

TIN



# Indian Minerals Yearbook 2020

(Part- II : METALS AND ALLOYS)

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TIN

(ADVANCE RELEASE)

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# 17 Tin

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**T**in is one of the earliest metals known and used mainly in bronze implements. It is a scarce element having an incidence of about 2 ppm in the earth's crust. Its unique combination of properties like non-toxic nature, high malleability, chemical inertness and ease with which it can form an amalgam and alloy with other metals has given it a special status among non-ferrous metals. Pure tin is a silvery-white metal which is soft and malleable. It does not occur naturally as metal. By far, the most important tin mineral is cassiterite ( $\text{SnO}_2$ ), which theoretically, in its purest form contains 78.77% tin. But usually it includes impurities of Nb, Ta, Zr, Sc, W and Fe. The less common tin ore is stannite ( $\text{Cu}_2\text{SnFeS}_4$ ). Tin is now used mostly for tin plating, soldering special alloys and in making bronze.

## RESERVES/RESOURCES

In India, tin ore is found associated with granite, pegmatites and quartz veins and also in placer deposits. Resources are spread over in Bastar and Dantewada districts of Chhattisgarh, Tosham deposit in Bhiwani district of Haryana and Malkangiri district of Odisha.

The total reserves/resources of tin ore in the country as per NMI data, based on UNFC system, as on 1.4.2015 is placed at 83.73 million tonnes containing about 1,02,413 tonnes metal. About 4,419 tonnes ore containing 154 tonnes metal are placed under 'Reserves' category and the bulk, i.e., about 83.72 million tonnes containing about 1,02,259 tonnes metal are placed under 'Remaining Resources' category. As per DMG Chhattisgarh, the total recoverable reserves of cassiterite concentrate is 19,544.58 tonnes in Tongpal area, Katekalyan area and Padapur-Bacheli area. Out of 19,544.58 tonnes, 18,837.16 tonnes are placer deposit. The entire resources of tin are located in Chhattisgarh and

Haryana. About 64% of the total ore/metal resources are located in Haryana and 36% in Chhattisgarh, while nominal resources are located in Odisha (Table-1).

## EXPLORATION & DEVELOPMENT

The exploration and development details, if any, are covered in the Review on 'Exploration and Development' under 'General Reviews' i.e., Vol.-I of the title. As on 31.03.2018 (P), a total of 14 leases of tin have been granted to the various parties.

## PRODUCTION, STOCKS & PRICES

### Concentrates

The production of tin concentrates in 2019-20 was at 15,546 kg decreased substantially by 27% as against 21,212 kg in the preceding year. One Public Sector and five Private Sector mines reported production in 2019-20. All these mines are located in Chhattisgarh.

The mine-head closing stock of tin concentrates was 10,808 kg in 2019-20 as against 9,315 kg in 2018-19.

The Chhattisgarh Mineral Development Corporation Ltd (CMDC) purchases tin concentrates from local tribals, allowing them to collect it from the lease area. Hence, no labour was reported by the mine owned by the CMDC Ltd, whereas Precious Minerals and Smelting Ltd employed 6 workers in the previous year on average daily basis (Tables-2 to 5).

### Tin Metal

The plant owned by Precious Minerals and Smelting Ltd reported production of 6,063 kg of tin metal in 2019-20 as against 7,436 kg in the preceding year. The plant is located at Jagdalpur in Dantewada district of Chhattisgarh (Table-6).

