
7505.22	Wire, nickel alloy (weight of alloy plus coating, if any, not nickel content)						
	United States	192	8 243	207	9 738	186	7 408

	Germany	57	2 305	152	4 220	68	2 196
	Sweden	57	2 064	96	3 036	53	1 489
	China	1	55	9	347	8	282
	United Kingdom	10	887	6	753	4	267
	France	20	1 023	30	1 433	5	153
	Other countries	48	1 709	25	729	2	42
	Total	385	16 286	525	20 256	326	11 837
7506.00	Nickel plates, sheets, strip and foil						
	United States	610	28 555	702	33 414	551	19 957
	Germany	858	39 689	556	18 675	449	10 793
	Sweden	1	137	2	114	2	100
	Other countries	7	446	8	574	6	189
	Total	1 476	68 827	1 268	52 777	1 008	31 039
7507.00	Tubes, pipes, and tube or pipe fittings alloyed and unalloyed (weight of material, not nickel content)						
	United States	603	23 218	892	38 230	460	18 762
	Sweden	102	5 930	282	13 651	217	4 323
	United Kingdom	2	106	5	420	5	369
	Japan	8	474	670	25 201	7	355
	Norway	20	533	220	5 921	20	277
	Germany	2	104	7	274	4	230
	France	3	92	1	29	2	113
	Italy	5	424	9	462	2	112
	Spain	2	128	2	158	2	100
	Other countries	154	13 535	14	360	5	132
	Total	901	44 544	2 102	84 706	724	24 773
7508.00	Other articles of nickel (weight of material, not nickel content)						
	United States	266	17 370	170	19 964	120	14 007
	Germany	4	156	1	87	25	4 035
	France	9	482	2	753	5	1 609
	United Kingdom	12	652	12	2 249	15	1 422
	Switzerland	29	388	9	480	11	558
	China	80	671	39	636	31	543
	Canada	3	288	4	242	6	520
	Other countries	25	868	16	820	15	1 084
	Total	428	20 875	253	25 231	228	23 778
Total imports		417 932	967 622	432 639	595 958	564 181	537 862

Sources: Natural Resources Canada; Statistics Canada.

– Nil; . . Not available; . . . Amount too small to be expressed; n.a. Not applicable.

(1) The United States does not produce nickel concentrates, so reported imports may come from other countries or be misclassified.

Notes: Numbers may not add to totals due to rounding. The value of nickel in ash and residue from Cuba is not included in the total value.

TABLE 3. CANADA, HISTORICAL
NICKEL PRODUCTION AND USE,
1990-2009

	Production (1) (Mine Output)	Use (2)
	(tonnes)	
1990	196 225	7 454
1991	192 259	8 486
1992	186 384	10 676
1993	188 080	10 026
1994	149 886	12 335
1995	181 820	12 469
1996	192 649	14 194
1997	190 529	10 689
1998	208 302	12 053
1999	186 236	14 447
2000	190 793	14 861
2001	194 058	10 057
2002	189 297	10 618
2003	163 244	7 906
2004	186 694	7 441
2005	199 932	8 701
2006	232 948	7 480
2007	254 915	7 195
2008	259 651	..
2009 (p)	136 339	..

Sources: Natural Resources Canada; Statistics Canada.

.. Not available; (p) Preliminary.

(1) Refined nickel and nickel in oxides and salts produced, plus recoverable nickel in matte and concentrates exported. Data are for nickel contained in concentrates produced. (2) Use of metallic nickel, all forms (refined metal, nickel in ferronickel oxides and salts, and other forms of nickel, including nickel in purchased scrap) as reported by users on the Natural Resources Canada survey "Nickel Use."

Note: The Nickel Use survey is currently suspended.

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