

# Mineral Industry Surveys

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## TIN IN FEBRUARY 2000

Domestic consumption of primary tin in February was estimated by the U.S. Geological Survey to be 2% lower than that in January and 4% lower than that in February 1999.

The *Platt's Metals Week* average composite price for tin in February was \$3.83 per pound, down 4% from January and up 7% from February 1999.

The U.S. Steel Group of USX Corp. (Pittsburgh, PA) announced that it had reached a tentative agreement to acquire the steel mill and related assets of VSZ Corp. (Kosice, Slovakia). Two years ago, U.S. Steel established a tin mill joint-venture deal with VSZ, once the largest steel producer in Slovakia, and used that relationship as a bridge to eventually acquire the rest of VSZ's steel assets. In recent years, VSZ has been burdened with heavy debt. The company, which is Government-owned, reportedly had gotten involved in too many operations that caused losses. The financial terms of the deal were not disclosed, but U.S. Steel officials indicated that its acquisition of the 3.5-million-ton-per-year steel mill was part of a restructuring of VSZ which included a cash distribution and assumption of specific obligations. Only non-steel assets will remain under the direction and ownership of VSZ. U.S. Steel views the mill as an important stronghold in its attempt to gain a presence in central Europe, where steel demand is growing (*American Metal Market*, 2000).

In Bolivia, it was announced that the ownership of the Vinto tin smelter and Huanuni Mine would completely transfer to Allied Deals Corp. in March. Allied is paying a bank fee of about \$1 million, \$15 million for the smelter and associated assets, and \$500,000 for a 30-year lease on what may be the world's largest underground tin mine. Vinto now produces about 11,000 tons annually of low-lead tin. Allied plans to increase production at Vinto to 15,000 metric tons (t) per year over the next 12-18 months and to further increase output to 18,000-20,000 metric tons per year (t/yr) in 2 years. The new owners may also introduce a new tin product to compete with Brazilian, Chinese, and Peruvian product grades (*Platt's Metals Week*, 2000c).

In Peru, the country's lone tin producer, Minsur, announced plans to invest about \$7 million this year in exploration activities

to boost tin reserves. Minsur owns mining concessions in the regions of Puno and Arequipa (southern highlands), Cajamarca, Ancash (northern Andes), and the highlands above Lima. Minsur also stated that its San Rafael underground tin mine in the Puno region produced 40,000 t of tin-in-concentrate in 1999 and that Minsur planned to raise output when upgrade work on San Rafael's concentrator plant is completed. Work is nearly finished on the installation of a second blast furnace at San Rafael, allowing the plant to continue producing when the first furnace is shut down. Officials at Minsur's \$30 million Funsur tin refinery in the southern port of Pisco, with a capacity of 40,000 t/yr, are waiting for the results of a study of San Rafael concentrate before proceeding with expansion plans. The San Rafael Tin Mine has reserves of 12 million t with ore grades of up to 6.5%, making it one of the world's richest tin deposits. Funsur produced 30,000 t of 99.95%-pure refined tin last year, up 18% from that of 1998 (*Platt's Metals Week*, 2000a).

In Australia, Murchison United announced an agreement with the Tasmanian State Government to jointly fund a \$22 million, 6-year exploration and development program aimed at securing the long-term future of the company's Renison Bell Tin Mine. This new program will enhance a prior \$13 million program already underway at Renison designed to convert existing inferred resources to reserves and extend mine life beyond 10 years. Murchison acquired Renison in 1998 and has since been transforming it into one of the world's lowest-cost tin mines (*Platt's Metals Week*, 2000b).

