

SILVER



Indian Minerals Yearbook 2017

(Part- II : Metals & Alloys)

56th Edition

SILVER

(ADVANCE RELEASE)

**GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES**

Indira Bhavan, Civil Lines,
NAGPUR – 440 001

PHONE/FAX NO. (0712) 2565471
PBX : (0712) 2562649, 2560544, 2560648
E-MAIL : cme@ibm.gov.in
Website: www.ibm.gov.in

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15 Silver

Silver is soft and lustrous metal that is grouped in the category of noble metals. Its brilliant white colour, malleability and resistance to atmospheric oxidation has enhanced its value as a highly desired precious metal which is used in many industrial applications. Apart from its monetary and decorative uses, silver is known to have the highest electrical conductivity amongst all metals that enhances its potential in modern age applications, viz, for printed electric circuits, coating for electronic conductors and in alloys of gold & copper for electrical contacts. Its chloride and iodide are light-sensitive and hence used in photographic material. Silver is typically used (in paste form) on solar cells, this means the photovoltaics (PV) market has become one of the most important areas of silver demand. These two major uses have contributed to the increase in supply of scrap of silver contained products. Silver, which is the least expensive of the precious metals, is the whitest element and has the highest electrical and thermal conductivity among all the metals.

In India, there are no native silver deposits except the small and unique Bharak deposit in Rajasthan. It occurs generally with lead, zinc, copper (especially their sulphide ore) and gold ores and is extracted as a by-product from electrolysis or chemical methods. It was usually extracted by melting silver-bearing lead ore (ore containing argentiferous galena).

Silver is recovered as a co-product as well as a by-product in the country. Silver was recovered in the past as a co-product in gold refining at KGF Complex and Hutti Gold Mines in Karnataka, as a by-product in smelting and refining of lead, zinc and copper concentrates at Chanderiya and Debari smelters in Rajasthan, Tundoo and Moubandar (Ghatsila) smelters in Jharkhand and at Visakhapatnam smelter in Andhra Pradesh. The present production of silver comes from Chanderiya lead-zinc smelter of HZL and from gold refinery of HGML.

In addition, Hindalco extracts silver as a by-product during smelting of imported copper concentrates at Dahej in Gujarat.

RESERVES/RESOURCES

As per the NMI database, based on UNFC system, the total reserves/resources of silver ore in the country as on 1.4.2015 have been estimated at about 511.95 million tonnes. Out of these, 150.44 million tonnes were placed under 'reserves' category and 361.51 million tonnes under the 'remaining resources' category.

The total reserves/resources of silver in the country as on 1.4.2015 in terms of metal content were estimated at 29,982 tonnes, of which 7,172 tonnes are under 'reserves' and 22,810 tonnes are under the 'remaining resources'.

By States, Rajasthan accounted for about 87% reserves/resources in terms of ore, Jharkhand 5%, Andhra Pradesh 3% and Karnataka 2%. Madhya Pradesh, Uttarakhand, Odisha, Meghalaya, Sikkim, Tamil Nadu and Maharashtra together shared 3% ore reserves/remaining resources (Table- 1).

As per reserves & resources summary of HZL 2016-17, grade of silver was 93 gram/tonne under reserves category and 74 gram/tonne under resources category.

PRODUCTION

Silver is recovered as a by-product from lead & zinc concentrates, copper slime and as a co-product of gold refining.

As per Annual Report of HZL 2016-17, silver refining capacity was 518 tonnes per annum. The annual total production of refined silver during the year 2016-17 was 480 tonnes under total refined metal. HZL also has facilities at Pantnagar, in the State of Uttarakhand for processing and refining of silver. This facility does not add to the overall smelting capacity.

