



## Corporate Presentation



**July 2019**



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This document has not been and will not be reviewed or approved by a regulatory authority in India or by any stock exchange in India.

This presentation refers to the Joint Ore Reserves Committee (JORC) Equivalent Mineral resource and Ore Reserve Statement prepared by IMC SRG Consulting (Pvt.) Limited dated September 11, 2010. As this statement has been issued in 2010, the information contained in such statement is subject to risks including changes in capacity reserves, changes in expected expansion cost, risks related to delays in expansion, obtaining and maintaining mining leases at the mining site, obtaining environmental clearances and requisite government approvals.

## **Company Overview**



# The Copper Miner to The Nation



## Long Standing Presence

- A 'Mini Ratna' Company
- Around 5 decades of experience in mining copper
- Government of India (GoI) shareholding of 76.05 %
- Named the industry leader (base metals) at the 2016 PLATTS Global Metals Awards <sup>1</sup>

## Vertically Integrated Operations

- The only integrated producer of refined copper in India
- Major activities include mining, ore beneficiation, Primary smelting/ secondary smelting, refining and casting of refined copper metal into downstream products

## Sole Copper Ore Producer in India

- The only company in India engaged in mining of copper ore
- Owns all the operating mining lease of copper ore
- Proven experience and expertise in developing and operating copper mines

## Access to Substantial Reserves

- Has access to over 2/5<sup>th</sup> of India's copper ore resource
- Reserves: 378.06 mn tonnes <sup>2</sup> (estimated balance as on 01.04.2019)
- Resources: 589.85 mn tonnes <sup>32</sup> (estimated balance as on 01.04.2019)

## Clear Roadmap for Expansion

- Plans to increase capacity from 3.4 Mtpa to 12.4 Mtpa in Phase I and from 12.4 Mtpa to 20.2 Mtpa<sup>4</sup> in Phase II. Phase I is under implementation.
- Through expansion of existing mines, re-opening of closed mines and opening of new mines

## Robust Financial Performance

- Market Capitalization – Rs. 36915.5 Million <sup>5</sup>
- FY 19 Revenue – Rs. 18162.6 Million <sup>6</sup> , FY 19 PAT Rs 1455.1 Million <sup>6</sup>
- Credit Rating: Short Term: ICRA A1+ ; Long Term; ICRA AA+ <sup>7</sup>

### Notes:

1. Platts 2016 global metal awards; <https://gma.platts.com>. Golden Peacock award for CSR in Jan 2017/ET Now presents CSR Leadership awards in 2019
2. Proved + Probable, as per Joint Ore Reserves Committee Equivalent Mineral Resource And Ore Reserve Statement prepared by IMC SRG Consulting (Pvt.) Limited dated September 11, 2010
3. Measured + Indicated + Inferred, as per Joint Ore Reserves Committee Equivalent Mineral Resource And Ore Reserve Statement prepared by IMC SRG Consulting (Pvt.) Limited. dated September 11, 2010
4. Based on Management estimates. Please note that these estimates are subject to risks including changes in expected capacity, changes in expected expansion cost, risks relating to delays in expansion, obtaining and maintaining mining leases at the mining sites, obtaining environmental clearances and requisite government approval. All the clearances for Phase I expansion were already received and the company is in the process of getting clearances for Phase II expansion.
5. BSE as of Jun 30, 2019
6. Based on stock exchange filings for FY 18-19, ended Mar 31, 2019
7. ICRA credit rating report, May 2019

# Operating units

## Khetri Copper Complex (KCC) <sup>1</sup>

<b>State</b>	Rajasthan
<b>Inception</b>	1967
<b>Facility</b>	Mining (underground), Beneficiation, Smelting & Refining
<b>Product</b>	Copper Concentrate & cathode
<b>Capacity</b>	Ore -1.4 mn tonnes p.a. Cathode - 31,000 tonnes p.a. ( under s/down due to economic reasons)