**Table – 1 : Reserves/Resources of Tin as on 1.4.2015  
(By Grades/States)**

Grade/State	Reserves				Remaining Resources				Total Resources (A+B)			
	Proved	Probable	Total	Feasibility	Pre-feasibility	Measured	Indicated	Inferred		Reconnaissance	Total	
	STD111	STD121	STD122	STD211	STD221	STD222	STD331	STD332		STD333	STD334	(B)
<b>All India : Total</b>												
<b>Ore</b>	2067	897	1455	22594200	2653	31330072	168457	561080	29064288	-	83720749	83725168
<b>Metal</b>	44.56	94.02	15.62	33139.45	842.8	54049.65	813.29	231.63	13182.34	-	102259.16	102413.36
<b>By States</b>												
<b>Chhattisgarh</b>												
<b>Ore</b>	2067	897	1455	1508	2017	72	168457	559914	29063288	-	29795255	29799674
<b>Metal</b>	44.56	94.02	15.62	917.02	342.02	16.85	813.29	209.43	13172.34	-	15470.95	15625.15
<b>Haryana</b>												
<b>Ore</b>	-	-	-	22580000	-	31330000	-	-	-	-	53910000	53910000
<b>Metal</b>	-	-	-	32187.8	-	54032.8	-	-	-	-	86220.6	86220.6
<b>Odisha</b>												
<b>Ore</b>	-	-	-	12692	636	-	-	1166	1000	-	15494	15494
<b>Metal</b>	-	-	-	34.63	500.78	-	-	22.2	10	-	567.61	567.61

*Figures rounded off.*

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**Table – 2 : Principal Producers of Tin Concentrates, 2019-20**

Name & address of the producer	Location of the mine	
	State	District
Chhattisgarh Mineral Dev. Corp. Ltd, Sona Khan Bhawan, Ring Road No.1, Raipur- 492 006 Chhattisgarh.	Chhattisgarh	Dantewada
Precious Minerals and Smelting Ltd, Semi Urban Industrial Estate, Frezerpur, Jagdalpur - 494 001, Chhattisgarh.	Chhattisgarh	Dantewada

**Table – 3 : Production of Tin Concentrates, 2017-18 to 2019-20  
(By State)**

(Quantity in kg; Value in ₹'000)

State	2017-18		2018-19		2019-20 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>India</b>	<b>16758</b>	<b>11347</b>	<b>21212</b>	<b>14627</b>	<b>15546</b>	<b>9562</b>
Chhattisgarh	16758	11347	21212	14627	15546	9562

**Table – 4 : Production of Tin Concentrates, 2018-19 and 2019-20  
(By Sectors/State/District)**

(Quantity in kg; Value in ₹'000)

State	No. of mines	2018-19		No. of mines	2019-20 (P)	
		Quantity	Value		Quantity	Value
<b>India</b>	<b>6</b>	<b>21212</b>	<b>14627</b>	<b>6</b>	<b>15546</b>	<b>9562</b>
Public sector	1	20054	13119	1	11602	6634
Private sector	5	1158	1508	5	3944	2928
<b>Chhattisgarh</b>	<b>6</b>	<b>21212</b>	<b>14627</b>	<b>6</b>	<b>15546</b>	<b>9562</b>
Dantewada	6	21212	14627	6	15546	9562

**Table – 5 : Mine-head Closing Stocks of Tin Concentrates, 2018-19 & 2019-20  
(By State)**

(In kg)

State	2018-19	2019-20 (P)
<b>India</b>	<b>9315</b>	<b>10808</b>
Chhattisgarh	9315	10808

**Table – 6 : Production of Tin Metal  
2017-18 to 2019-20**

(Qty in kg; Value in ₹'000)

Year	Production	
	Quantity	Value
2017-18	13741	15459
2018-19	7436	8918
2019-20 (P)	6063	7361

## MINING

In Govindpal-Tongpal area of Dantewada district, Chhattisgarh, tin in the form of cassiterite is being mined from the sediments deposited in the streams. The stream sediments are dug manually with conventional implements. Subsequent panning of these sediments helps in separating the lighter gangue minerals, while the heavier part is recovered as cassiterite. Chhattisgarh is the only tin producing State in India. Tin ore is known as cassiterite, which was reported in Dantewada district (Bastar district in formerly Madhya Pradesh) by the Directorate of Geology and Mining and was found being associated with the lepidolite-bearing pegmatites. CMDC has an arrangement of collecting tin ore from cooperative societies of tribals in Dantewada district of Chhattisgarh. The Precious Minerals & Smelting Limited (PMSL) (An ISO 9001:2000 Company), is a flagship Company of Lunia Group. The PMSL is the first Joint Venture Company set up with the Chhattisgarh Mineral Development Corporation Limited (A Government of Chhattisgarh Enterprise), for identification, exploration and exploitation of tin-bearing areas of Chhattisgarh State. The PMSL has commissioned a tin manufacturing facility at Jagdalpur.