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

(In tonnes)

| State/Grade | Reserves | | | Remaining Resources | | | | | Total Resources (A+B) | |
|--------------------------|------------------|---------------------------|--------------|-----------------------|----------------------------------|--------------------|---------------------|--------------------|-----------------------|--------------------------|
| | Proved STD111 | Probable STD121 STD122 | Total (A) | Feasibility STD211 | Pre-feasibility STD221 STD222 | Measured STD331 | Indicated STD332 | Inferred STD333 | | Reconnaissance STD334 |
| All India : Total | | | | | | | | | | |
| Ore | 69277075 | 8413000 72753828 | 150443903 | - | 1484543 46726460 | 29632000 | 65056000 | 218611729 | - | 361510732 511954635 |
| Metal | 4309.78 | 220.77 2641.39 | 7171.94 | - | 42.85 259.62 | 2037.99 | 3236.39 | 17230.19 | 2.84 | 22809.88 29981.82 |
| By state | | | | | | | | | | |
| Andhra Pradesh | | | | | | | | | | |
| Ore | - | - | - | - | - | 16950000 | - | - | - | 16950000 |
| Metal | - | - | - | - | - | 128.13 | - | - | - | 128.13 |
| Jharkhand | | | | | | | | | | |
| Ore | - | - | - | - | - | - | - | 23840000 | - | 23840000 |
| Metal | - | - | - | - | - | - | - | 5.22 | - | 5.22 |
| Karnataka | | | | | | | | | | |
| Ore | 10620000 | 1730000 | 12350000 | - | 69462 | - | - | 314150 | - | 383612 12733612 |
| Metal | 2.71 | 0.24 | 2.95 | - | 0.48 | - | - | 2.92 | - | 3.40 6.35 |
| Madhya Pradesh | | | | | | | | | | |
| Ore | - | - | - | - | - | - | 2096000 | 1120000 | - | 3216000 3216000 |
| Metal | - | - | - | - | - | - | 150.61 | 9.25 | - | 159.86 159.86 |
| Maharashtra | | | | | | | | | | |
| Ore | - | - | - | - | - | - | - | 235000 | - | 235000 235000 |
| Metal | - | - | - | - | - | - | - | 0.23 | - | 0.23 0.23 |
| Meghalaya | | | | | | | | | | |
| Ore | - | - | - | - | - | - | 880000 | - | - | 880000 880000 |
| Metal | - | - | - | - | - | - | 19.80 | - | - | 19.80 19.80 |

(Contd.)

Table - 1 (Concl.d.)

| State/Grade | Reserves | | | Remaining Resources | | | | | Total Resources (A+B) | |
|--------------------|---------------|-----------|----------|---------------------|------------------------|------------------|-----------------|-----------------------|-----------------------|-----------|
| | Proved STD111 | Total (A) | | Feasibility STD211 | Pre-feasibility STD221 | Indicated STD332 | Inferred STD333 | Reconnaissance STD334 | | Total (B) |
| | | Probable | STD121 | | | | | | | |
| | | | | | | | | | | |
| Odisha | | | | | | | | | | |
| Ore | - | - | - | - | 960500 | 119000 | - | 670000 | - | 1749500 |
| Metal | - | - | - | - | 27.34 | 3.40 | - | 34.17 | - | 64.91 |
| Rajasthan | | | | | | | | | | |
| Ore | 58657075 | 6683000 | 72753828 | 138093903 | - | 88200 | 29524218 | 27732000 | 60350000 | 191432579 |
| Metal | 4307.07 | 220.53 | 2641.39 | 7168.99 | - | 0.26 | 127.57 | 1876.39 | 3045.91 | 17137.53 |
| Sikkim | | | | | | | | | | |
| Ore | - | - | - | - | 435843 | 63780 | 300000 | - | 150000 | - |
| Metal | - | - | - | - | 15.25 | 0.04 | 27.60 | - | 13.80 | - |
| Tamil Nadu | | | | | | | | | | |
| Ore | - | - | - | - | - | - | - | 330000 | 460000 | - |
| Metal | - | - | - | - | - | - | - | 15.87 | 26.68 | - |
| Uttarakhand | | | | | | | | | | |
| Ore | - | - | - | - | - | - | - | 1600000 | 1400000 | 390000 |
| Metal | - | - | - | - | - | - | - | 134.00 | 4.20 | 0.39 |

Figures rounded off.

