India: A sleeping giant?

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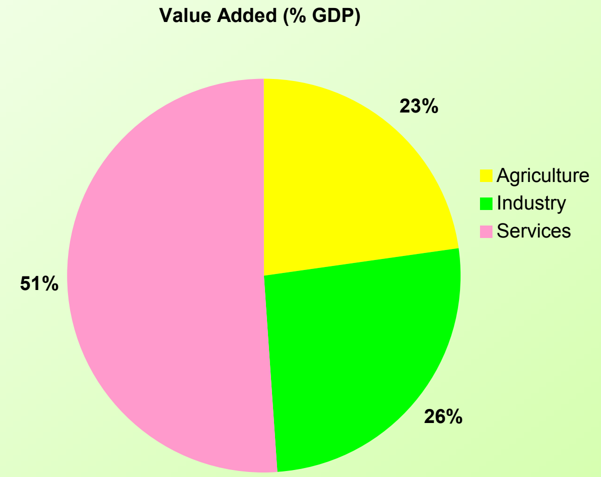
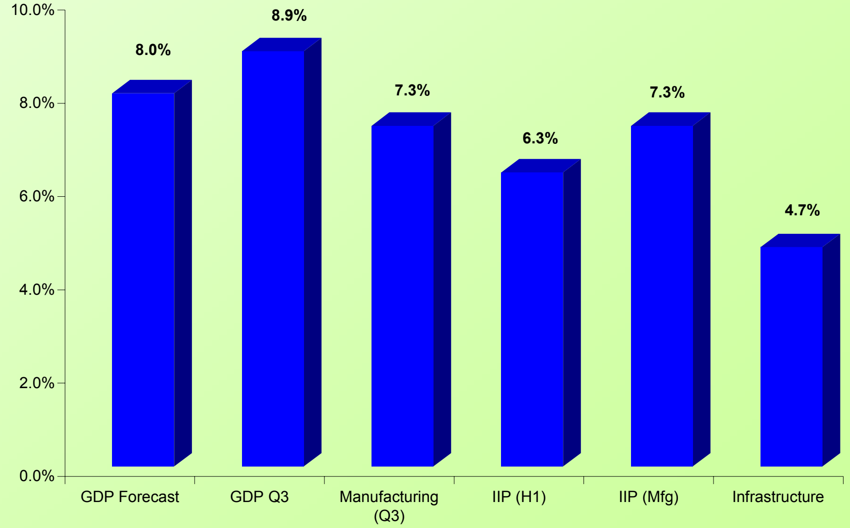
Overview

- Economic Indicators
  - 4th largest economy (GDP PPP valuation)
  - GDP $520 per capita (2003)
  - Per capita income: $560
- Demographics
  - 1.1 billion
  - Growing productive population
  - >50% under 25 years