Also in Australia, Marlborough Resources NL Group announced that it had reached a complex agreement to acquire a subsidiary of Western Metals Ltd., which owns the defunct Ardlethan tin mine, for an agreed purchase price of \$1. Marlborough will take responsibility for rehabilitation of the old tin project, which was closed down in 1986. Tailings dams at the site contain about 8 million tons of tailings with a grade of about 0.19% tin. Thus, about 15,000 t of tin are contained in the tailings, with a current in-situ value of about \$90 million. Marlborough has conducted several detailed studies of these tailings over the past 20

years and believes that recoveries of between 55-65% may be possible depending on the process used. The firm also will be conducting further test work on the site to determine the most economical process and equipment to maximize profitability from the treatment of tailings. The firm plans to transport the retreated tailings back into the original open cut. In addition to the tailings, there are significant alluvial tin resources on some of the 53 mineral tenements that come with the acquisition (Tin International, 2000a).

In Russia, the country's only tin smelter, the Novosibirsk Tin Combine, announced plans to increase output by about 50% over that of 1999. The firm expects to produce 6,000 t of refined tin and 3,000 t of solder. It also plans to raise total annual output to 20,000 t in 2001, a level not achieved since 1986, to meet increased domestic demand. Novosibirsk plans to move ahead with the development of its resource base this year by making acquisitions and increasing production of tin concentrate at the four mining complexes that it controls or partially owns. The firm effectively controls all of its suppliers except the Khrustalnaya Company of Primorye, which is owned by Nevada Mountain. By yearend 2000, the four mining complexes in which Novosibirsk owns an interest are due to achieve a production level which will cover at least 80% of the smelter's needs, with the Deputatskolovo

Tin Mine providing half of the total. Recently, the firm started a long-term investment program at Deputatskolovo with a total cost of about \$5 million. The aim is to increase mine output there by 30-40%. The mine is located in far eastern Russia at Yakutia and is ice-bound for much of the year (Tin International, 2000b).

#### **Update**

On March 31, the *Platt's Metals Week* composite price for tin was \$3.65 per pound.

#### **References Cited**

- American Metal Market, 2000, U.S. Steel to acquire Slovakia's VSZ: American Metal Market, v. 108, no. 58, March 27, p. 2.
- Platt's Metals Week, 2000a, Minsur to invest up to \$8 million: Platt's Metals Week, v. 71, no. 10, March 6, p. 4.
- 2000b, Murchison gets government funding: Platt's Metals Week, v. 71, no. 9, February 28, p. 15.
- 2000c, Vinto sale closing delayed; Allied mulls contracts: Platt's Metals Week, v. 71, no. 10, March 6, p. 4.
- Tin International, 2000a, Marlborough on track to produce tin in 2001: Tin International, v. 73, no. 3, March, p. 1.
- 2000b, NOK to boost output in 2000: Tin International, v. 73, no. 3, March, p. 3.

TABLE 1  
SALIENT TIN STATISTICS 1/

(Metric tons, unless otherwise noted)

	1999 p/	2000		January- February
		January	February	
Production, secondary e/ 2/	10,800	900	900	1,800
Consumption:				
Primary	40,900	3,460 r/	3,540	7,000
Secondary	10,300	902 r/	929	1,830
Imports for consumption, metal	47,500	4,260	NA	NA
Exports, metal	6,770	460	NA	NA
Stocks at end of period	XX	8,330 r/	7,960	XX
Prices (average cents per pound): 3/				
Metals Week composite 4/	365.98	397.72	382.84	XX
Metals Week New York dealer	254.54	277.61	264.88	XX
London, standard grade, cash	245.00	269.00	256.00	XX
Kuala Lumpur	240.70	264.93	254.37	XX

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to no more than three significant digits, except prices.

2/ Includes tin recovered from alloys and tinplate. The detinning of tinplate (coated steel) yields only a small part of the total.

3/ From Platt's Metals Week.

4/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed and finance charges, and a risk factor. It normally is substantially higher than other tin prices.

TABLE 2  
METALS WEEK COMPOSITE PRICE 1/

(Cents per pound)

Period	High	Low	Average
1999:			
February	364.44	351.24	356.57
March	363.63	356.99	361.19
April	377.31	357.08	365.05
May	384.76	373.61	380.66
June	368.44	354.81	360.01
July	362.56	356.00	357.87
August	362.04	355.27	358.10
September	372.30	357.68	364.61
October	383.67	363.53	369.61
November	397.54	385.56	391.55
December	403.52	381.53	386.61
Year	403.52	343.72	365.98
2000:			
January	405.27	390.75	397.72
February	391.92	377.25	382.84

1/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed and finance charges, and a risk factor. It normally is substantially higher than other tin prices.