SILVER

SILVER

Table – 2 : Principal Producers of Silver, 2016-17

| Name and address of the producer | Name of Plant | Location of the plant | |
|---|---------------|-----------------------|-------------|
| | | State | District |
| Hindustan Zinc Ltd, Yashad Bhavan, Udaipur- 313 004 Rajasthan. | Chandera | Rajasthan | Chittorgarh |
| The Hutti Gold Mines Co. Ltd, Hutti, Distt.-Raichur, 584 115 Karnataka | Hutti | Karnataka | Raichur |

**Table – 3 : Production of Silver*, 2014-15 to 2016-17
(By States)**

(Quantity in kg; Value in ₹'000)

| State | 2014-15 | | 2015-16 | | 2016-17 (P) | |
|--------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| India | 327647 | 11947028 | 426443 | 15212374 | 460811 | 18320759 |
| Karnataka | 139 | 5103 | 122 | 4048 | 169 | 6640 |
| Rajasthan | 327508 | 11941925 | 426321 | 15208326 | 460642 | 18314119 |

*: Excludes by-product recovery of silver by Hindalco Industries Ltd at Dahej, Gujarat from imported copper concentrates.

**Table – 4 : Production of Silver*, 2015-16 and 2016-17
(By Sectors/States/Districts)**

(Qty in kg; Value in ₹'000)

| State/District | 2015-16 | | 2016-17 (P) | |
|------------------------------|---------------|-----------------|---------------|-----------------|
| | Quantity | Value | Quantity | Value |
| India | 426443 | 15212374 | 460811 | 18320759 |
| Public sector | 122 | 4048 | 169 | 6640 |
| Private sector | 426321 | 15208326 | 460642 | 18314119 |
| Karnataka/Raichur | 122 | 4048 | 169 | 6640 |
| Rajasthan/Chittorgarh | 426321 | 15208326 | 460642 | 18314119 |

*: Silver as a by-product:

- In Karnataka, it is recovered at Raichur while refining of gold at Hutti and Uti gold mines.
- In Rajasthan, it is recovered at Chandera, lead-zinc smelters of HZL.
- Excludes by-product recovery of 64,735 kg and 67,063 kg silver from imported copper concentrates in 2015-16 and 2016-17, respectively.

During the year 2016-17, the production of silver at 4,60,811 kg increased by 8% as compared to the previous year. The production of silver from gold refining was 169 kg in 2016-17 as against 122 kg in 2015-16. One Private Sector and one Public Sector Undertaking reported production of silver during 2016-17 (Tables- 2 to 4).

In addition, Hindalco Industries Limited reported production of 64,735 kg and 67,063 kg silver from

imported copper concentrates in 2015-16 and 2016-17 respectively.

TRADING EXCHANGE

The three leading commodities exchanges, where a prospective investor can trade in silver are:

- National Multi Commodity Exchange (NMCE)
- National Commodity & Derivatives Exchange (NCDEX)
- Multi Commodity Exchange (MCX)

SILVER

RECYCLING

Recycling, a significant factor in the supply of many of the metals used in our society, provides environmental benefits, such as, energy saving, reduced emission associated with energy saving etc. Photographic wastes, spent catalysts and electronic scrap are the major sources of materials for silver recycling. Other recyclable silver-bearing materials include dental alloys, jewellery and silverware. Cell phones have become one of the major sources for recycled silver recovery.

As per USGS Report entitled "Recycled Cell Phones—A Treasure Trove of Valuable Metals", references on data offered by the Falconbridge Ltd, indicate that one tonne of obsolete cellphones (exclusive of batteries) contains an average 3.14 kg of silver metal. As per the data of World Silver Survey 2017, silver scrap supply remains steady at 85 tonnes (2.7 Moz) in 2016 as compared to the previous year. Scrap from retail consumers was mainly in the form of old jewellery. Recycling of silver from these uses is an important part of its supply.

As per annual Silver Focus Report 2017, global silver recycling was effectively unchanged during 2016-17, at 5,023 tonnes (161.5 Moz). The largest source of silver scrap, which is the Industrial Sector, posted a 1% rise, benefitting from slightly higher ethylene oxide recycling.

This was joined by a 4% gain for jewellery, the result of growth in East Asia and the Middle East. However, these were offset by losses elsewhere. Photographic recycling posted a further structural decline and the largest year to year fall at 7%. By contrast, silverware fell by 3%, in large part due to the weak response from western countries scrap to higher prices.