## Gujarat Copper Project (GCP)

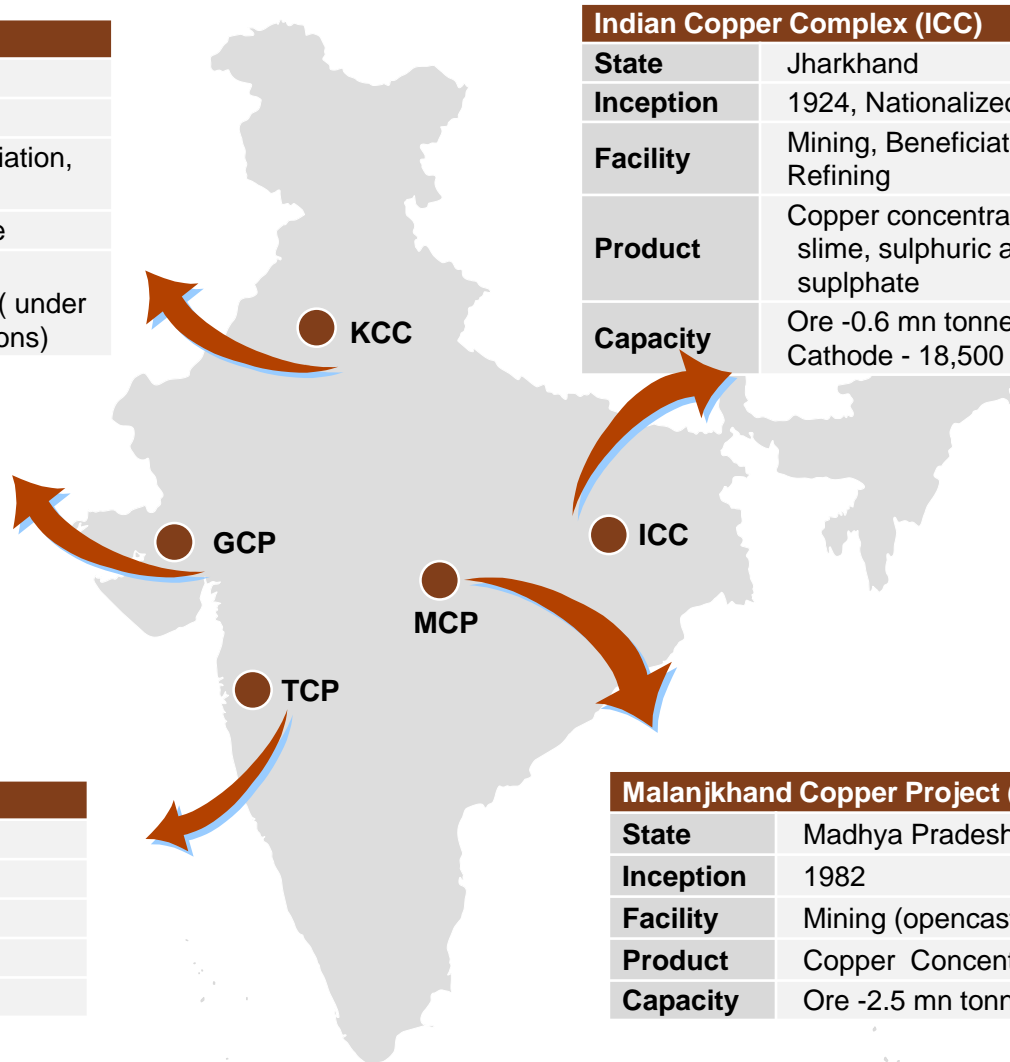
<b>State</b>	Gujarat
<b>Acquisition</b>	2015
<b>Facility</b>	Secondary smelting & Refining
<b>Product</b>	Copper cathode, anode slime
<b>Capacity</b>	Cathode – 50,000 tonnes p.a.

## Taloja Copper Project (TCP)

<b>State</b>	Maharashtra
<b>Inception</b>	1988
<b>Facility</b>	Continuous casting
<b>Product</b>	Copper wire rod
<b>Capacity</b>	60,000 tonnes p.a.

## Indian Copper Complex (ICC)

<b>State</b>	Jharkhand
<b>Inception</b>	1924, Nationalized in 1972
<b>Facility</b>	Mining, Beneficiation Smelting & Refining
<b>Product</b>	Copper concentrate, cathode, anode slime, sulphuric acid & copper sulphate
<b>Capacity</b>	Ore -0.6 mn tonnes p.a. Cathode - 18,500 tonnes p.a.



## Malanjkhand Copper Project (MCP)

<b>State</b>	Madhya Pradesh
<b>Inception</b>	1982
<b>Facility</b>	Mining (opencast), Beneficiation
<b>Product</b>	Copper Concentrate
<b>Capacity</b>	Ore -2.5 mn tonnes p.a.

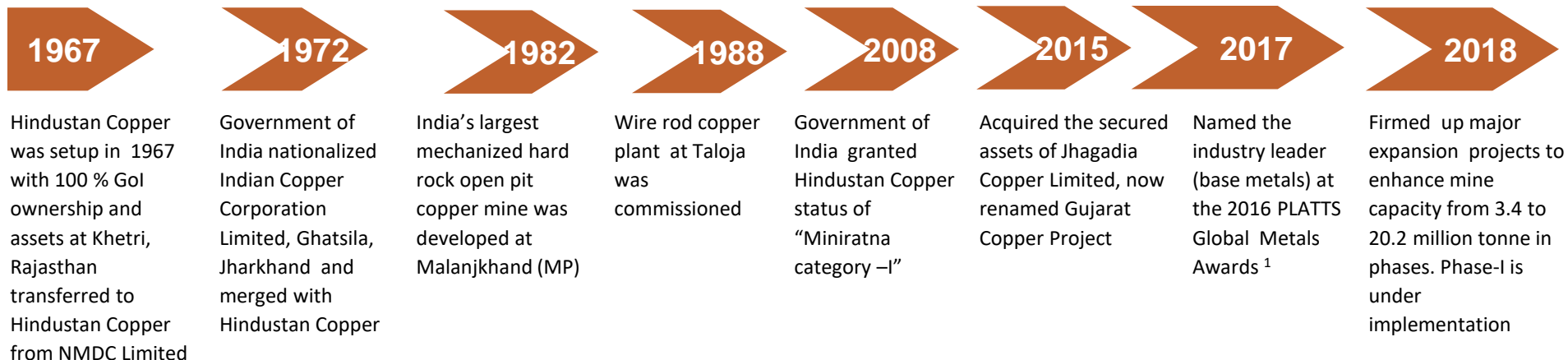
### Notes:

1. Mines are operational, only Smelter and Refinery and Sulphuric Acid Plants are not in operation since Dec 2008, on account of economic consideration
2. Map not to scale and is presented only to provide an indication of approximate locations of our mining complexes