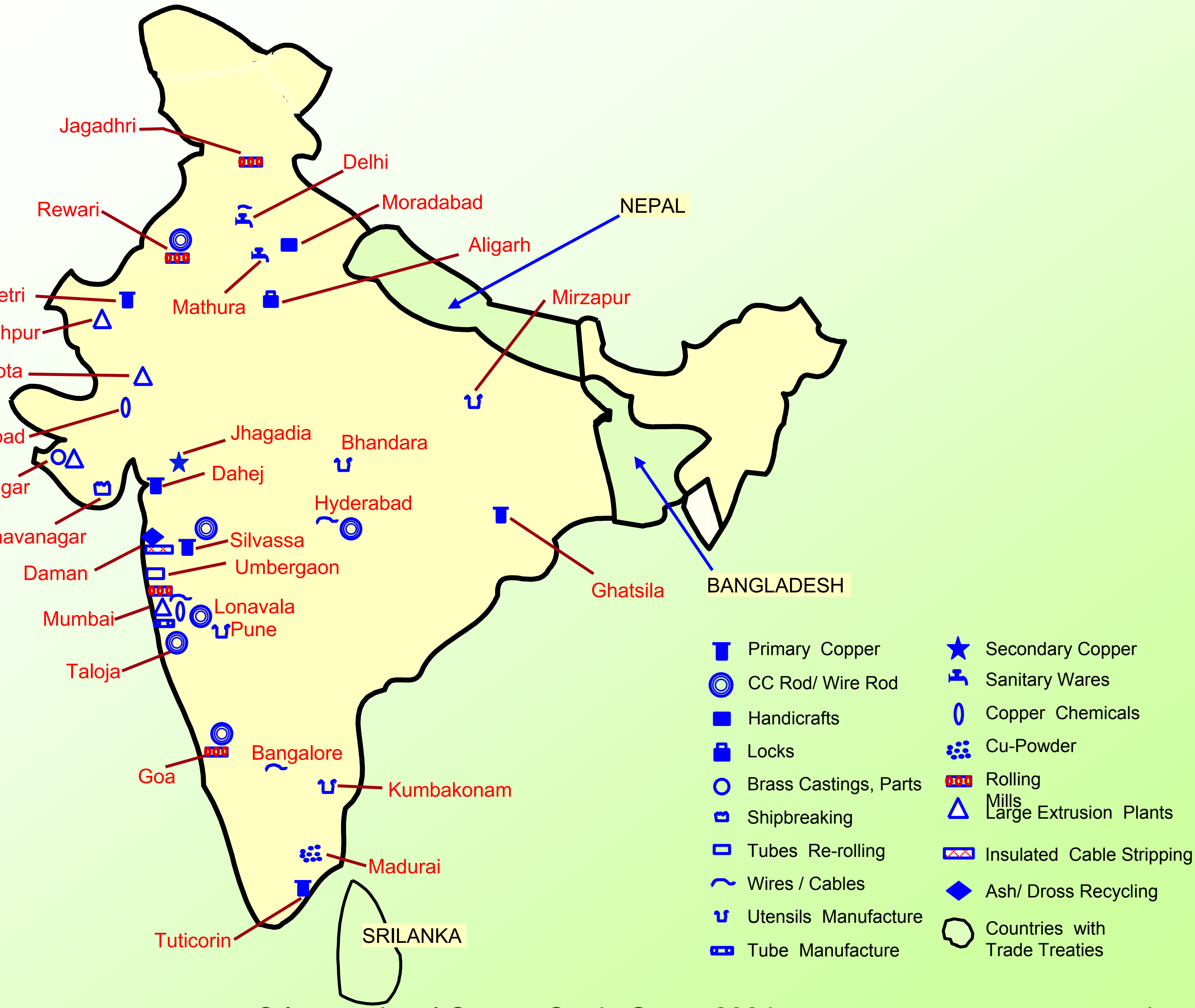




Changing policy environment

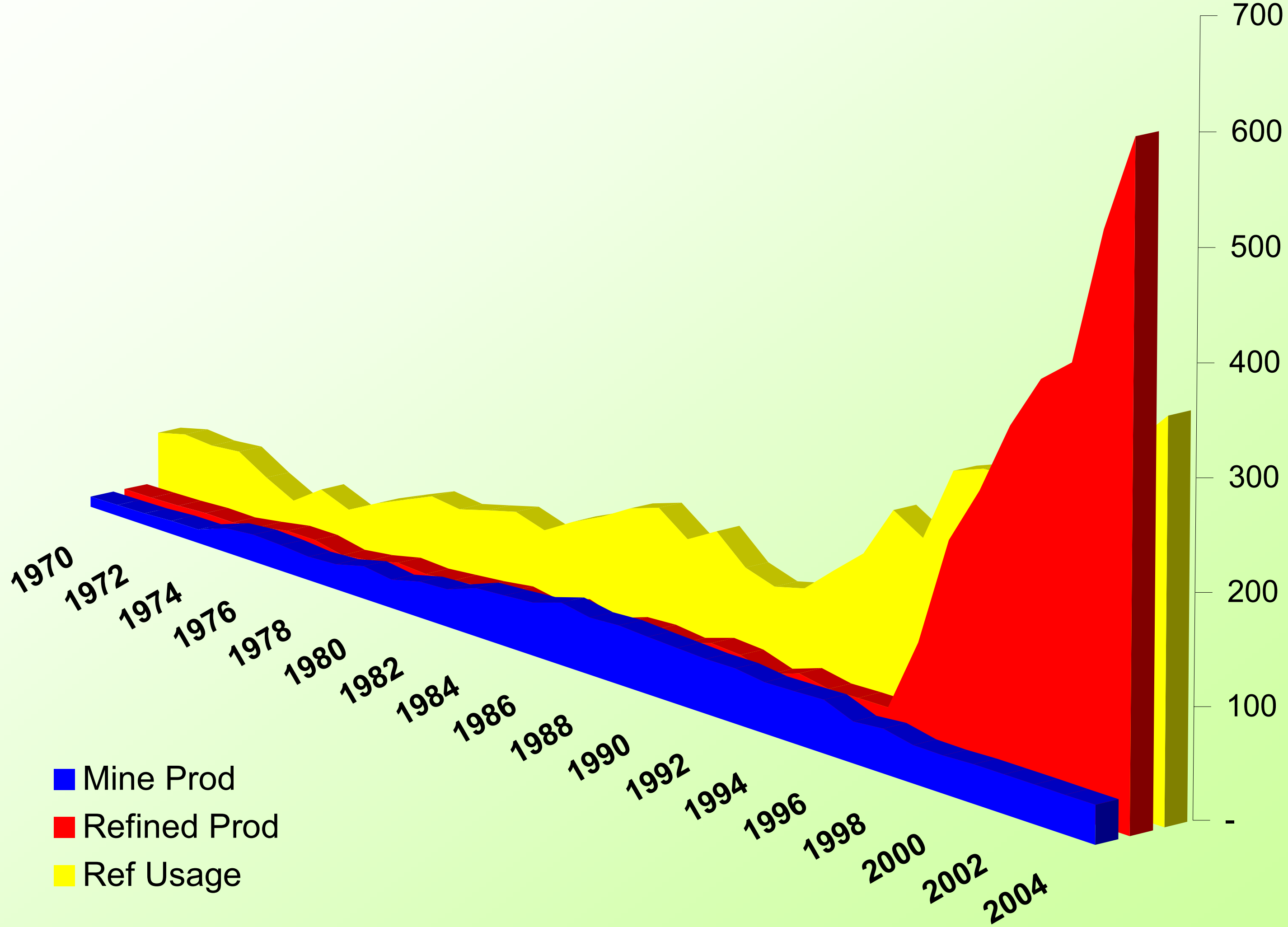
- Government: from controller to facilitator
- FDI
  - Average return on investment: 19%
  - 8 SEZs, with additional 23 approved
- Infrastructure
  - Copper control order rescinded
  - Network industries (roads, electricity, telecom, water distribution) to drive growth
  - Urban improvement (safe drinking water, energy, transport, communications)
  - Expansion of city networks
  - Rural electrification & power for all
  - Poverty alleviation: rising net income
  - Consumer market of 800 million by 2010
- Trade
  - Committed to rules based system & WTO process
  - Desire to enter into FTAs
  - Recent cuts in duties
  - Objective: ASEAN levels (0-5%)

Duty Structure	Pre cuts	Post cuts
Peak customs	25%	20%
Special Add. Duty	4%	NIL
Power trans % dist equip	25%	10%
Raw material for electronic comp.	15%	0-5%
Project imports with imports of machinery	25%	10%

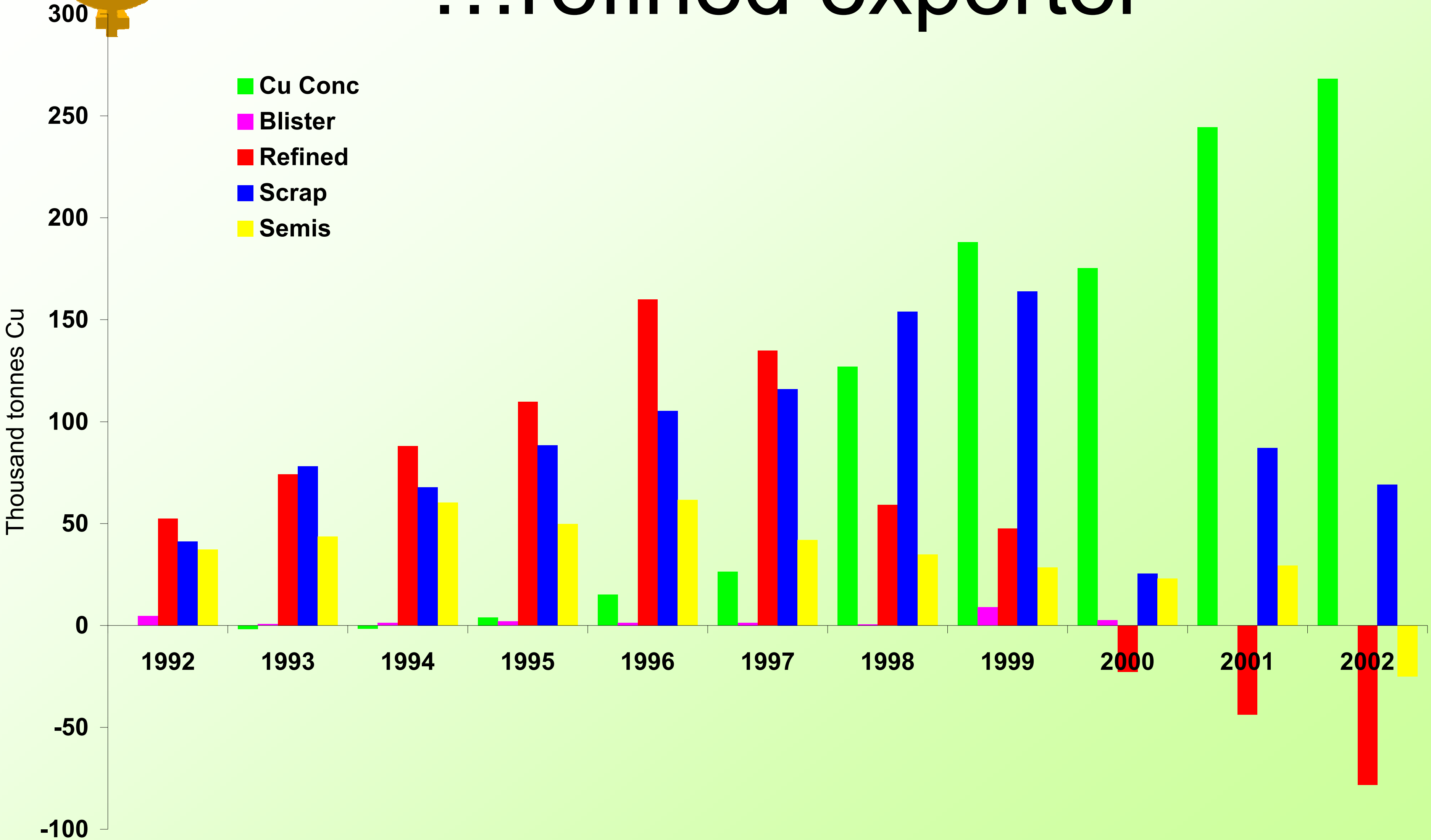


Jagadhri
Delhi
Moradabad
NEPAL
Rewari
Aligarh
Khetri
Mathura
Mirzapur
Jodhpur
Kota
Ahmedabad
Jhagadia
Bhandara
Jamnagar
Dahej
Hyderabad
Bhavanagar
Silvassa
Daman
Umbergaon
Ghatsila
BANGLADESH
Mumbai
Lonavala
Pune
Taloja
Bangalore
Goa
Kumbakonam
Madurai
Tuticorin
SRILANKA
Primary Copper
CC Rod/ Wire Rod
Handicrafts
Locks
Brass Castings, Parts
Shipbreaking
Tubes Re-rolling
Wires / Cables
Utensils Manufacture
Tube Manufacture
Secondary Copper
Sanitary Wares
Copper Chemicals
Cu-Powder
Rolling Mills
Large Extrusion Plants
Insulated Cable Stripping
Ash/ Dross Recycling
Countries with Trade Treaties