## USES & SPECIFICATIONS

Tin, as a metal, is the most preferred and environment-friendly packing material. Tin plate, a value-added flat steel product, is a versatile packaging substrate used in edible oils, paints, pesticides, processed foods, beverages and other industries. As a pure metal, it can be used in storage tanks for pharmaceutical chemical solutions, in capacitors, electrodes, fuse-wires, ammunitions, tinned iron sheets to protect victuals, sweets, tobacco, etc. The tin plate is manufactured by depositing tin on iron plate of thickness ranging from 0.17 mm to 0.60 mm. IS 1993:2006 (fourth revision, Reaffirmed Sept. 2011) has specified the requirement for cold reduced electrolytic tin plate. The specifications for tin ingot which is to be used for various purposes is as per IS : 26:1992 (Fourth Revision, Reaffirmed Feb. 2014). There shall be two grades of tin ingot, viz, Sn 99.85% and 99.75%. BIS has prescribed IS : 4280-1992 (Reaffirmed Feb. 2014) for refined secondary tin ingots.

Tin readily forms alloys with other metals to create useful materials, such as, solders, bronzes and fusible alloys. Tin with lead forms an excellent alloy which melts at very low temperature and is used as solders in electronics or as a seal in plumbing. Tin is used in making fusible alloys to be used in safety devices, such as, fire sprinklers, pressure cookers, boiler plugs and electrical fuses. Powder containing 60% silver, 27% tin and 13% copper when mixed with appropriate quantity of mercury forms excellent dental amalgam to be used for filling dental cavities.

Tin is used in cast iron to improve the microstructure and it results in higher uniform hardness. Tin bronzes are used for making gears, tubing, springs and plumbing fittings and for making bearings. Tin is also used in making high-tech alloys, such as, zirconium-tin, used for cladding the fuel elements in thermal nuclear reactors and a niobium-tin-intermetallic compound used in certain high-performance superconducting fields, such as, in high-energy physics.

Tin oxide-based catalysts are used in air purification system, gas sensors and CO<sub>2</sub> lasers. Organotin compounds are used in agrochemicals and antifouling paints in seafaring vessels. Float Glass Industry is an important user of tin, it utilises a method of floating molten glass over a huge vat of molten tin. Pure tin in molten form is used to provide a flat surface as well as fire-polish on both sides of float glass which solidifies on it. It is also used in the production of lead crystal glass. Tin oxide films thicker than 1 mm on glass, produce a transparent, yet electrically conductive layer. This layer is used in de-icing windscreen, antistatic glassware, security alarm, etc.

Tin has established a long-term future as an innovative, competitive and sustainable material. A new low cost, efficient and environment-friendly solar cell has been developed that uses tin instead of the hazardous lead. Tin, known as fuel catalyst, can save energy and reduce emissions when added to fuel. Tin is also considered as synergist for replacement of antimony fire retardants used in most plastics. Tin can make lithium ion batteries last more than three times longer. Tin and zinc work well together to heal wounds and kill bacteria, enabling use in new range of animal healthcare products. Electrolytic Tinplate undoubtedly enjoys the pride of place as a packaging medium especially of food.

## POLICY

As per the Foreign Trade Policy, 2015-20, there are no restrictions on the export and import of tin ores and concentrates.

## INDUSTRY/CONSUMPTION

In India, the main consumers of tin are the Tin Plate Industry and Solder Industry. The latter advancing to become the biggest single end-use sector, over the last decade. The domestic tin plate market is categorised broadly into three basic packaging market segments – edible oil/vanaspati & cashew, processed food and non-processed food. The consumption in IT Industry and in food/beverages Packaging Industry has increased in the recent years. Tin plate companies, namely, Tin Plate Company of India Ltd, JSW Steel Ltd, GPT Steel Industries Ltd, Vardhaman Industries Ltd, SAIL's Rourkela Steel Plant, Kaira Can Company Ltd, Hindustan Tin Works Ltd etc. use tin metal in appreciable quantities for the manufacture of tin plate.