# Evolution and Share Holding Structure

## Evolution of Hindustan Copper



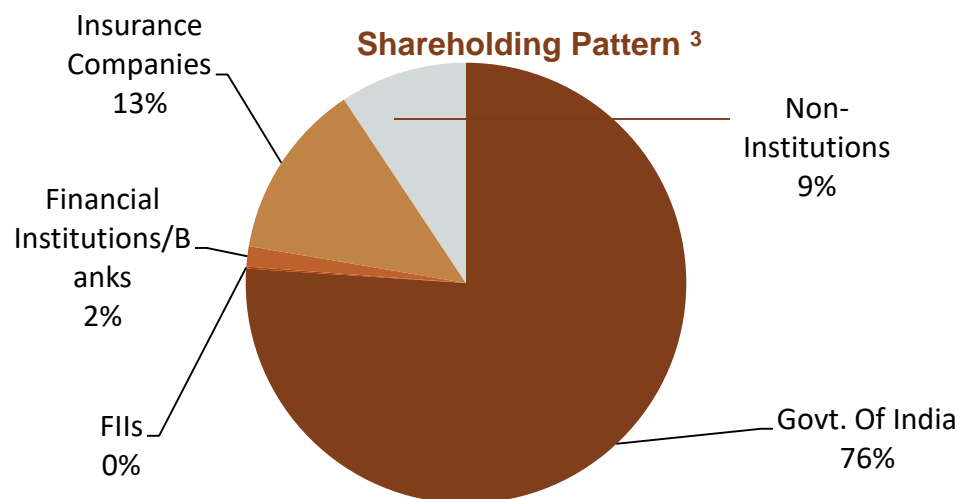
Source: Company website and annual reports

Listed on BSE and NSE

Number of Shares: **925.2 mn**

Share Price (52Wk High/Low):  
**Rs. 68.05<sup>2</sup> (10/08/2018 / Rs. 33.30<sup>2</sup> (25/07/2019)**

Market Cap: **Rs. 36915.5 Million (30/06/2019)**



### Notes:

1. Platts 2016 global metal awards; <https://gma.platts.com>. Golden Peacock award for CSR in Jan 2017, CSR Leadership awards in 2019

2. BSE as of July 25, 2019

3. Shareholding position as on Mar 31, 2019

# Key Highlights



**1 Significant Growth Potential in Copper Consumption in India**

**2 Vertically Integrated Operations**

**3 Only Operating Producer of Copper Ore in India**

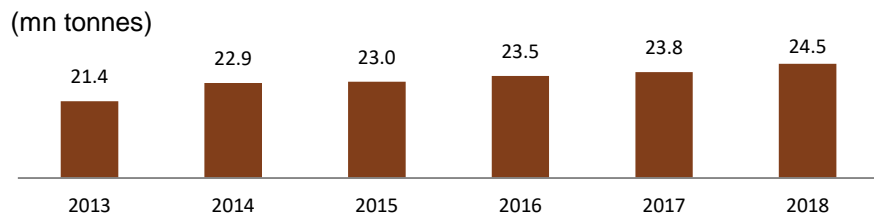
**4 Access to Substantial Copper Ore Reserves in India**

**5 Clear Roadmap for Expansion**

**6 Robust Financial Performance**

# Global Copper Production and Usage Highlights

## World Refined Copper Usage

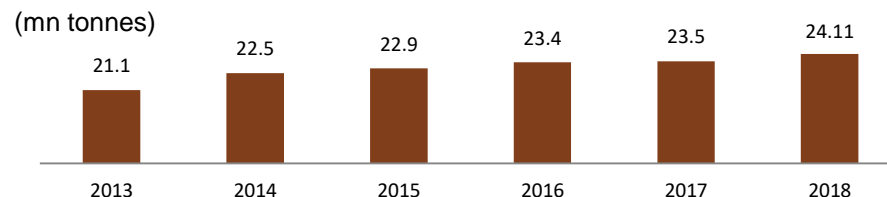


- Copper usage increased by ~3% in CY2018 compared to CY2017
- Mainly due to higher Chinese demand (demand increased by 2.5%)
- Excluding China,

### Region wise change in usage

Europe	+ 2%	Americas	- 3%
Asia	+ 65%		

## World Refined Copper Production (Primary + Secondary)

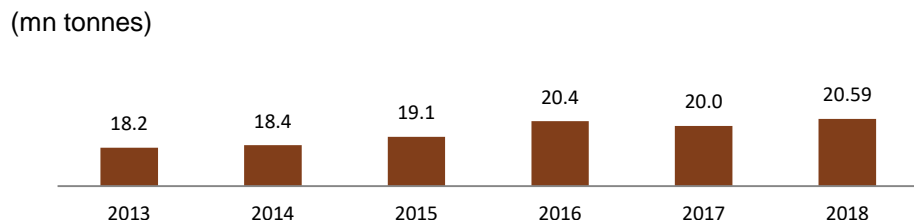


- Refined copper production Increased by ~2.5% in CY 2018 compared to CY2017

### Region wise change in production

Europe	- 2%	Africa	- 10%
Asia	+ 6%	Americas	+ 1%

## World Copper Mine Production (in metal terms)



- World mine production increased by 2.5% in 2018 principally due to constrained output in 2017 and to an unusually low rate of overall supply disruptions in 2018. Besides the restart of the Katanga mine in the DRC no major new copper mine capacity was brought on stream in 2018

### Main contributors to increase in mine production

- 38% rise in Peruvian output, that benefitted from new and expanded capacity brought on stream in last 2 years
- Recovery in production levels in Canada, Indonesia and US
- Expanded capacity in Mexico