India in transition



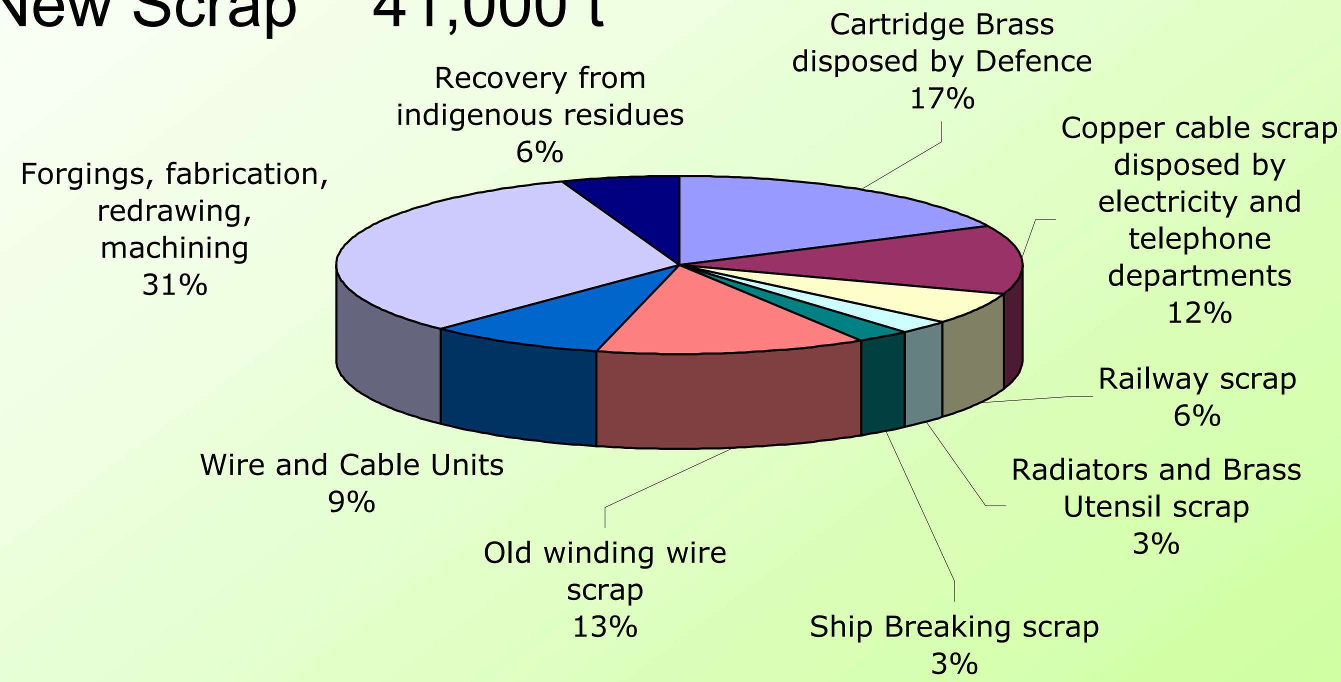
…refined exporter



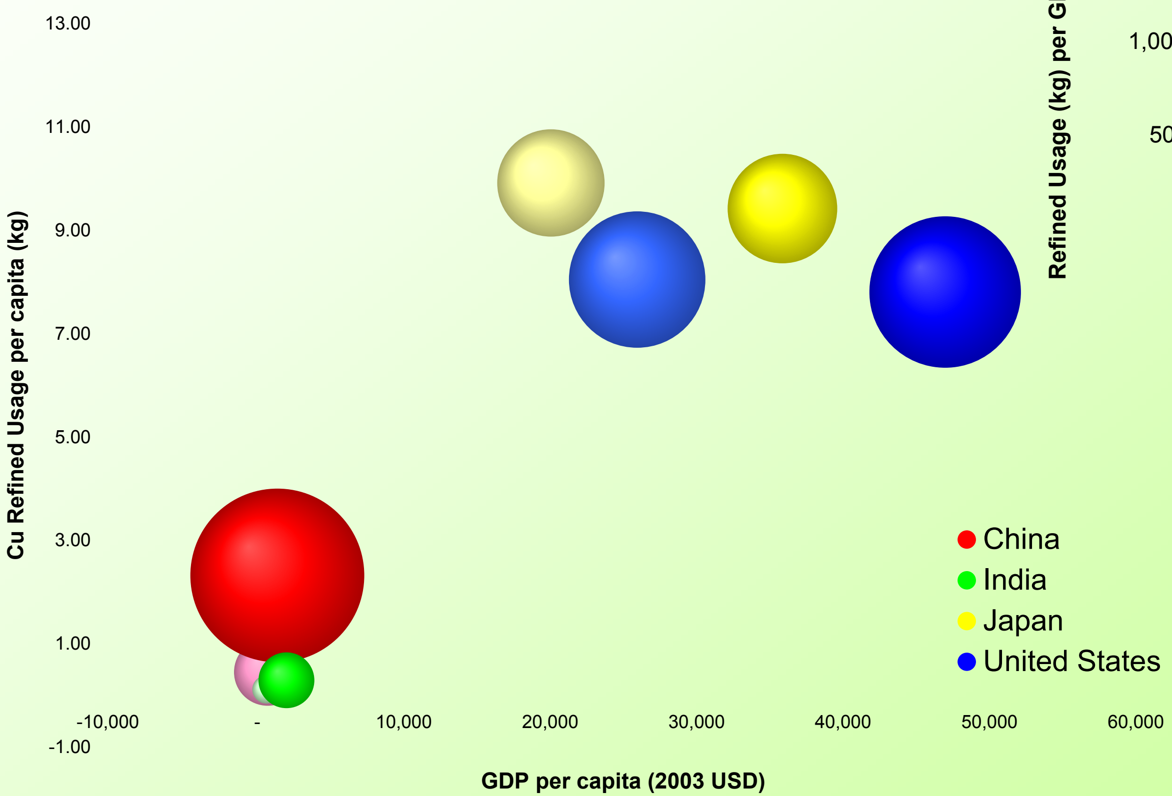
Estimated Tonnages Scrap

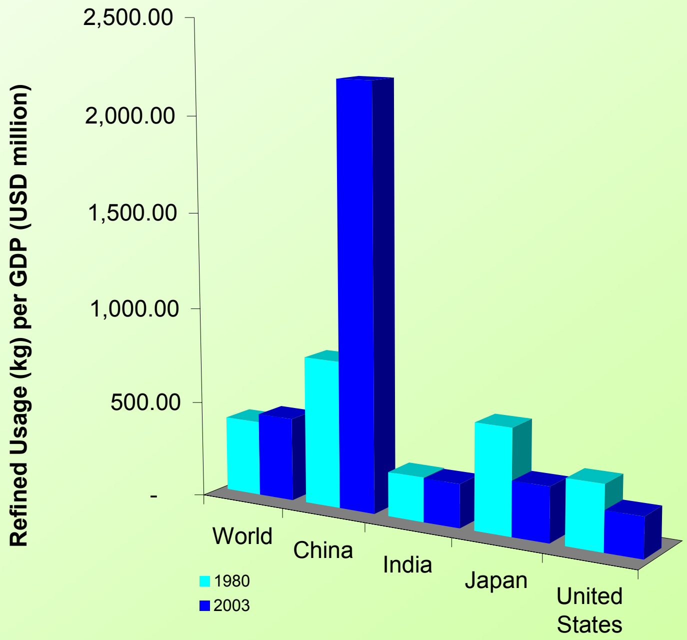
Old Scrap 61,000 t

New Scrap 41,000 t

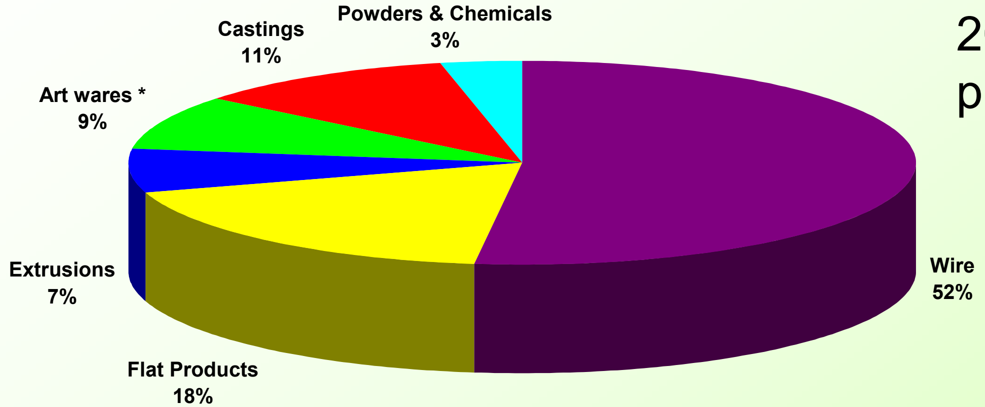


Intensity of Use



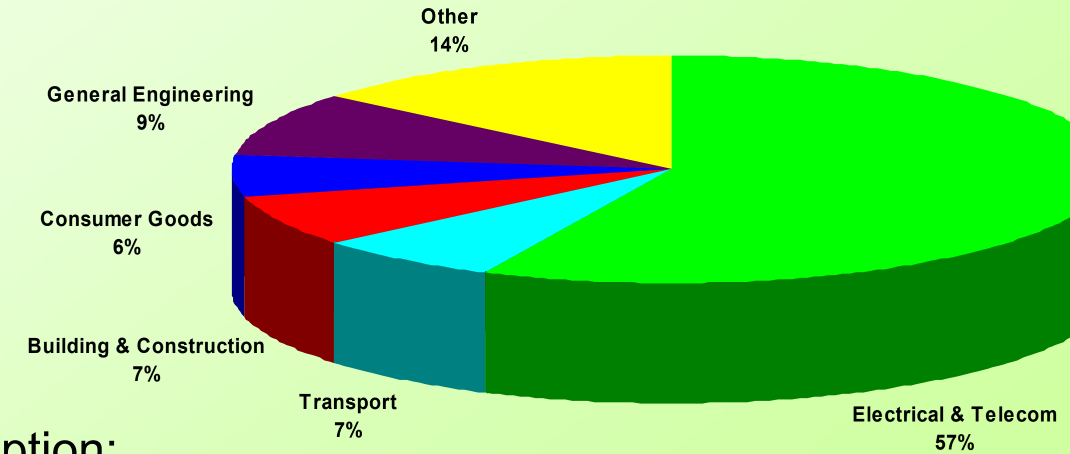


Distribution of copper usage