The Tin Plate Company of India Ltd consumes tin at its Golmuri Works, Jamshedpur in East Singhbhum, Jharkhand. TCIL is the pioneer and leading producer of tin mill products in India. It was incorporated in 1920 and has evolved as one of the important regional players in Asia. The Company is a subsidiary of Tata Steel Limited with the parent company holding 74.96% stake in TCIL. The manufacturing facility of the Company is located at Jamshedpur in the State of Jharkhand with an installed capacity of 3,79,000 tonnes per annum. It caters to 60% of the prime tinplate market and 40% of the overall domestic market. TCIL produced 3,57,586 tonnes & 3,40,157 tonnes of Electrolytic Tinplate in the year 2018-19 & 2019-20, respectively. Similarly in cold rolling mill during 2018-19 and 2019-20, the C.R. products produced were of 3,74,295 tonnes and 3,54,414 tonnes, respectively. GPT Steel Industries Ltd an ISO 9001:2008 accredited unit, was established in 2003 to manufacture Cold rolled products & Tinplate products. GPT is 2<sup>nd</sup> largest producer of tin plate in India with largest capacity for producing tin plates. GPT Steel has set up two complete Cold Rolling Mills (4Hi & 6Hi Mill) and state-of-the-art Electrolytic Tinplate Line (ETL) located at Gandhidham, Kuchchh district, Gujarat.

Tin plate consumption in India grew by 6% in 2018-19 primarily driven by paints and aerosol end-use segments both of which have been growing at the rate of 8%.

## SUBSTITUTES

The most important use of tin is in making packing materials, as it is environment-friendly. Aluminium, glass, paper, plastic, or tin-free steel are among the major substitute for tin. A number of materials can replace tin in its various applications, such as, tetrapack for liquid food items; plastic/polycontainers for solid, semi-solid food; aluminium, glass, tin-free steel can be used in place of tin cans and containers. Tin-Free Steel (TFS) is an electrolytic chrome plated steel consisting of a thin layer of chromium and a layer of chromium oxide deposited on the steel base which gives it a beautiful, lustrous metallic finish on both sides. TFS offers outstanding corrosion resistance, lacquer adhesion as well as printability. Additional features of TFS are filiform rust resistance, sulphur blackening resistance and coating. For tin solders new epoxy resins; for bronze-aluminium alloys, copper-base alloys and plastic; plastic for bearing metals that contain tin; compounds of lead and sodium for some tin chemicals are the other substitutes now in use in place of tin.

## WORLD REVIEW

The world reserves of tin metal estimated in 2020 were 4.3 million tonnes, located mainly in China (26%), Indonesia (19%) and Australia & Brazil (10% each). The world reserves of tin by principal countries are furnished in Table-7.

The world mine production decreased marginally by 6% during 2019 to 3,05,000 tonnes as compared to that 3,24,000 tonnes in the preceeding year (Table-8). China which continued to be the largest producer of tin in 2019 with contributor of about 28% share in the total world production was followed by Indonesia (25%), Myanmar (16%) and Peru (7%).

A generalised view of the development in various countries, along with country-wise description sourced from latest available publication of Minerals Yearbook of 'USGS' 2016 are presented as below:

### Australia

AusTin Mining Ltd recommenced production at the Granville tin processing plant in Tasmania. Initially, the existing tailings at the site were retreated at the

plant and later in the year processing of stockpiled ore was taken up. AusTin Mining was also in the process of obtaining the necessary regulatory approval for an expansion project at Granville, which included resuming mining at the site and increasing tin-concentrate production to about 550 metric tons per year (t/yr).