### Region wise change in production

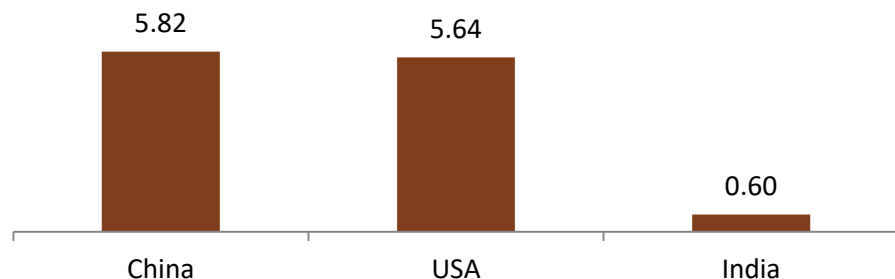
Europe	~ 0%	Africa	- 4%
Asia	+ 12%	Americas	+ 6%

1b

# Significant Growth Potential in Copper Consumption in India

India's Per Capita Copper Consumption currently low – Expected to increase to 1.5 kg by 2025

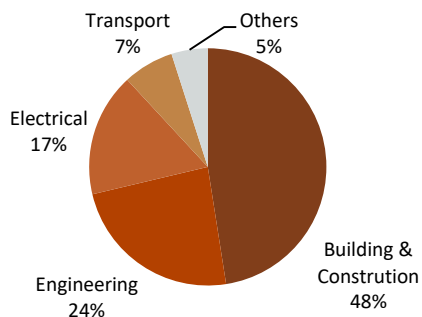
(kg/person)



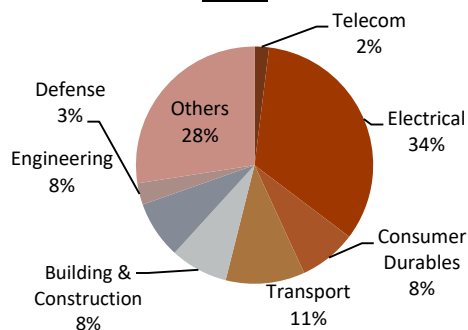
Source: Ministry of Mines, Annual Report 2015-16

## Refined Copper Consumption

### World



### India



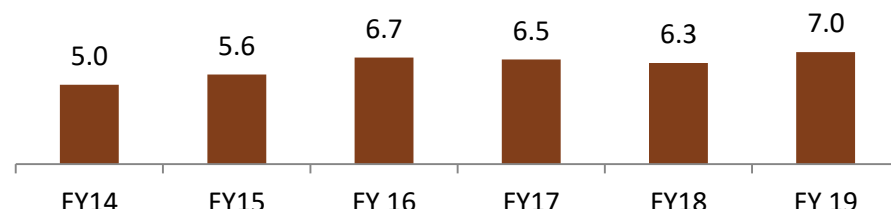
India's copper consumption is concentrated in Electrical industry in contrast with the rest of the world which is concentrated in Building and Construction

Source: Ministry of Mines, <http://mines.nic.in/>

## Domestic Copper Consumption to Increase

### Refined Copper Consumption

(Lakh tonnes)



Copper consumption grown at a CAGR of 5.8% from FY13 to FY18. Copper demand in electrical segment is growing due to demand in infra sector as a result of affordable housing schemes, rural electrification and more urbanization.

Source: Impact on FTAs on the Indian Copper Industry by IIFT

## Government initiatives will further Increase Growth of the Copper Consuming Industries

- Total projected outlay for infrastructure in FY18: Rs. 2,413 bn <sup>1</sup>
- Target of achieving 160GW of solar and wind by 2022 <sup>2</sup>
- "Make in India" is expected to drive manufacturing growth
- Power and construction sectors to witness strong growth
  - Electricity generation estimated to increase by 6.0% in FY18 <sup>2</sup>
  - 100 Smart Cities and 500 AMRUT Cities likely to invite investments of Rs. 2 tn in the next five years <sup>3</sup>

Source:

- Union Budget 2017-18, <http://unionbudget.nic.in>
- Ministry of power, <http://powermin.nic.in/>
- Make in India, <http://makeinindia.com/>

# Significant Gap in Domestic Copper Ore Mining Capacity and Consumption by Custom Smelters in India



- Significant mismatch between India's processing requirement and copper mining capacity
- Approximately 100 mn tonnes of copper ore (assuming a copper content of 1% ) is required to produce 1 mn tonne of refined copper
- The copper ore production in India for 2018-19 was 4.12 mn tonnes, meeting only ~4% of the country's demand <sup>1</sup>. The current mining capacity is entirely catered to by HCL
- Custom smelters are relying on imported copper concentrate to feed their plants