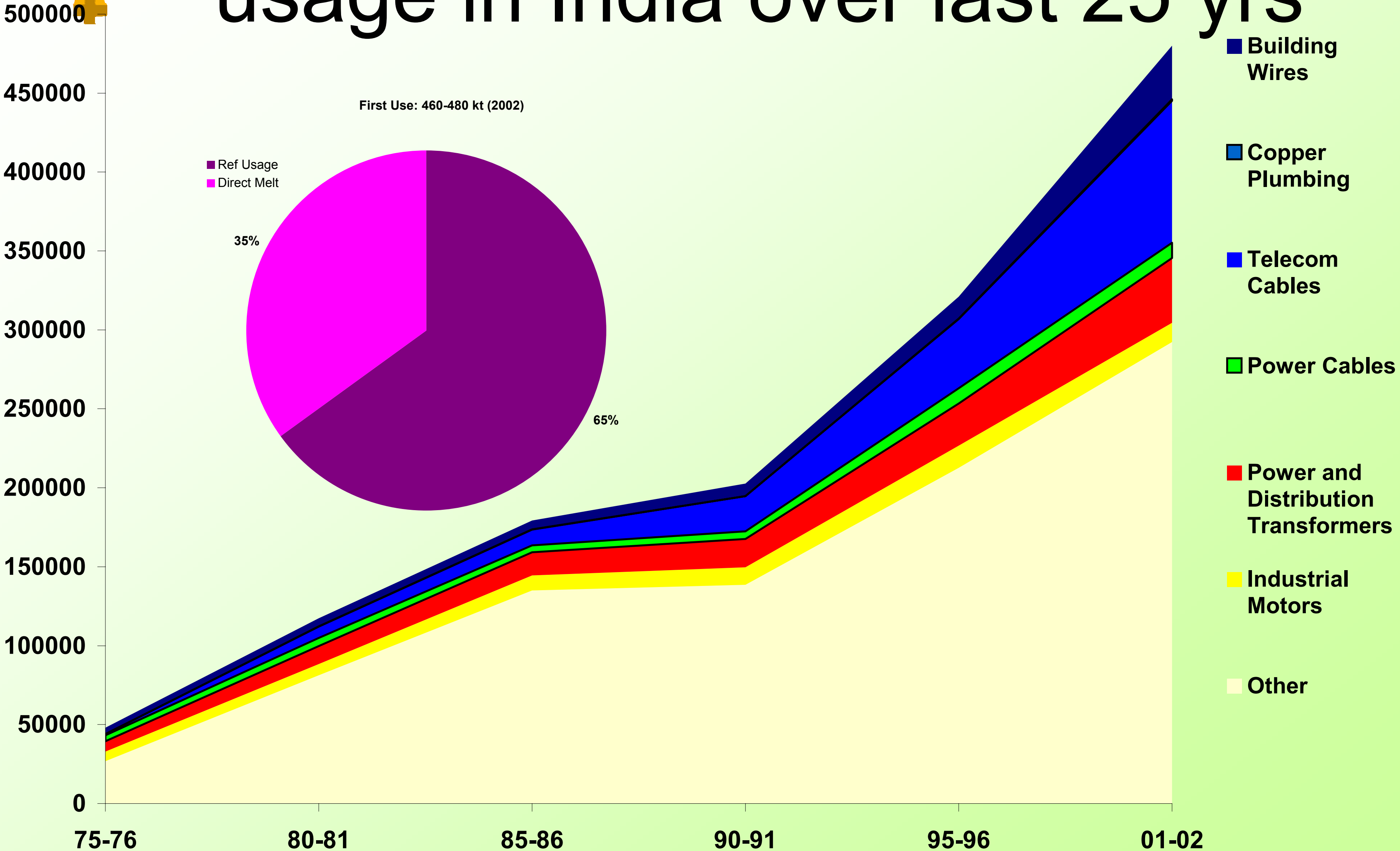
2001/02: Total Cu domestic production: 462,000 t

	2001/02 Capacity (tpy)
CC Rods	468,200
Hot Rolled Wire Rods (incl UPCAST cold rolled)	150,000
Wires and Conductors (excl Telecom)	200,000
Telecom Cable	300,000
Flat Rolling	195,000
Tubes & Sections	110,000
Copper Powders and Chemicals	15,000
Castings & Artware	225,000