The Federal Court of Australia rejected the merger proposal between Kasbah Resources Ltd and Asian Mineral Resources Ltd. The merger had the approval of the Kasbah Board of Directors and 90% of the shareholders, but the minority shareholders objected, citing an error in the valuation of their shares. The court ordered Kasbah to pay the minority shareholders reasonable costs, including at least 50% of the previous court hearing costs. Kasbah Resources owned the Achmmach deposit in Morocco, which has been projected to produce up to 7,000 t/yr. when the merger failed, Pala Investments Ltd purchased a 19.9% stake in Kasbah for \$2.7 million (3.23 million Australian dollars), allowing Pala Investments to appoint two representatives to the Kasbah Board.

### **China**

Nine of China's tin producers agreed to cut production by a combined 17,000 tonnes for the year, citing low prices. Participants in this production cut included Yunnan Tin, China Tin and Chengfeng. The total tin production of all participating Companies was around 1,40,000 tonnes, equivalent to 80% of China's tin production, or 40% of global tin production in 2015. Tin smelters in Guangxi Zhuang Autonomous Region and Jiangxi and Yunnan Provinces suspended or scaled back production, reportedly for Government-mandated special environmental inspections. Inspection teams were sent to eight Provinces where most of the country's non-ferrous metals production took place, and inspections were mostly completed by the end of August. Smelters gradually built their production levels back up to previous levels when the inspections had been successfully completed. In September, only four smelters remained closed, which represented 18% of China's annual refined tin production.

### **Indonesia**

PT Refined Bangka Tin closed its smelting and refining facility and stopped tin production, citing low tin prices and stringent environmental regulations. The Company announced that the refinery would be dismantled and the site would be turned into a conservation area. PT Refined Bangka Tin typically exported about 5,000 t/yr of tin. According to the results of an audit carried out by Indonesia's Ministry of Energy and Mineral Resources, only 29 out of 47 tin smelters in the Bangka-Belitung Islands Province were in operation in 2015. The tin smelting capacity utilisation rate in the Province, which accounted for approximately 90% of Indonesia's tin production, was only around 20%. The audit also showed that of the 755 Companies that held a license to operate, only 498 had a "clean and clear" certification. The "clean and clear" certification had been required since November 1, 2015.

### **Brazil**

Brasil Manganês Corporation Mineração S.A. (BMC) (a subsidiary of Meridian Mining S.E.) signed an agreement with Cooperativa de Garimpeiros de Santa Cruz Ltd. and Cooperativa Metalúrgica de Rondônia Ltda. to reprocess tailings from the Bom Futuro Mine in the Ariquemes District, Rondonia State. BMC also gained the first right of refusal on either the acquisition of the mineral rights or the provision of underground mining services in the area and could secure up to 80% of the unexplored area surrounding the mines.

### **Myanmar**

Myanmar accounted for most of China's tin concentrate imports in 2016, supplying 4,72,506 t of tin ore and concentrates containing an estimated 57,000 t of tin. Approximately 18% of this was believed to be from Wa County government stocks. Myanmar's ore continued to be produced predominantly in Wa County, or Wa Special Region 2 in northern Shan State, close to the border with China.

**Table – 7 : World Reserves of Tin  
(By Principal Countries)**

(In'000 tonnes of tin content)	
Country	Reserves
<b>World : Total (rounded off)</b>	<b>4300</b>
Australia	430 <sup>(a)</sup>
Bolivia	400
Brazil	420
Myanmar	100
China	1100
Congo (Kinshasa)	160 <sup>(e)</sup>
Indonesia	800
Laos	NA <sup>(e)</sup>
Malaysia	150
Nigeria	NA <sup>(e)</sup>
Peru	140
Russia	280
Rwanda	NA
USA	-
Vietnam	11
Other countries	350

**Source:** USGS, Mineral Commodity Summaries, 2021.

a: For Australia, Joint Ore Reserves Committee-compliant reserves were about 2,50,000 tonnes.