## Hindustan Copper Advantage

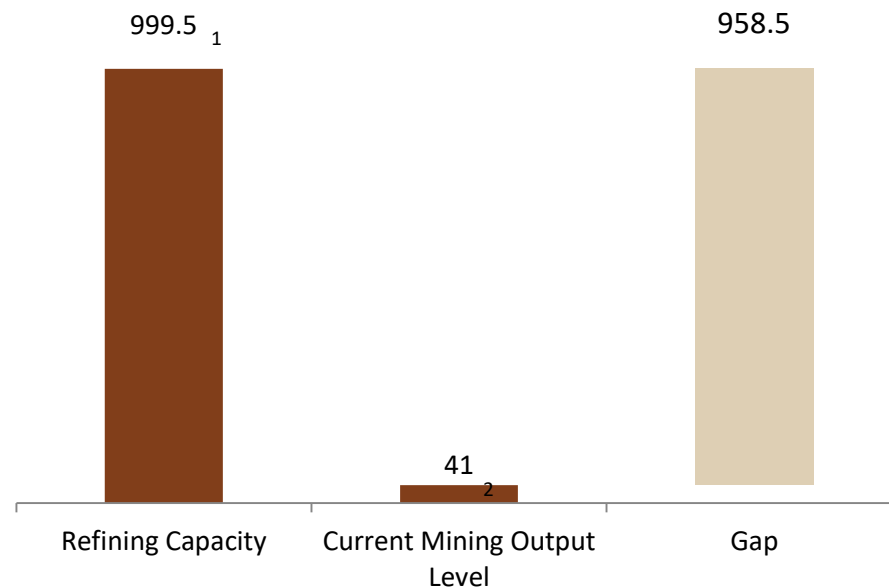
- Mining is the maximum value creator in the value chain of copper
- HCL has identified mining as its core focus area
- Mine expansion under way, significant capacity expansion to be achieved from 3.4 Mtpa to 12.4 Mtpa in Phase I and from 12.4 Mtpa to 20.2 Mtpa in Phase II.
- Significant potential for copper concentrate consumption in the country. Currently the requirements are met through Imports by custom smelters
- HCL has added 50,000 tonnes of smelting and refining capacity by acquiring the assets of Jhagadia Copper Limited

1. Company's Annual report

2. Please refer Slide 18 for details

## India's Refined Copper Capacity vs. Copper Mining Capacity (as of FY19)

('000 tonnes)



### Notes

1. Refining capacity break-up ('000 tonnes)

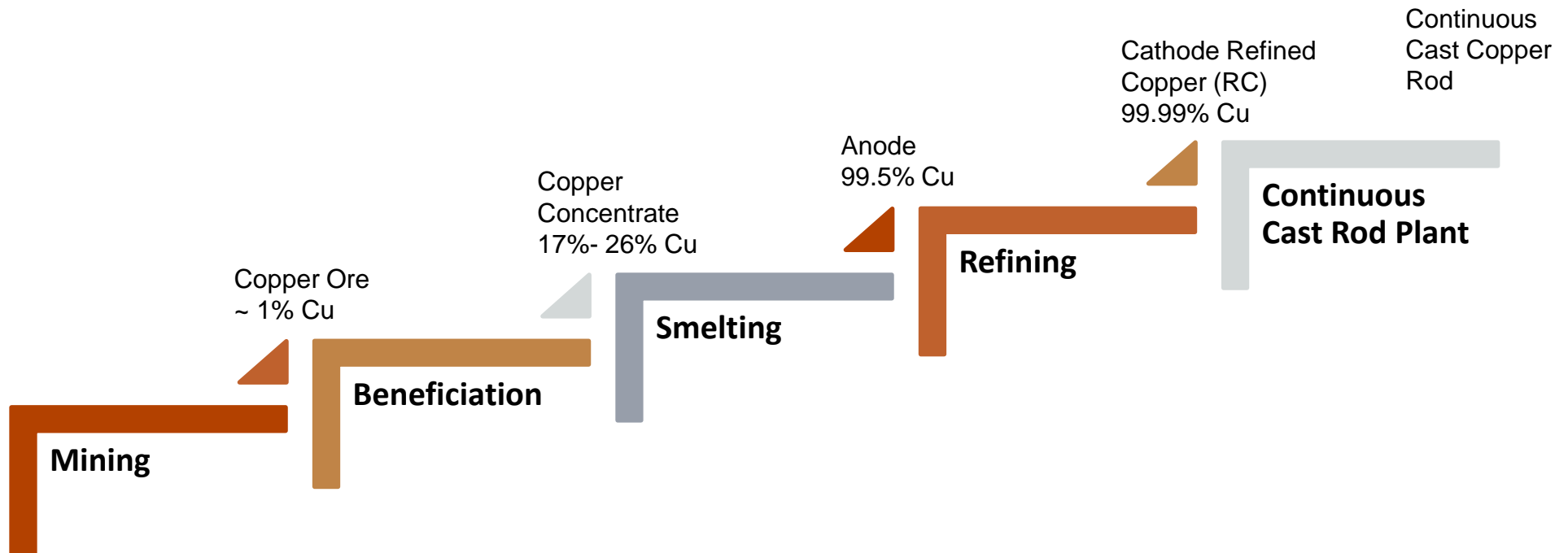
- Hindalco: 500.0
- Vedanta: 400.0
- HCL : 99.5

2. Indicates the amount of refined copper that can be extracted from the current copper ore production in India

Source: Company websites



## 2a Vertically Integrated Operations



## 2b Refining and Smelting Facilities



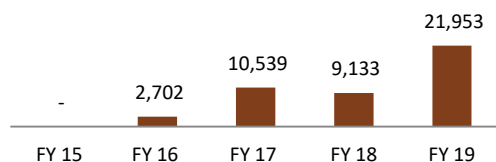
### Facilities Overview

Facility	Location	Principal Activities	Products	Operating Capacity ('000 tonnes)
ICC Smelter	ICC	Copper smelting	Copper anodes	20.0
ICC Refinery	ICC	Copper refinery producing LME grade Copper Cathode from Anode	Copper cathodes	19.0
TCP Extrusion Plant	TCP	Production of continuous cast rods from copper cathode	Continuous cast rods	60.0
KCC Smelter & Refinery <sup>1</sup>	KCC	Copper smelting & Refining	Copper cathodes	31.0
GCP Smelter & Refinery	GCP	Copper smelting & Refining	Copper cathodes	50.0