As per Mineral Commodity summaries, 2018 approximately 1,150 tonnes of silver was recovered from new and old scrap in United State of America during 2016-17.

WORLD REVIEW

The total reserves of silver in metal content are estimated at 5,30,000 tonnes. Peru contributed (18%), Australia & Poland (17% each), Russia (10%), China & Mexico (7% each) and Chile (5%) are the major countries having silver reserves (Table-5).

Mexico, Peru, China, Australia, Russia, Bolivia and Poland are the main producers of

silver. The global primary as well as by-product mine output slightly increased to 27,511 tonnes of metal content in 2015 from 27,203 tonnes in the previous year. World mine production of silver is furnished in Table- 6.

**Table – 5 : World Reserves of Silver
(By Principal Countries)**

(In tonnes of silver content)

| Country | Reserves |
|-------------------------------|---------------|
| World: Total (rounded) | 530000 |
| Australia | 89000 |
| Bolivia | 22000 |
| Chile | 27000 |
| China | 39000 |
| Mexico | 37000 |
| Peru | 93000 |
| Poland | 89000 |
| USA | 25000 |
| Russia | 55000 |
| Other countries | 57000 |

Source: Mineral Commodity Summaries, 2018.

**Table – 6 : Mine Production of Silver
(By Principal Countries)**

(In tonnes of metal content)

| Country | 2013 | 2014 | 2015 |
|---------------------|--------------|--------------|-------------------|
| World: Total | 25989 | 27203 | 27511 |
| Argentina | 774 | 905 | 1079 |
| Australia | 1840 | 1847 | 1374 |
| Bolivia | 1287 | 1345 | 1306 |
| Brazil | 22 | 25 | 25 ^e |
| Canada | 640 | 495 | 380 |
| Chile | 1174 | 1572 | 1504 |
| China | 3670 | 3499 | 3393 |
| Guatemala | 281 | 858 | 863 |
| Kazakhstan | 964 | 989 | 1309 |
| Mexico | 5821 | 5766 | 5592 |
| Peru | 3674 | 3778 | 4102 |
| Poland | 1161 | 1384 | 1407 |
| Russia* | 1412 | 1334 | 1571 |
| USA | 1037 | 1184 | 1100 |
| Other Countries | 2230 | 2221 | 2506 ^e |

Source: World Mineral Production, 2011-2015.

* Smelted and/or refinery production.

SILVER

Australia

Production in Australia decreased by 26% to 1,374 tonnes in 2015 from 1,847 tonnes in 2014. The decrease was the result of lower average ore grades which is in tandem and in accord with plans to cease operation at Cannington in 2015.

Argentina

Silver production increased by 19% to 1,079 tonnes in 2015 from 905 tonnes in 2014 owing to production increases at most of the major silver mines and to the startup of Goldcorp Inc.'s Cerro Negro Mine. Processing of ore at Cerro Negro commenced in July and began ramping up to full capacity of 4,000 tonnes per day of ore. Significant increases in silver production took place at Pan American Silver Corp.'s Manantial Espejo Mine and Troy Resources Ltd's Casposo Mine.

Chile

Silver production decreased by 4% to 1,504 tonnes in 2015 from 1,572 tonnes in 2014.

FOREIGN TRADE

Exports

Exports of metal silver in 2016-17 was 37 tonnes. Exports were mainly to USA (41%) and UAE & Sri Lanka (11% each) (Table-7). There were no exports of silver ores and concentrate during 2015-16. Exports of metal silver in 2015-16 increased drastically to 24 tonnes from 5 tonnes in the preceding year. Exports were mainly to USA (58%) and UAE & Canada (8% each). Exports of silver-clad base metals was drastically decreased to 291 kg during 2015-16 from 22,375 kg reported in 2014-15. Exports of Semi-Manufactured silver were at 24 tonnes during the year 2015-16 as compared to one tonne of the previous year and exports of silver powder was negligible during the year 2015-16 (Tables-8 to 12).

Imports

Imports of silver were 3,363 tonnes in 2016-17. Imports were mainly from the Hong Kong (26%), China (24%), Korea, Rep. of (10%), Russia (9%), UK & Switzerland (6% each) and Germany (4%) (Table-13).