**Table – 8 : World Mine Production of Tin  
(By Principal Countries)**

(In tonnes of metal content)			
Country	2017	2018	2019
<b>World: Total</b>	<b>338000</b>	<b>324000</b>	<b>305000</b>
<b>(rounded off)</b>			
China	95549	94838 <sup>(e)</sup>	85840 <sup>(e)</sup>
Indonesia	78070	82809	77468
Myanmar*	68000	55000	50000
Peru <sup>(a)</sup>	17790	18601	19853
Bolivia	18385	17251	17122
Brazil	18000	17100	17000
Congo, D. Rep. of	10391	8950	12533
Australia	7402	6871	7738
Vietnam	4950	5470	6031
Other countries	19025	17546	10987

**Source:** BGS, World Mineral Production, 2015-2019.

(a) Recoverable

(k) Exports

\* Estimated

**FOREIGN TRADE****Exports**

There were negligible exports of tin ores & concentrates during both the year 2018-19 and 2019-20. Exports of tin & alloys including scrap increased by 10% to 944 tonnes in 2019-20 as compared to 859 tonnes in the preceding year. Out of the total exports in 2019-20, tin & alloys reported 680 tonnes (72%), tin & alloys (worked) was 264 tonnes (28%) and tin waste & scrap were negligible. Exports of tin & alloys including Scrap were mainly to Republic of Korea, (29%), UAE (23%) and Nepal (16%) (Tables - 9 to 17).

**Table – 9 : Exports of Tin Ores & Conc.  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>++</b>	<b>54</b>	<b>++</b>	<b>1</b>
Nepal	-	-	++	1
Nigeria	++	54	-	-

Figures rounded off

**Table – 10 : Exports of Tin & Alloys Incl. Scrap  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>859</b>	<b>718270</b>	<b>944</b>	<b>740867</b>
UAE	151	248547	218	234469
Korea, Rep. of	243	197921	278	203163
UK	40	67875	32	46621
Nepal	280	31104	155	34622
Sri Lanka	15	35572	16	32662
Saudi Arabia	6	8754	22	31521
South Africa	12	22114	9	18044
Belgium	++	118	34	16384
Bangladesh	8	9870	18	14332
Singapore	2	2719	9	14151
Other countries	101	93676	152	94898

Figures rounded off



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**Table – 11 : Exports of Tin & Alloys  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>539</b>	<b>688879</b>	<b>680</b>	<b>694817</b>
UAE	148	247497	212	228302
Korea, Rep. of	243	197848	272	202426
UK	38	67277	32	46464
Sri Lanka	13	33038	15	30624
Saudi Arabia	6	8734	21	29915
Nepal	15	20088	21	22632
South Africa	9	20047	9	18042
Belgium	-	-	22	14673
Singapore	2	2719	9	14009
Bangladesh	8	9558	12	13505
Other countries	56	82073	55	74225

*Figures rounded off***Table – 12 : Exports of Tin & Alloys:Worked  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>318</b>	<b>28781</b>	<b>264</b>	<b>46040</b>
Nepal	264	10811	134	11990
Sudan	2	1283	38	8925
UAE	3	1007	6	6168
USA	1	532	8	2752
Sri Lanka	2	2534	1	2038
Netherlands	19	3432	4	1795
Indonesia	++	2	4	1735
Belgium	++	68	12	1711
Australia	1	490	9	1685
Saudi Arabia	++	20	1	1606
Other countries	26	8603	46	5635

*Figures rounded off***Table - 13 : Exports of Tin Waste & Scrap  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>2</b>	<b>610</b>	<b>++</b>	<b>9</b>
Liberia	-	-	++	9
USA	++	241	-	-
Nepal	2	205	-	-
Belgium	++	50	-	-
UAE	++	43	-	-
Malaysia	++	29	-	-
Uganda	++	19	-	-
Bangladesh	++	11	-	-
New Zealand	++	8	-	-
Bhutan	++	2	-	-

*Figures rounded off*

**Table - 14 : Exports of Tin & Alloys : NES  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>329</b>	<b>329848</b>	<b>477</b>	<b>409129</b>
Korea, Rep. of	243	197848	272	202287
UAE	18	21781	133	117178
UK	38	67277	29	46109
Belgium	-	-	22	14610
Bangladesh	5	6772	5	6052
Malaysia	++	133	3	5817
USA	6	10464	4	4605
Hong Kong	1	1337	3	3314
Oman	1	2181	2	2778
Saudi Arabia	++	99	2	2533
Other countries	16	21958	3	3844