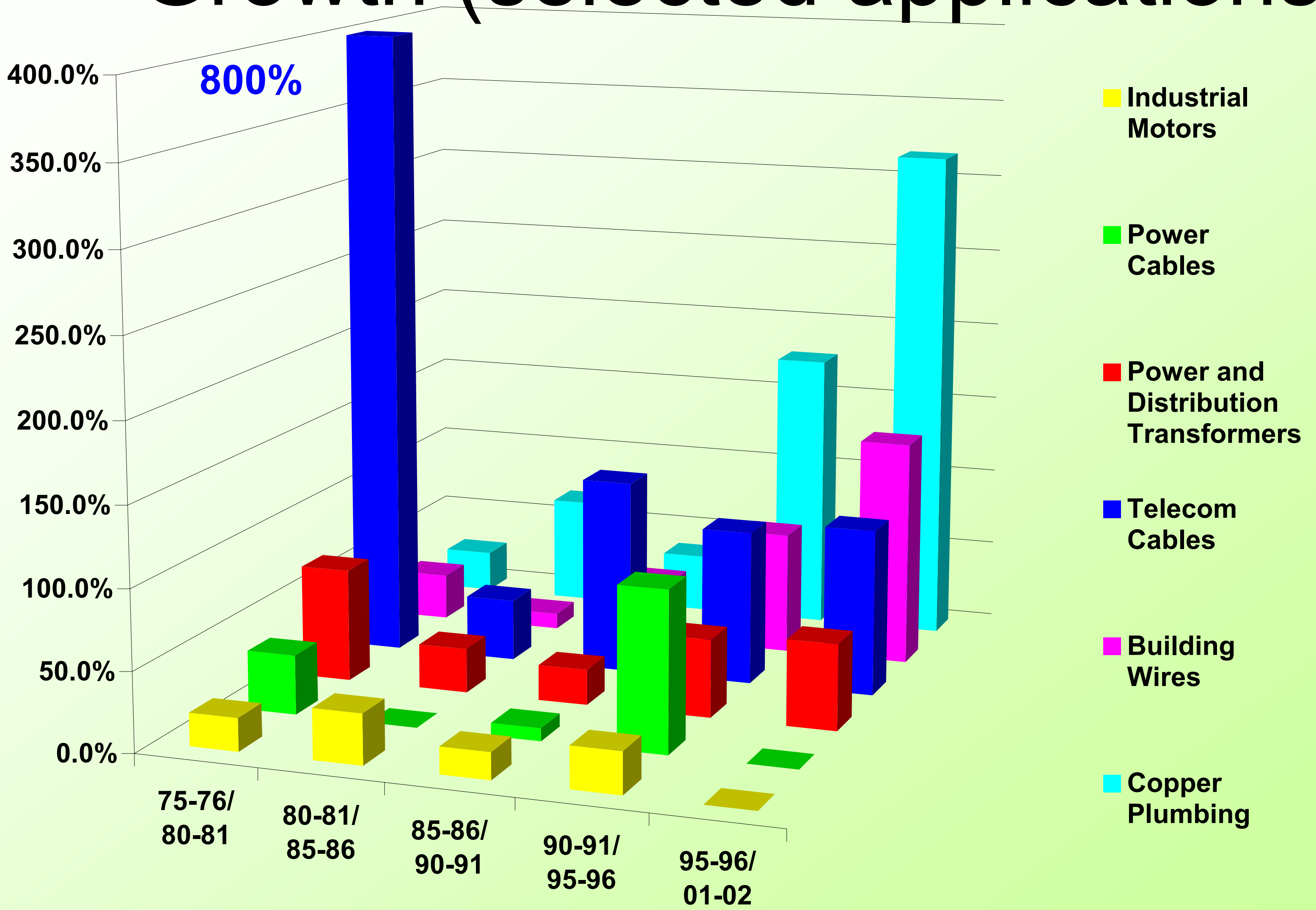


2001/02: Apparent consumption: 460- 480,000 t

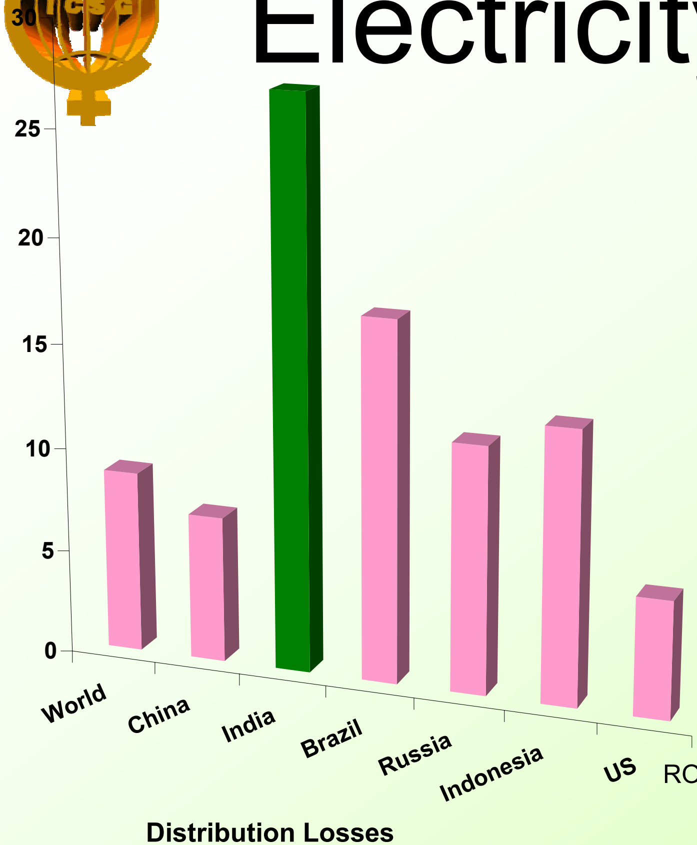
10 fold increase in copper usage in India over last 25 yrs

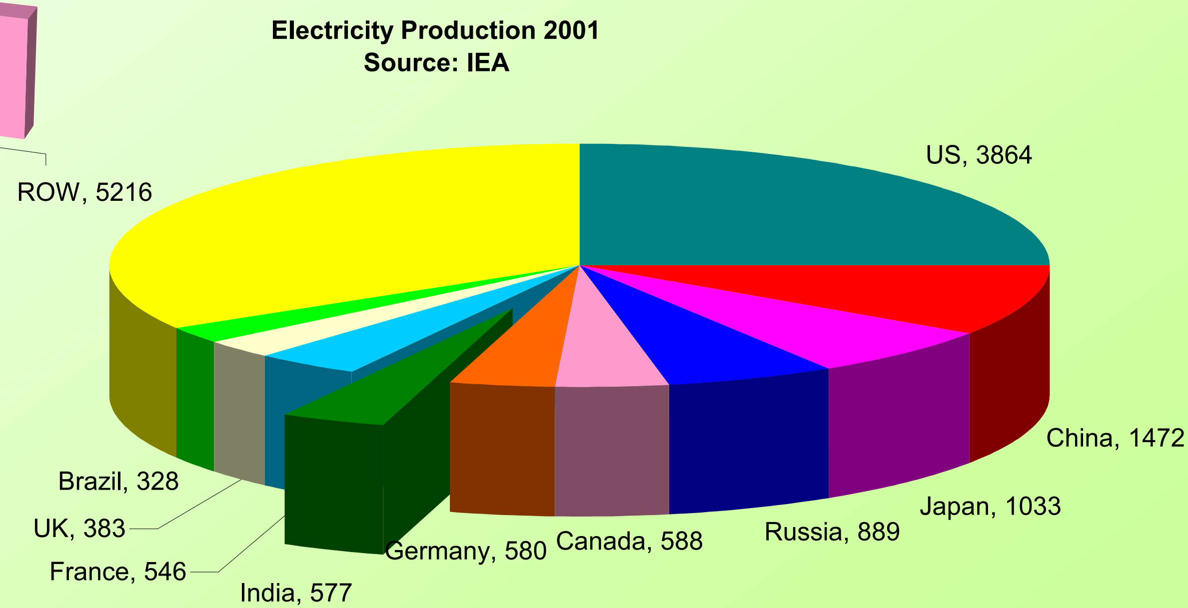


Growth (selected applications)



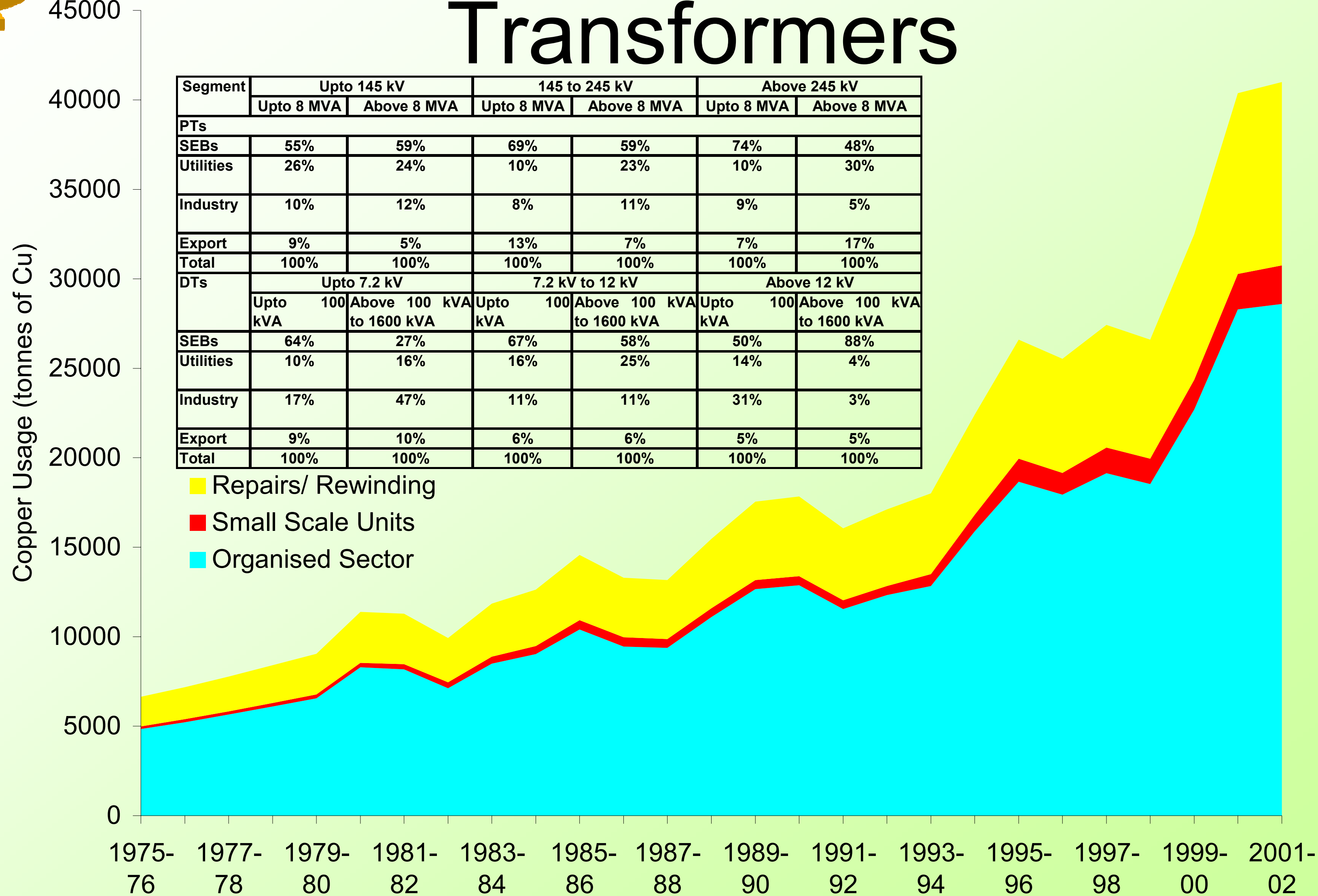
Electricity Production (TWh)