Imports of silver were 7,428 tonnes in 2015-16 against 7,708 tonnes in the previous year. Imports were mainly from the UK (31%), Switzerland (13%), China & Russia (10% each), Korea, Rep. of (7%), USA (5%) and Germany, Hong Kong & Australia (3% each). Imports of silver-clad base metals were 189 kg in 2015-16 as against 2,774 kg in

the previous year. Korea, Rep. of (79%) and Germany (21%) were the major importers.

Imports of Semi-Manufactured silver were 502 tonnes during the year 2015-16 as compared to 402 tonnes in the previous year. Besides, imports of Silver unwrought were 6,784 tonnes during the year 2015-16 as compared to 7,306 tonnes in previous year. UK (32%) and Switzerland (13%) were the major importers. Imports of silver powder in 2015-16 increased drastically to 142 tonnes from negligible quantities reported in the previous year. UK (37%), Korea, Rep. of (25%), Switzerland (24%) and China (7%) were the major importers (Tables-14 to 18).

Table- 7: Export of Silver (By Countries) 2016-17 (P)

| Country | Qty (t) | Values (₹'000) |
|----------------------|-----------|----------------|
| All Countries | 37 | 767603 |
| USA | 15 | 330899 |
| UAE | 4 | 208431 |
| Sri Lanka | 4 | 11143 |
| Philippines | 2 | 16701 |
| Canada | 1 | 27766 |
| Singapore | 1 | 5391 |
| Sweden | 1 | 6175 |
| Italy | 1 | 13190 |
| Mexico | 1 | 32295 |
| Finland | 1 | 14708 |
| Other countries | 6 | 100904 |

Source: Import-Export data bank, Ministry of Commerce, HS Code-710692,710700,710691,710610

Table – 8 : Exports of Silver (By Countries)

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|----------|---------------|-------------|---------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 5 | 346251 | 24 | 481460 |
| USA | 1 | 48440 | 14 | 191372 |
| UAE | 2 | 139482 | 2 | 112351 |
| Mexico | ++ | 18 | 1 | 28650 |
| Canada | ++ | 39 | 2 | 23381 |
| UK | ++ | 13945 | ++ | 14105 |
| Philippines | - | - | 1 | 10765 |
| Turkey | ++ | 2743 | ++ | 8814 |
| South Africa | - | - | 1 | 8752 |
| Iran | ++ | 6018 | ++ | 8201 |
| Sweden | - | - | 1 | 7596 |
| Other countries | 2 | 135566 | 2 | 67473 |

SILVER

**Table – 9 : Exports of Silver-clad Base Metals
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|-----------------------|--------------|------------------|-------------|------------------|
| | Qty (kg) | Value (₹'000) | Qty (kg) | Value (₹'000) |
| All Countries | 22375 | 264220 | 291 | 2514 |
| USA | 10491 | 130912 | 190 | 2267 |
| Sri Lanka | 120 | 434 | 100 | 231 |
| Cyprus | - | - | 1 | 16 |
| Canada | 2000 | 35066 | - | - |
| Chinese Taipei/Taiwan | 373 | 3194 | - | - |
| Brazil | 132 | 1880 | - | - |
| Argentina | 170 | 1221 | - | - |
| Bahrain | 47 | 976 | - | - |
| Australia | 15 | 50 | - | - |
| Bangladesh | 1 | 28 | - | - |
| Other countries | 9026 | 90459 | - | - |

**Table – 10 : Exports of Silver:Semi-Manufactured
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|------------|------------------|-------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 1 | 89597 | 24 | 461663 |
| USA | 1 | 45270 | 14 | 185000 |
| UAE | ++ | 56 | 2 | 111297 |
| Mexico | ++ | 18 | 1 | 28650 |
| Canada | ++ | 39 | 2 | 23381 |
| Philippines | - | - | 1 | 10765 |
| Turkey | ++ | 2743 | ++ | 8814 |
| South Africa | - | - | 1 | 8752 |
| Iran | ++ | 6018 | ++ | 8201 |
| Sweden | - | - | 1 | 7596 |
| Finland | ++ | 12429 | ++ | 7285 |
| Other countries | ++ | 23024 | 2 | 61922 |