Figures rounded off

**Table - 15 : Exports of Tin : Anode, Cathode etc. of  
Tin Unwrought  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>46</b>	<b>65609</b>	<b>84</b>	<b>109953</b>
Saudi Arabia	5	7776	18	25123
Nepal	12	15839	20	22440
UAE	7	11613	13	16933
Uganda	9	13538	8	11618
Congo, D. Rep. of	-	-	7	10054
Sri Lanka	++	39	4	6631
Nigeria	3	4041	4	5165
Djibouti	-	-	3	4198
Kuwait	1	878	2	2485
Qatar	++	3	1	1610
Other countries	9	11882	3	3695

Figures rounded off

**Table - 16 : Exports of Tin Blocks  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>5</b>	<b>6094</b>	<b>6</b>	<b>1586</b>
Japan	++	117	3	1069
UK	-	-	3	355
Singapore	++	23	++	141
Nepal	2	3213	++	20
Algeria	-	-	++	1
Oman	2	1934	-	-
Germany	1	529	-	-
USA	++	128	-	-
Chile	++	60	-	-
UAE	++	51	-	-
Other countries	++	40	-	-

Figures rounded off

**Table - 17 : Exports of Tin (Scrap)  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>2</b>	<b>610</b>	<b>++</b>	<b>9</b>
Liberia	-	-	++	9
USA	++	241	-	-
Nepal	2	205	-	-
Belgium	++	50	-	-
UAE	++	43	-	-
Malaysia	++	29	-	-
Uganda	++	19	-	-
Bangladesh	++	11	-	-
New Zealand	++	8	-	-
Bhutan	++	2	-	-

Figures rounded off

## Imports

The imports of tin ores & concentrates in 2019-20 was negligible as compared to 6 tonnes in the previous year. Imports of tin & alloys including scrap were at 11,747 tonnes in 2019-20 from 11,262 tonnes recorded in the previous year. Imports of tin & alloys were mainly from Indonesia (78%), Singapore (7%) and China (5%). In 2019-20, imports of tin & alloys were at 11,225 tonnes as compared to 10,907 tonnes in the previous year. Imports of tin & alloys (worked) were at 522 tonnes, while imports of tin alloys (NES) were at 69 tonnes. (Tables -18 to 26).

**Table – 18 : Imports of Tin Ores & Conc. (By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>6</b>	<b>1259</b>	<b>++</b>	<b>206</b>
Korea, Rep. of	-	-	++	125
Burundi	-	-	++	81
Tanzania	6	1225	-	-
UK	++	34	-	-

*Figures rounded off*

**Table – 19 : Imports of Tin & Alloys, Incl. Scrap (By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>11262</b>	<b>15780750</b>	<b>11747</b>	<b>15254406</b>
Indonesia	5974	8349184	9216	12145857
Singapore	2885	4192214	802	1148386
Malaysia	1599	2331107	499	681104
Japan	24	58474	435	619374
China	502	408003	547	290573
Korea, Rep. of	39	104154	41	105486
Germany	95	143365	64	104328
Tanzania	-	-	42	54773
Hong Kong	43	44930	66	46583
Taiwan	19	30362	12	17227
Other countries	82	118957	23	40713

*Figures rounded off*

**Table – 20 : Imports of Tin & Alloys (By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>10907</b>	<b>15550619</b>	<b>11225</b>	<b>14998806</b>
Indonesia	5974	8349184	9216	12145857
Singapore	2876	4178876	800	1144478
Malaysia	1595	2321336	489	662235
Japan	7	21350	421	587430
China	265	333193	126	151950
Korea, Rep. of	39	104086	40	105095
Germany	72	123610	63	97075
Tanzania	-	-	42	54773
Hong Kong	5	2585	13	22647
Taiwan	19	30362	11	17108
Other countries	55	86038	5	10156