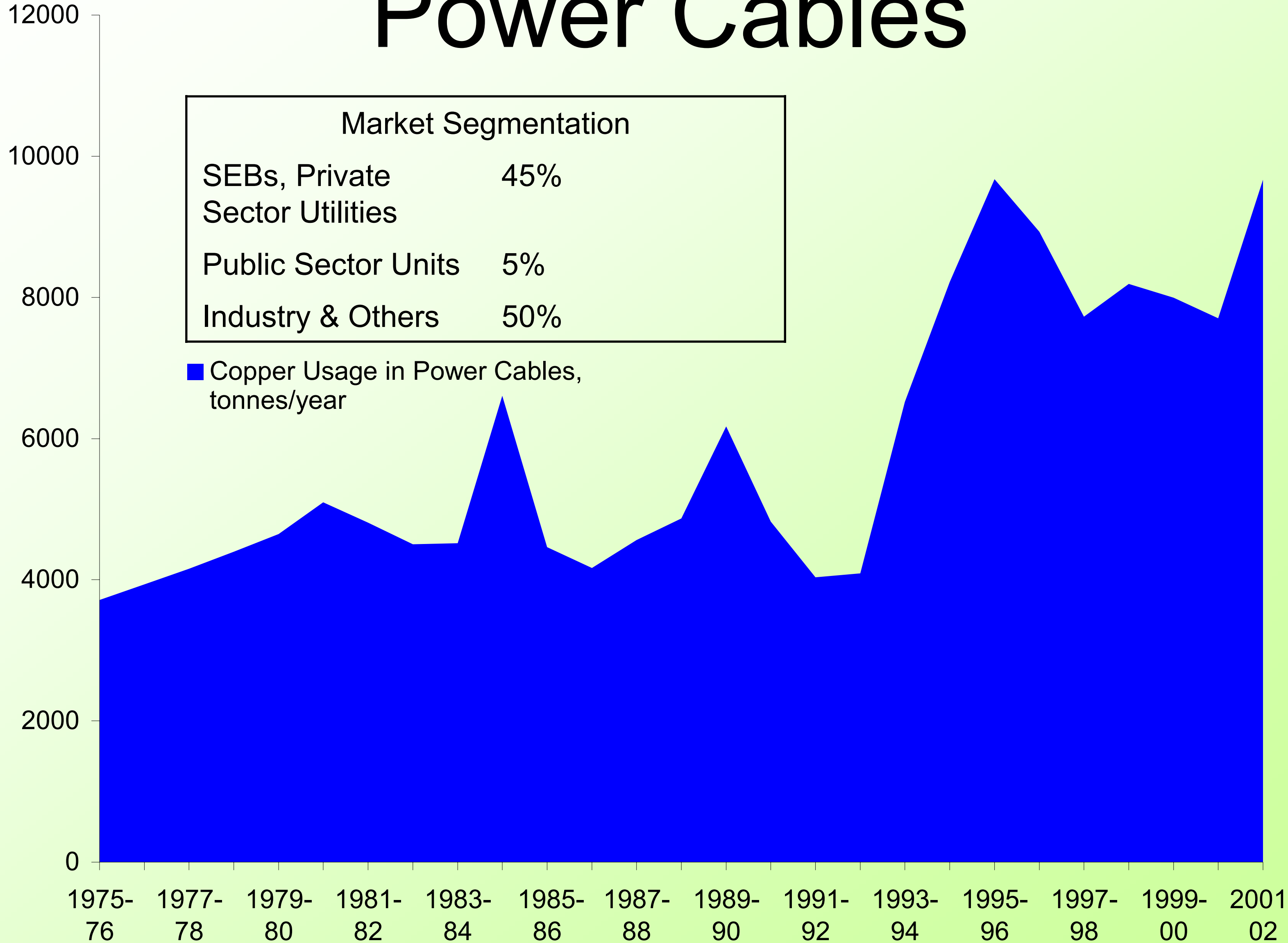
Power and Distribution Transformers

Segment	Upto 145 kV		145 to 245 kV		Above 245 kV	
	Upto 8 MVA	Above 8 MVA	Upto 8 MVA	Above 8 MVA	Upto 8 MVA	Above 8 MVA
PTs						
SEBs	55%	59%	69%	59%	74%	48%
Utilities	26%	24%	10%	23%	10%	30%
Industry	10%	12%	8%	11%	9%	5%
Export	9%	5%	13%	7%	7%	17%
Total	100%	100%	100%	100%	100%	100%
DTs	Upto 7.2 kV		7.2 kV to 12 kV		Above 12 kV	
	Upto 100 kVA	Above 100 kVA to 1600 kVA	Upto 100 kVA	Above 100 kVA to 1600 kVA	Upto 100 kVA	Above 100 kVA to 1600 kVA
SEBs	64%	27%	67%	58%	50%	88%
Utilities	10%	16%	16%	25%	14%	4%
Industry	17%	47%	11%	11%	31%	3%
Export	9%	10%	6%	6%	5%	5%
Total	100%	100%	100%	100%	100%	100%