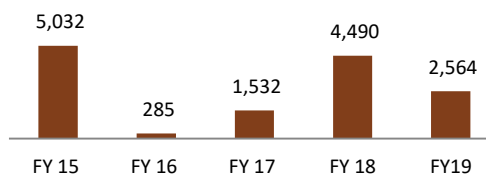
1. Not in operation since Dec 2008, on account of economic consideration

### Sales Overview

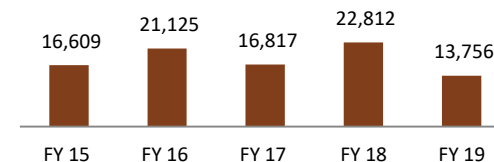
**Metal in Concentrate**  
(tonnes)



**Cathode**  
(tonnes)

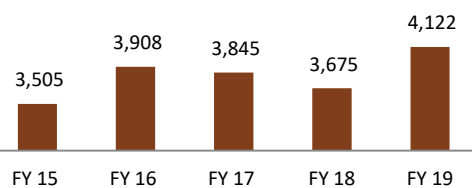


**Continuous Cast Copper Rods**  
(tonnes)

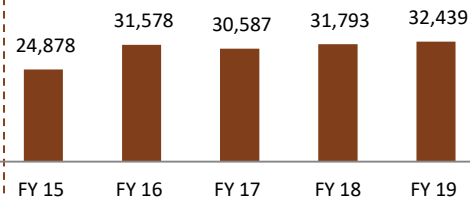


### Production Overview

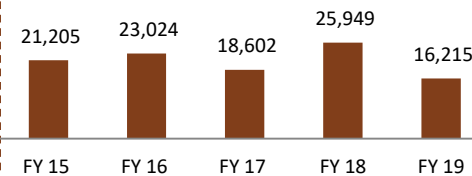
**Ore**  
(‘000 tonnes)



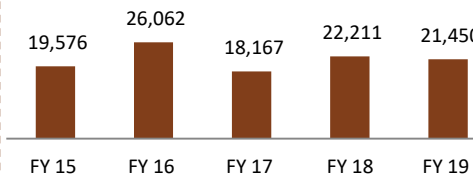
**Metal in Concentrate**  
(tonnes)



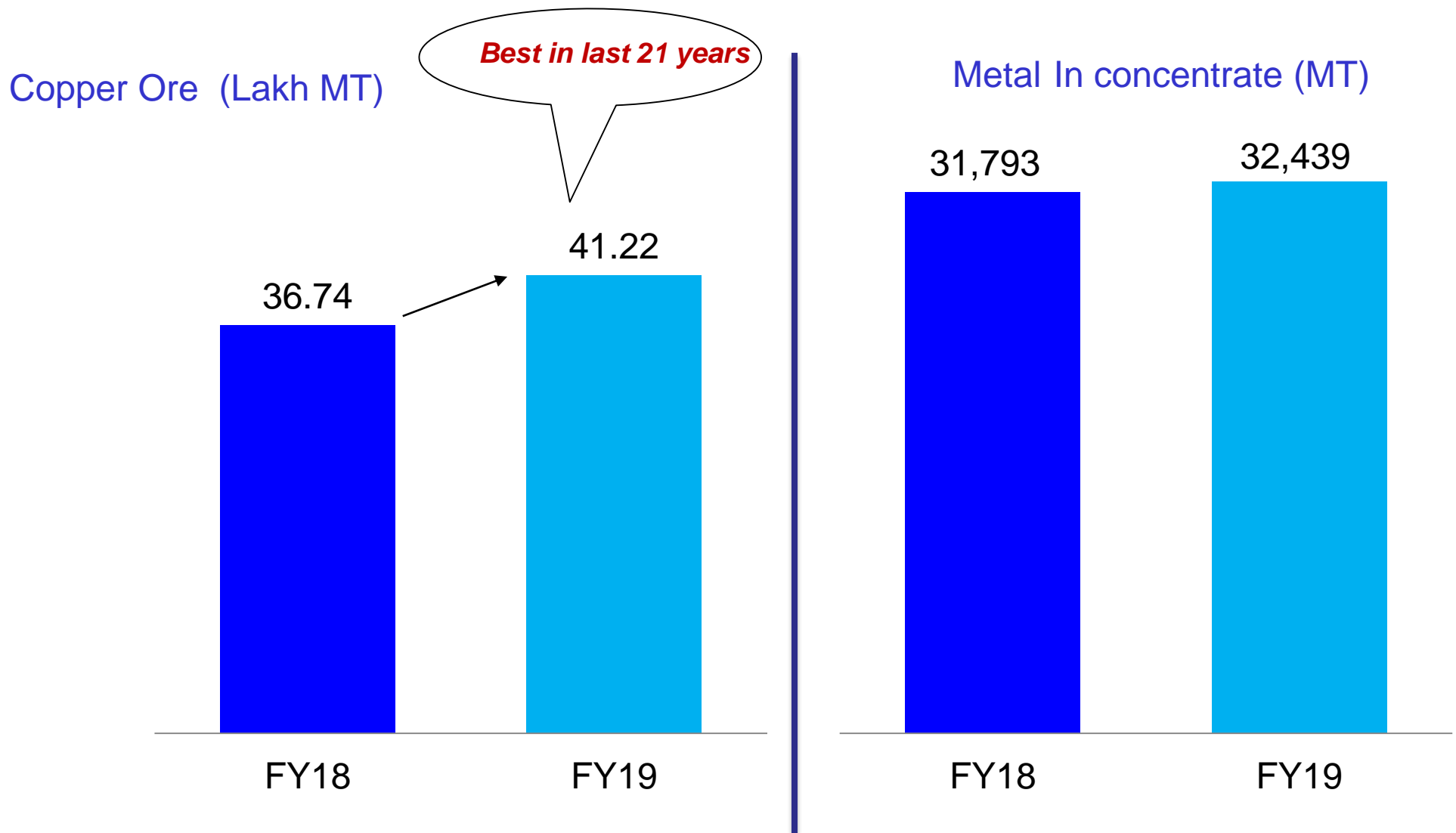
**Cathode**  
(tonnes)