SILVER

**Table – 11 : Exports of Silver:Unwrought
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|------------|------------------|-------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | ++ | 17848 | ++ | 19778 |
| UK | ++ | 13905 | ++ | 10473 |
| USA | ++ | 3170 | ++ | 6372 |
| UAE | - | - | ++ | 1054 |
| Germany | - | - | ++ | 508 |
| Hong Kong | ++ | 201 | ++ | 507 |
| Belgium | - | - | ++ | 400 |
| Dominican Rep. | - | - | ++ | 286 |
| Malaysia | - | - | ++ | 96 |
| Saudi Arabia | - | - | ++ | 81 |
| Sri Lanka | ++ | 203 | - | - |
| Other countries | ++ | 369 | ++ | 1 |

**Table – 12 : Exports of Silver:Powder
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|-----------------|------------------|-----------------|------------------|
| | Quantity (t) | Value (₹'000) | Quantity (t) | Value (₹'000) |
| All Countries | 4 | 238806 | ++ | 19 |
| Sri Lanka | - | - | ++ | 10 |
| Singapore | - | - | ++ | 8 |
| Tanzania | - | - | ++ | 1 |
| UAE | 2 | 139426 | - | - |
| Belgium | 2 | 99340 | - | - |
| UK | ++ | 40 | - | - |

**Table- 13 : Import of Silver
(By Countries)
2016-17 (P)**

| Country | Qty (t) | Value (₹'000) |
|----------------------|-------------|------------------|
| All Countries | 3363 | 123296230 |
| Hong Kong | 836 | 32082324 |
| China | 794 | 29565386 |
| Korea, Rep. of | 366 | 12885781 |
| Russia | 322 | 11575782 |
| UK | 216 | 7520033 |
| Switzerland | 200 | 7110228 |
| Germany | 136 | 4846793 |
| USA | 96 | 3458813 |
| Other countries | 397 | 14251090 |

Source: Import-Export data bank, Ministry of Commerce, HS Code-710692,710700,710691,710610

SILVER

**Table – 14 : Imports of Silver
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|-------------|------------------|-------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 7708 | 276863750 | 7428 | 244357984 |
| UK | 1472 | 50461466 | 2336 | 75325344 |
| Switzerland | 444 | 15208675 | 967 | 31502018 |
| China | 1820 | 69243611 | 775 | 25124810 |
| Russia | 850 | 30581026 | 713 | 22665591 |
| Korea, Rep. of | 623 | 22734128 | 533 | 17373285 |
| USA | 70 | 2053472 | 352 | 11352603 |
| Germany | 742 | 25772844 | 258 | 8246166 |
| Hong Kong | 538 | 20071243 | 252 | 8221064 |
| Australia | 5 | 173746 | 243 | 7898376 |
| Canada | 25 | 858372 | 205 | 6657264 |
| Other countries | 1119 | 39705167 | 794 | 29991463 |

**Table – 15 : Imports of Silver-clad Base Metals
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|-------------|------------------|-------------|------------------|
| | Qty (kg) | Value (₹'000) | Qty (kg) | Value (₹'000) |
| All Countries | 2774 | 28253 | 189 | 1185 |
| Germany | 30 | 521 | 39 | 940 |
| Korea, Rep. of | - | - | 150 | 245 |
| USA | 1135 | 12531 | - | - |
| Italy | 345 | 7652 | - | - |
| France | 1183 | 5455 | - | - |
| Spain | 5 | 962 | - | - |
| Brazil | 9 | 700 | - | - |
| UK | 35 | 262 | - | - |
| Guatemala | 12 | 127 | - | - |
| Hong Kong | 20 | 43 | - | - |
| Other countries | - | - | - | - |

SILVER

**Table – 16 : Imports of Silver Semi-Manufactured
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|-----------------|------------------|-----------------|------------------|
| | Quantity (t) | Value (₹'000) | Quantity (t) | Value (₹'000) |
| All Countries | 402 | 13865841 | 502 | 15596904 |
| Korea, Rep. of | 109 | 3874574 | 153 | 4980433 |
| UK | 14 | 523711 | 81 | 2619538 |
| China | 53 | 2021911 | 54 | 1777202 |
| USA | 25 | 506270 | 51 | 1298605 |
| Switzerland | 3 | 91962 | 33 | 1050492 |
| Sweden | 65 | 2171553 | 28 | 927334 |
| Australia | ++ | 6 | 20 | 673233 |
| South Africa | 5 | 174092 | 15 | 459534 |
| Italy | 19 | 334971 | 26 | 417385 |
| Russia | 14 | 531426 | 12 | 362720 |
| Other countries | 95 | 3635365 | 29 | 1030428 |