*Figures rounded off*

**Table – 21 : Imports of Tin & Alloys : Worked (By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>354</b>	<b>229740</b>	<b>522</b>	<b>255515</b>
China	237	74810	421	138621
Japan	17	36733	14	31944
Hong Kong	38	42345	53	23936
Malaysia	4	9771	9	18869
Italy	10	17243	9	13771
Spain	5	6245	8	9661
Germany	23	19755	2	7253
Singapore	9	13339	2	3824
USA	++	617	1	3497
Israel	-	-	++	1762
Other countries	10	8881	2	2376

*Figures rounded off*

**Table – 22 : Imports of Tin (Scrap) (By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>1</b>	<b>390</b>	<b>++</b>	<b>86</b>
Singapore	-	-	++	84
China	-	-	++	2
Japan	1	390	-	-

*Figures rounded off*

## TIN

**Table – 23 : Imports of Tin Alloys, NES  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>102</b>	<b>170063</b>	<b>69</b>	<b>117386</b>
Germany	66	111291	57	85075
Malaysia	32	50239	9	27236
Singapore	4	7696	2	2873
Spain	-	-	1	793
Italy	-	-	++	752
UK	++	286	++	488
USA	++	535	++	132
Canada	++	15	++	34
Switzerland	-	-	++	1

*Figures rounded off***Table – 24: Imports of Tin & Alloys : Worked  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>295</b>	<b>422697</b>	<b>246</b>	<b>372554</b>
China	141	143368	101	114140
Korea, Rep. of	39	102830	39	103888
Singapore	61	83555	38	50740
Hong Kong	5	2585	13	22647
Malaysia	10	14550	15	21062
Indonesia	7	7066	21	18708
Japan	7	21350	6	17207
Germany	6	11813	6	11665
Taiwan	12	19024	4	6682
Canada	7	11304	2	3780
Other countries	3	5251	++	2035

*Figures rounded off*

**Table – 25: Imports of Tin: Anode, Cathode Etc of Tin Unwrought  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>10502</b>	<b>14946180</b>	<b>10903</b>	<b>14498290</b>
Indonesia	5967	8342118	9195	12127149
Singapore	2811	4087624	760	1090865
Malaysia	1554	2256546	465	613937
Japan	-	-	415	570223
Tanzania	-	-	42	54773
China	125	189825	25	37810
Italy	++	11	1	1723
Korea, Rep. of	++	1255	1	1207
UK	++	78	++	213
Germany	++	130	++	207
Other countries	46	68591	++	184

Figures rounded off

**Table – 26 : Imports of Tin Blocks  
(By Countries)**

Country	2018-19 (R)		2019-20 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
<b>All Countries</b>	<b>7</b>	<b>11680</b>	<b>7</b>	<b>10576</b>
Taiwan	7	11272	7	10427
Germany	++	376	++	128
Portugal	-	-	++	16
USA	-	-	++	5
UK	++	32	-	-

Figures rounded off

## FUTURE OUTLOOK

According to the analyses put out by International Tin Association (ITA) the latest estimate of refined tin use in 2020 is around 350 thousand tonnes. However, the survey suggests that the demand for tin will contract during 2020, primarily as a result of an unstable macroeconomic environment. The global demand for tin was forecasted to decline in 2020 because of weakening global manufacturing and supply chain issues, mainly linked with the US-China trade war.

World tin reserves appeared to be adequate to meet short-term demand. Secondary sources of tin are likely to become an increasingly important

component to meet supply demands especially in the United States. Domestic tin requirements are expected to continue to be met primarily through imports. As per global tin market overview of ITA around 3,28,400 tonnes of refined tin produced in 2020, 30% of tin was from recycled sources.

The per capita consumption of tinplate in India is considerably low when compared to many developed countries and developing economies like China. High growth in modern retail, FDI in multi-brand retail combined with Government's thrust on food processing industries augur well for the growth of Packaging Industry in India which in turn could spur growth of tin consumption in the country.