**Continuous Cast Copper Rods**  
(tonnes)



# Financial Year 2019





- **Copper Concentrate**

Grade 17-26%



- **Applications**

Smelting and Refined Copper

- **Cathode**

Purity: 99.99% - equivalent to LME

Grade – "A" specification



- **Applications**

Alloys, foils, CC Wire Rods

- **Continuous Cast Wire Rod**

Diameter(mm): 8, 11, 12.5, 16, 19.6  
(+/- 0.50 mm)

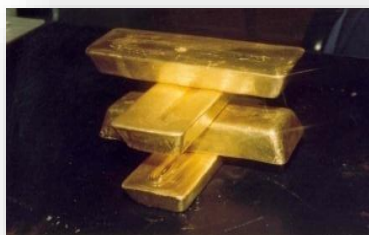


- **Applications**

Winding wires, strips

- **By Products**

- Anode Slime containing precious metals
- Sulphuric Acid
- Copper Sulphate



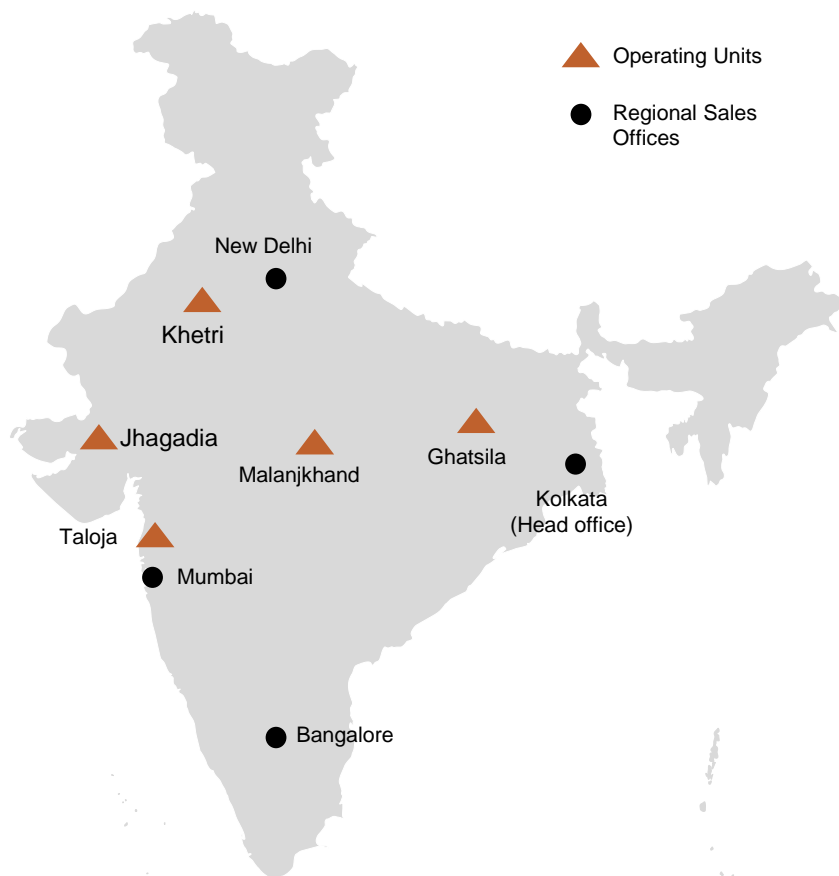
- **Applications**

Anode Slime – production of gold and silver

# Only Operating Copper Ore Producer in India



## Experience and expertise in developing and operating Copper Mines



## Copper Reserves and Resources as on April 1, 2019 as per JORC <sup>3</sup>

Mines	Reserves <sup>1</sup> (mn Tonnes)	Average Grade (% Cu)	Resources <sup>2</sup> (mn Tonnes)	Average Grade (% Cu)
<b>MCP</b>				
Malanjkhand	224.51	0.93	310.42	0.95
<b>ICC</b>				
Surda phase I	3.81	1.03	22.49	1.22
Surda phase II	8.17	1.25	16.32	0.99
Rakha phase I	3.36	1.14	6.42	1.15
Rakha phase II	30.63	1.18	41.10	0.93
Kendadih	9.27	1.4	17.83	1.25
Sideshwar	7.68	2.19	13.73	1.45
Chapri	41.6	1.15	49.84	1.05
Tamapahar	14.42	1.08	26.46	0.87
<b>Total ICC</b>	<b>118.94</b>	<b>1.24</b>	<b>194.19</b>	<b>1.06</b>
<b>KCC</b>				
Khetri	6.92	0.91	28.88	1.13
Kolihan	8.74	1.05	14.73	1.36
Banwas	18.95	1.33	23.75	1.70
Chandmari intermediate	0	0	12.11	1.02
Chandmari	0	0	6.07	1.03
<b>Total KCC</b>	<b>34.61</b>	<b>1.17</b>	<b>85.24</b>	<b>1.31</b>
<b>Total</b>	<b>378.06</b>	<b>1.05</b>	<b>589.85</b>	<b>1.04</b>

■ Operating Mines

Note:

1. Proved + Probable

2. Measured + Indicated + Inferred

3. Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and the Minerals Council of Australia.