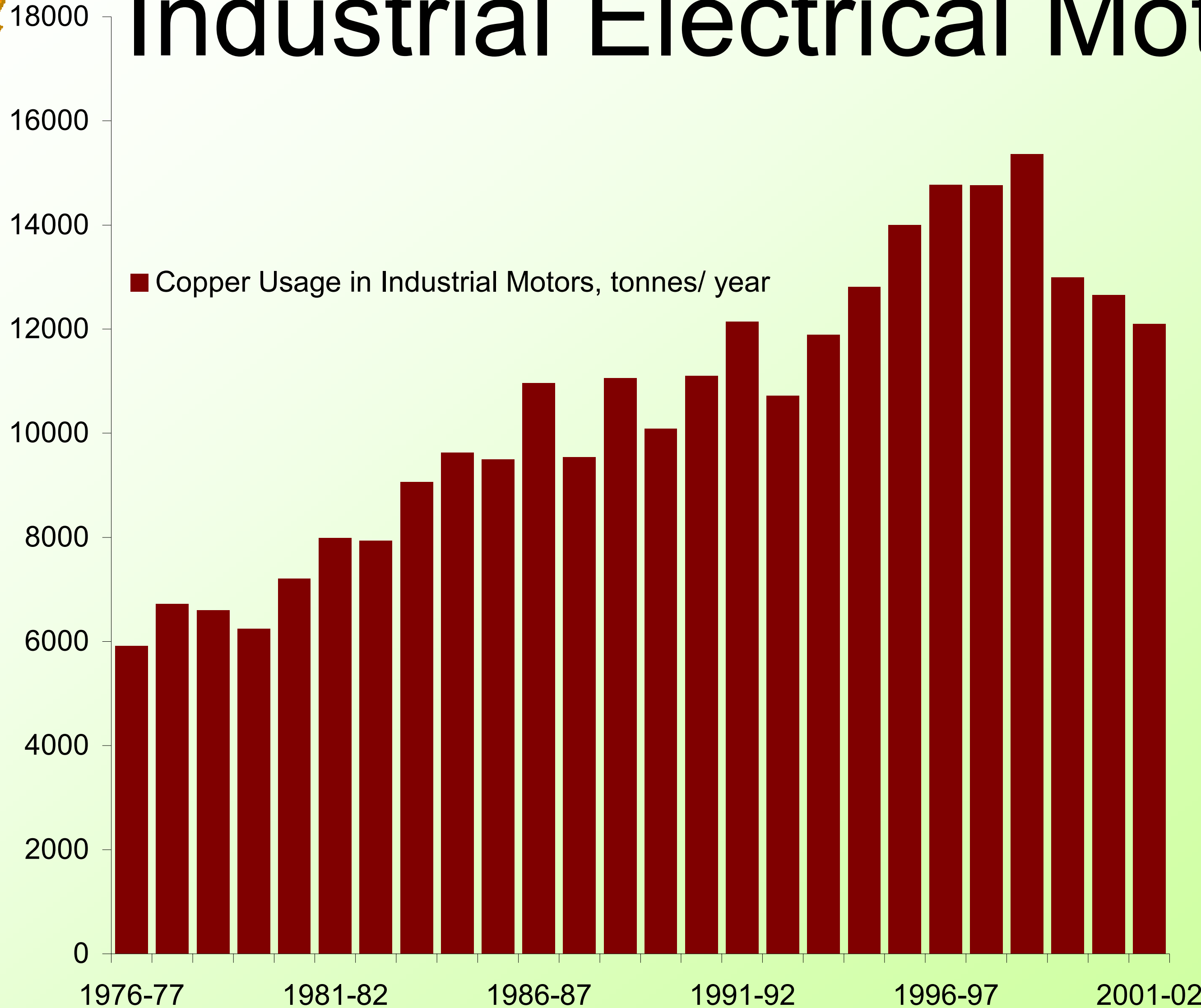


Power Cables

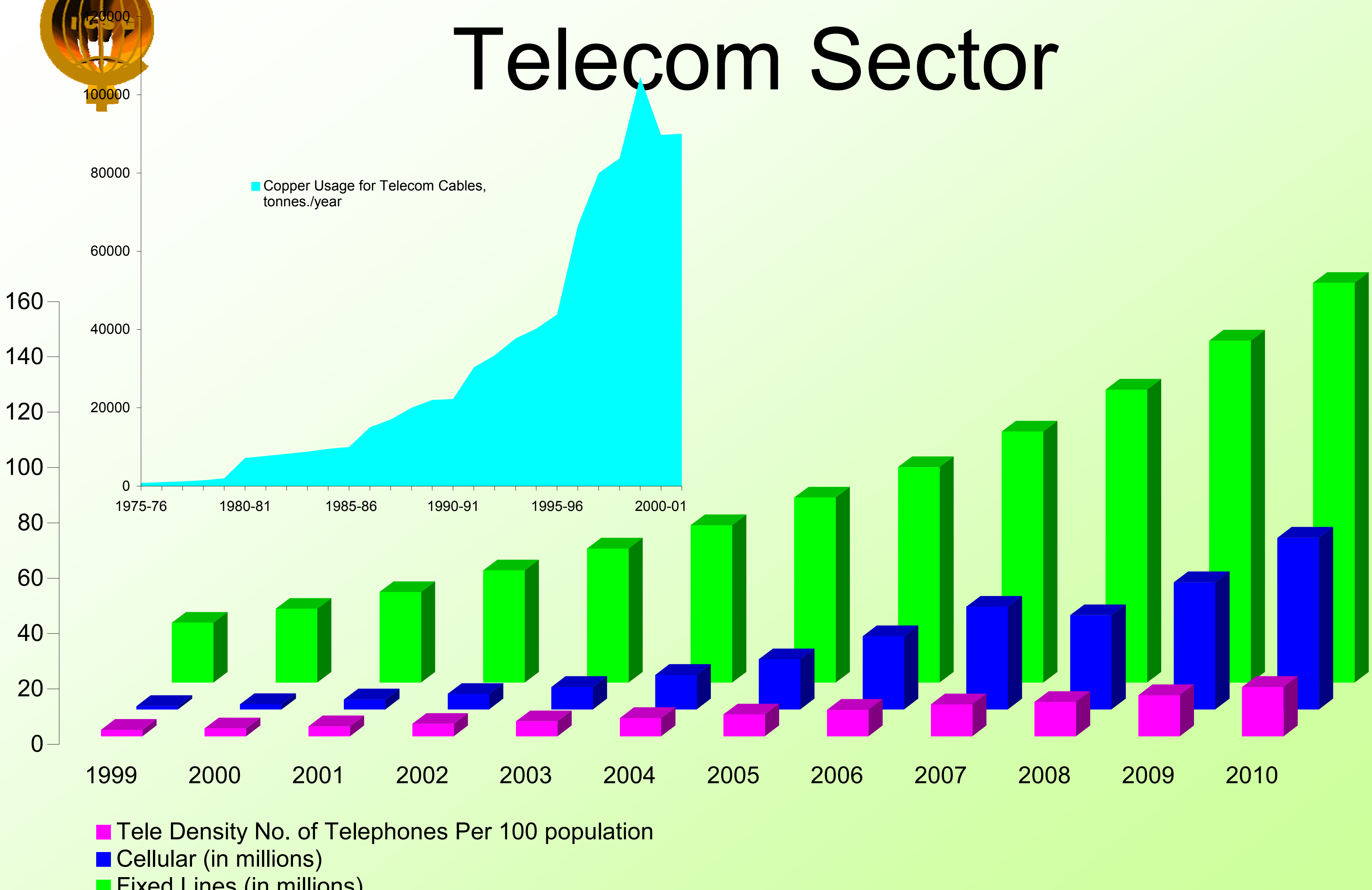
Market Segmentation	
SEBs, Private Sector Utilities	45%
Public Sector Units	5%
Industry & Others	50%