Source: Platt's Metals Week.

TABLE 3  
TINPLATE PRODUCTION AND SHIPMENTS IN THE UNITED STATES 1/

(Metric tons, unless otherwise noted)

Period	Tinplate waste (waste, strips, cobble, etc.) (gross weight)	Tinplate (all forms)			Shipments 2/
		Gross weight	Tin content	Tin per metric ton of plate (kilograms)	
1999 p/	W	1,750,000	r/ 9,080	5.2	2,370,000
2000:					
January	W	141,000	718	5.1	184,000
February	W	144,000	783	5.4	NA

p/ Preliminary. r/ Revised. NA Not available. W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to no more than three significant digits.

2/ Shipments data from American Iron and Steel Institute monthly publication.

TABLE 4  
U.S. TIN IMPORTS FOR CONSUMPTION AND EXPORTS 1/

(Metric tons)

Country or product	1999		2000
	Year p/	December	January
<b>Imports:</b>			
<b>Metal (unwrought tin):</b>			
Bolivia	3,850	452	808
Brazil	4,700	360	520
Chile	3,980	254	491
China	13,900	994	1,270
Hong Kong	261	--	116
Indonesia	7,930	841	500
Japan	282	--	--
Malaysia	944	80	20
Peru	11,000	1,220	505
Singapore	60	--	--
Thailand	20	--	--
United Kingdom	60	19	--
Other	533	2	21
<b>Total</b>	<b>47,500</b>	<b>4,220</b>	<b>4,260</b>
<b>Other (gross weight):</b>			
Alloys	3,090	192	274
Bars and rods	872	60	101
Foil, tubes, and pipes	1	--	--
Plates, sheets, and strip	122	1	--
Waste and scrap	2,730	159	99
Miscellaneous	2,290	195	233
<b>Total</b>	<b>9,100</b>	<b>607</b>	<b>707</b>
<b>Exports (metal)</b>	<b>6,770</b>	<b>497</b>	<b>460</b>

p/ Preliminary. -- Zero.

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

Source: Bureau of the Census.

TABLE 5  
CONSUMPTION OF TIN IN THE UNITED STATES, BY FINISHED PRODUCT 1/

(Metric tons of contained tin)

Product	1999 p/	2000						
		January			February			January- February
		Primary	Secondary	Total	Primary	Secondary	Total	
Alloys (miscellaneous) 2/	W	126	W	126	127	W	127	253
Babbitt	22	34	W	34	W	W	W	34
Bar tin and anodes	244	25	--	25	25	--	25	50
Bronze and brass	3,170	107	154	261	109	155	264	525
Chemicals	8,140	661 r/	W	661 r/	661	W	661	1,320
Collapsible tubes and foil	W	W	W	W	W	W	W	W
Solder	14,000	1,040	413	1,450	869	439	1,310	2,760
Tinning	508	84	--	84	53	--	53	137
Tinplate 3/	9,080	718	--	718	783	--	783	1,500
Tin powder	W	49	--	49	48	--	48	97
White metal 4/	W	W	--	W	5	--	5	5
Other	6,120	18 r/	35 r/	53 r/	256	35	292	345
Total reported	41,300	2,860 r/	602 r/	3,460 r/	2,940	629	3,570	7,030
Estimated undistributed consumption 5/	13,800 r/	600	300	900	600	300	900	1,800
Grand total	55,100 r/	3,460 r/	902 r/	4,360 r/	3,540	929	4,470	8,830

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other." -- Zero.

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

2/ Includes terre metal.

3/ Includes secondary pig tin and tin components of tinplating chemical solutions.

4/ Includes pewter, britannia metal, and jewelers' metal.

5/ Estimated consumption of plants reporting on an annual basis.