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## SUMMARY

Copper is the third widely consumed metal in the world, after iron and aluminium. Copper is widely used in electrical, electronics, wiring and telecom cable. The copper industry is controlled by 3 major players in organised sector, viz; Hindustan Copper, Birla copper (a division of Indo Gulf Corp.) and Sterlite Industries. But there are large numbers of small manufacturers (unorganised sector) who melt copper scrap and convert it into ingots. Copper is scarce in India and imported in form of concentrates, cathodes and rods.

## INTRODUCTION

Copper is a metal with the highest conductivity only after gold and silver. Thus it is widely in the above named industries. Copper is a substitute of aluminium because it has less resistance than aluminium. Copper consumption in India is one of the lowest in the world. The consumption of copper increased from 386,000 tonnes in 1993-94 to 486,000 tonnes in 1998-99 and the production has increased from 108,000 tonnes in 1993-94 to 282,000 tonnes in 1998-99. This shows that India is a net importer of copper.

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## MARKET

### Size & Structure

Copper market can be segregated into organized market – comprising of major four producers, who produce virgin metal – and unorganised market – comprising of many small smelters who extract copper from scrap. Organized market is estimated at approximately 65 per cent of the total market size. the market has posted a CARG of 25 per cent per annum in the past six years.

Table: Copper market size. (In '000 tonnes)

Year	1998-99	1997-98	1996-97	1995-96	1994-95	1993-94
<b>Sterlite</b>	68.34	54.18	22.42	19.51	30.88	11.74
<b>Birla Copper</b>	66.98	1.71	-	-	-	-
<b>Hindustan Copper</b>	75.55	75.55	88.48	81.72	86.41	64.88
<b>Swil</b>	5.04	6.04	6.25	5.35	4.30	2.97
<b>Others</b>	46.10	116.07	41.30	60.81	39.12	27.91
<b>Total Production</b>	262.01	253.55	158.45	167.39	160.71	107.50
<b>Imports</b>	242.70	331.10	360.30	249.60	233.80	233.00
<b>Exports</b>	18.80	15.50	13.00	14.70	12.50	14.80
<b>Domestic Market</b>	485.91	569.15	505.75	402.29	382.01	325.70

Source: CMIE

### Demand

From cathodes many downstream products like C.C.Rods, etc. are manufactured. These products are used in many industries and their share in copper consumption are as under:

Jelly filled Copper cable	30%
Winding wires	25%
Bldg. & Construction	10%
Transformers	10%
Cables	8%
Transport	5%
Others	12%

## INPUTS & TECHNOLOGY

Copper ore is concentrated i.e. removing of impurities, by froth floatation method. This concentrated ore is put in a smelter where copper accumulates on cathode and impurities get collected on anode by an electrolysis process ie. Smelting. Copper is also manufactured by melting scrap in a crucible. This is largely an unorganised industry.

Copper is extracted from copper ore also known as Pitch Blendy. Pitch Blendy is refined into copper concentrate by froth floatation method, mostly near the mines. This concentrate is smelted in a smelter to obtain copper cathode. In India copper is imported in form of concentrates by both Sterlite and Indo Gulf .The third manufacturer Hindustan Copper is the only owner of copper mine and its requirements is met from their own mines.

The quantity of copper ore and the metal recoverable there from in India is as under:

(All quantities in '000 tonnes)

	<b>PROVED</b>	<b>PROVABLE</b>	<b>POSSIBLE</b>	<b>TOTAL</b>
ORE	165648	151712	99450	416811
METAL	1723	1610	1041	4374

## POLICY

The government has now delicensed the industry. Thus the companies are free to increase the capacities and production of Copper. Also foreign investment is allowed in this industry. The mining of minerals has been freed by the new mining policy. Also private and foreign investment is allowed in the mining sector. This will help in exploration of new mines and reserves. The duty structure has been rationalized. Also the imports of copper and ore have been freed. The liberalisation in the end use industry, mainly telecom, will bring in new players and thus result in increased demand of copper. The EPCG (Exports Promotion Capital Goods) Scheme has helped the local copper producers to import capital goods at zero duty or concessional rate of duty.

## INTERNATIONAL SCENARIO

The total copper production is 14 million tonnes. The table hereunder gives us the production of refined copper in various countries.

Table : Production of refined copper.

Production	000'sTonnes	%
W Europe	2,399	17
Africa	481	3
Asia	2,177	15
N America	3,485	25
S America	2,944	21
Oceania	279	2
E Europe	2,327	17
<b>Total</b>	<b>14,092</b>	<b>100</b>

Source: LME.

The consumption pattern of copper overseas is also different. The consumption pattern based on end use industry is as under.

Table : Consumption pattern of Copper.

Consumption	%
Transport	7
Electrical	17
Building	48
General engineering	16
Light engineering	8
Other	4
<b>Total</b>	<b>100</b>