**Table – 17 : Imports of Silver :Unwrought
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|-----------------|------------------|-----------------|------------------|
| | Quantity (t) | Value (₹'000) | Quantity (t) | Value (₹'000) |
| All Countries | 7306 | 262988879 | 6784 | 224242895 |
| UK | 1458 | 49937727 | 2202 | 71057608 |
| Switzerland | 441 | 15116713 | 900 | 29361135 |
| China | 1767 | 67215582 | 711 | 23024854 |
| Russia | 836 | 30049600 | 701 | 22302871 |
| Korea, Rep. of | 514 | 18859554 | 345 | 11218404 |
| USA | 45 | 1546883 | 300 | 10021484 |
| Germany | 740 | 25685766 | 257 | 8206831 |
| Hong Kong | 502 | 18701103 | 250 | 8161443 |
| Australia | 5 | 173740 | 223 | 7225143 |
| Canada | 25 | 858372 | 205 | 6656620 |
| Other countries | 973 | 34843839 | 690 | 27006512 |

SILVER

**Table – 18 : Imports of Silver :Powder
(By Countries)**

| Country | 2014-15 | | 2015-16 (P) | |
|----------------------|------------|------------------|-------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | ++ | 9030 | 142 | 4518185 |
| UK | ++ | 28 | 53 | 1648198 |
| Korea, Rep. of | - | - | 35 | 1174448 |
| Switzerland | - | - | 34 | 1090391 |
| China | ++ | 6118 | 10 | 322754 |
| Turkey | - | - | 5 | 145814 |
| UAE | - | - | 3 | 77293 |
| USA | ++ | 319 | 1 | 32514 |
| Singapore | - | - | 1 | 15393 |
| Germany | ++ | 1831 | ++ | 5225 |
| Israel | - | - | ++ | 2821 |
| Other countries | ++ | 734 | ++ | 3334 |

FUTURE OUTLOOK

Silver has the dual usefulness of being a precious metal as well as an industrial metal. World over, silver is primarily traded for its industrial applications, however, Indian silver imports are largely consumed for jewellery and silverware. India is among the top 5 silver consumers in the world. About 60% of silver consumption in India is from the rural population who view it as a solid saving commodity. India does not produce silver in a significant scale and most of the silver has to be imported. Moreover, silver demand has been on the rise in major growing economies including India during the past few years. New industries, such as, medicine, manufacturing etc. are sealing up their demand for silver, and this may soon translate to higher levels of imports.

As per Annual Silver Focus Report 2017, global silver demand in photographic applications is likely to drop and is expected to touch 1,155 tonnes (37.1 Moz) during 2017-18. Digital technology and its applications would indeed be the primary cause for this fall.

As per Annual Silver Focus Report 2017, India is aiming to double its installation of new capacity from 4.5 GW during 2016-17 to around 10 GW during

2017-18. In the year 2017-18, India in all probabilities would overtake Japan as the world's third largest photovoltaic (PV) market as there are plans to raise capacity steadily to a target of 100 GW by 2022.

On the other side, industrial demand for silver in India may remain unchanged and would be in consistent with 1,015 tonnes (35.8 Moz) as in 2015-16. This trend is likely to continue into the near future. The key areas of industrial demand are electrical and electronics and brazing alloys. The government's aggressive effort to boost infrastructure that include expanding the power network, with a target to complete electrification of villages in the next 4-5 years would be the most potent driving force that would influence the industrial demand for silver.

However, the counter narrative is that notwithstanding the Government's initiative for infrastructural boost, the benefits for industrial demand would be only to modest levels as the high inventory levels of semi-fabricated products across the supply chain would offset any demand escalation of silver. Housing projects (driven by a new government initiative) is another potential demand escalator for electrical equipment which would in turn influence the demand for silver.