Industrial Electrical Motors

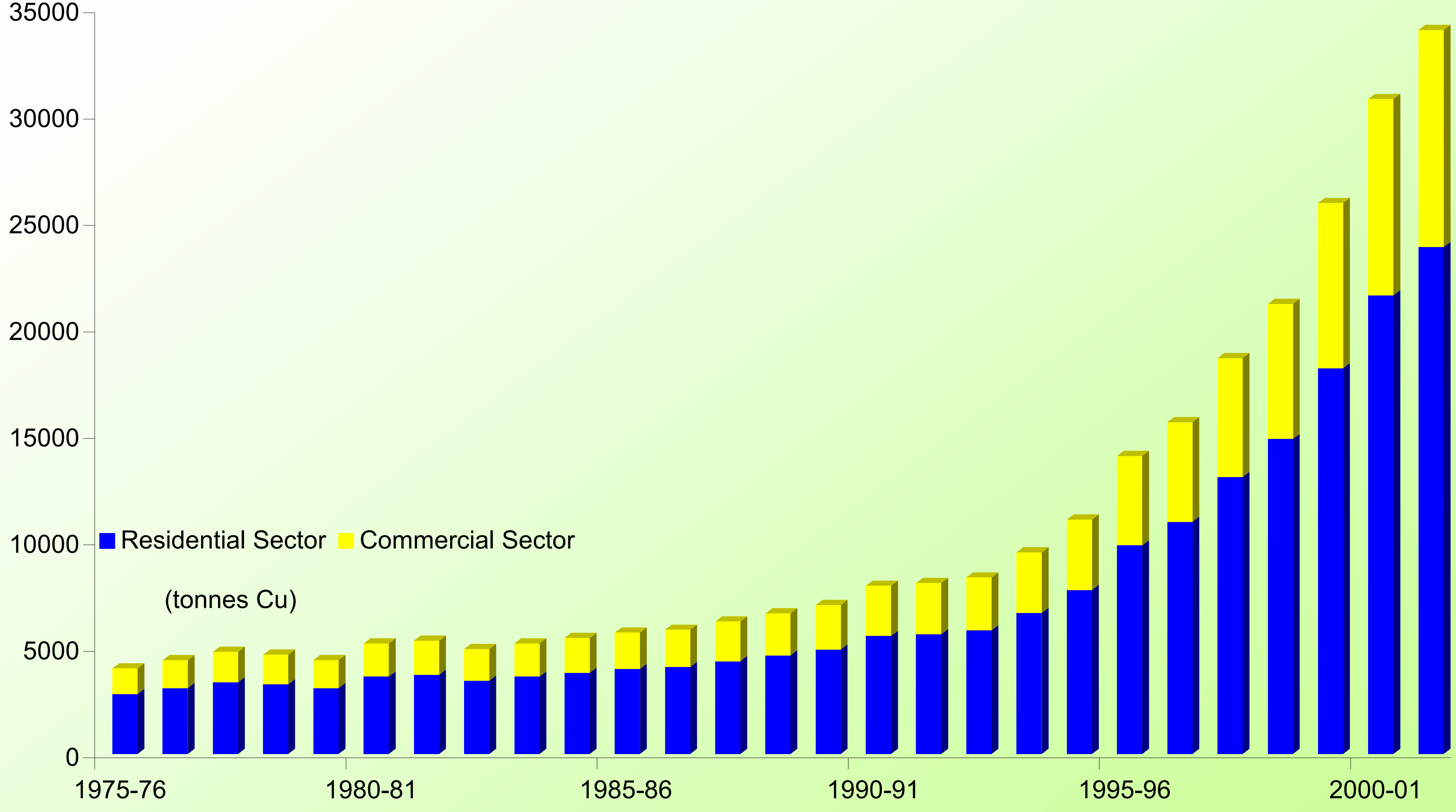


Telecom Sector



Source: BSNL

Building Wires

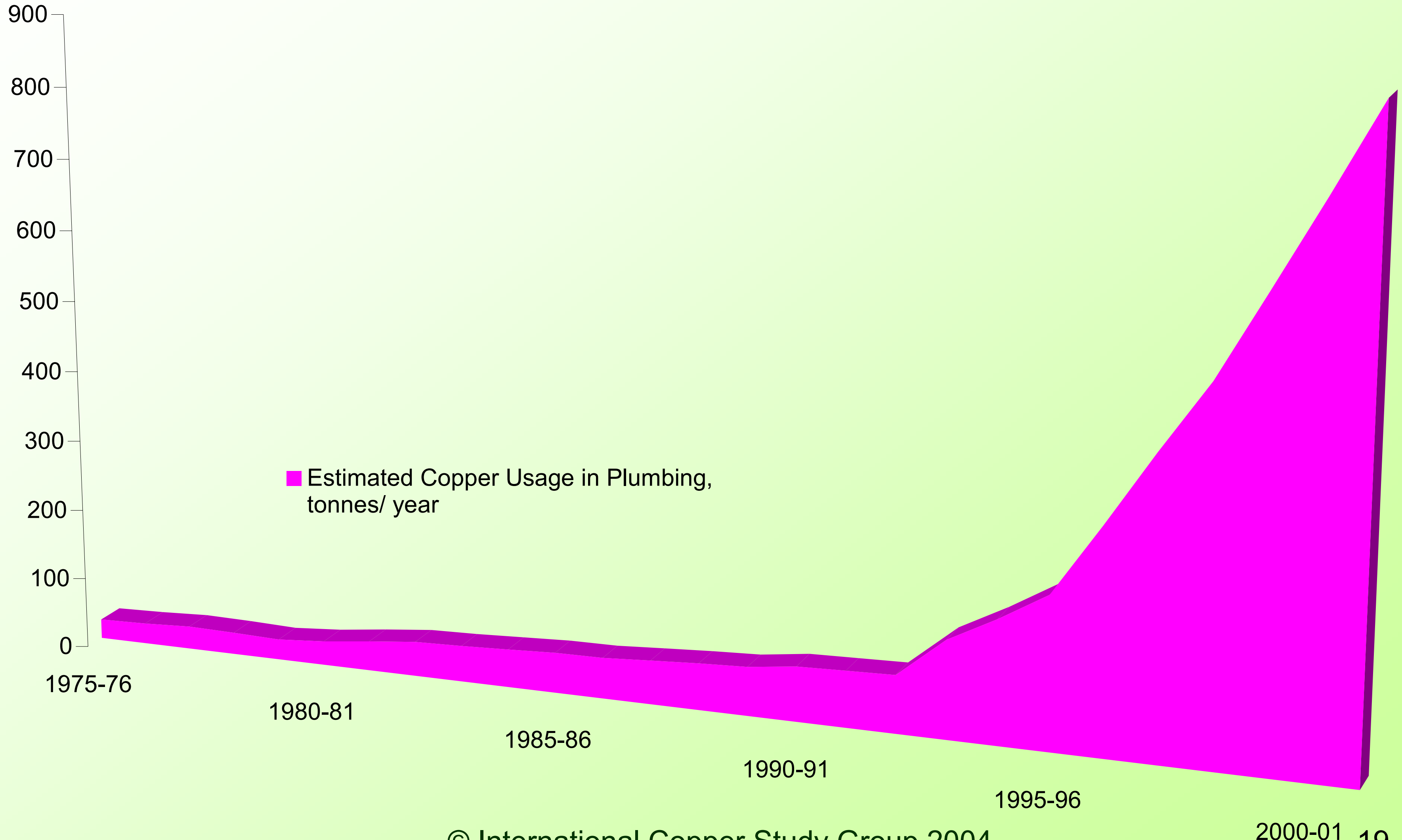


Estimated Copper Demand for Electrical Applications

END USE	2002-03
Motors	42600
Pumps	16310
Generators	8140
Transformers	51060
Switchgear	18070
Power & Control cables	17130
Telecom cables	36000
Telephone wires	10110
Electronic Components	8960
Railways	11450
Auto Electricals	12640
Fans	9460
Appliances	19190
House Wiring	14410
Others	7970
Total	283500

Source: Finolex

Domestic Plumbing



AC & Refrigeration

- Demand growth rate of 19% (1991-2001 CAGR)
- 8,000 t of copper
- Expected to rise to 25,000 within 3-4 years
- By 2008/2009: 300,000t !
- Increase disposable income, availability of credit and changing life styles driving demand
- From luxury to necessity
- Market penetration for ACs ~1-2% (Singapore:35%)

Source: Blue Star, India Infoline, MMR

Transportation

- Auto Sector
  - India: 6 vehicles per 1000 population
  - 2004:1 million passenger car
  - 2010: 2 million
  - 5-9 Kg Cu in typical Indian car (US: 20-25kg)
  - Copper usage: 5,000t to reach 15,000 t
  - Pressures to dematerialize
  - Radiator market under pressure from Al
- Railways
  - Growth as improve infrastructure, replace lines, introduce electrical locos
  - Demand for copper to grow by 8%

SWOT

- Strengths
  - Mfg cost: 80% interest, depreciation 20% labour (reverse for developed country)
  - Improved interest rates
  - Highly educated and skilled management and technical staff
  - Geographic positioning
- Weaknesses
  - Too many players: some estimate at 5000 units
  - Unorganized sector (quality)
  - Bleak outlook for small scale sector
  - Customs duties (20%) on imported capital goods (like tax)
  - Currently not enough internal domestic markets to justify large scale production
- Opportunities
  - Infrastructure requirements (electricity, water, transportation, communication)
  - Increasing consumer demand
  - Manufacturing base for exports…if achieve right scales
  - 12% copper growth possible
- Threats
  - Product Substitution
  - Tariff hopping (SAARC)/ Concessional import duties
  - Global competition as markets open up…some will win, some will lose

Prospects for India

- Growing population (UN)
  - 2045: 1.5 billion
  - Urban shift: 28% (2000) to 41% (2035)
- Infrastructure
  - Electricity
    - Only 30% rural households with access
    - Power for all by 2012
  - Access to improved water: 68% (1980), 84% (2000)
- Rising net income to propel consumer demand
  - White goods, ACR, electronic based goods, automobiles,…