Source: Base JORC Equivalent Mineral Resource And Ore Reserve Statement prepared by IMC SRG Consulting (Pvt.) Limited, dated September 11, 2010 – Balance estimated as on 01.04.2019

Note:

1. Map not to scale and is presented only to provide an indication of approximate locations of our mining complexes



# Access to Substantial Copper Ore Reserves in India

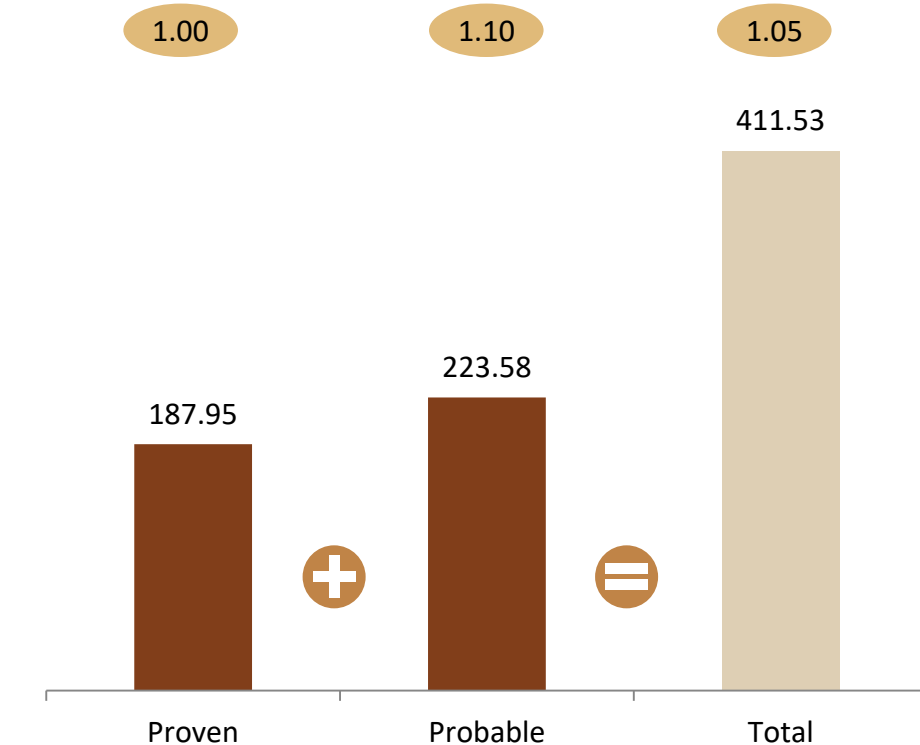
4

(as on 11/09/2010)

HCL has access to over 2/5<sup>th</sup> of India's copper ore reserves

## Reserves

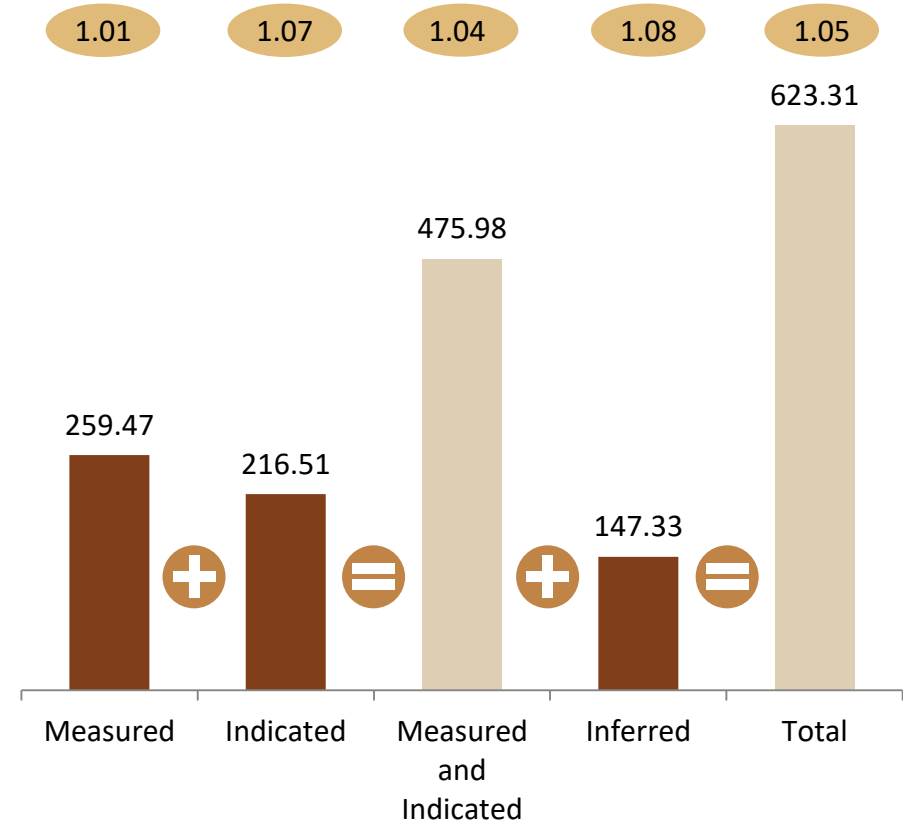
(mn tonnes)



Average Grade

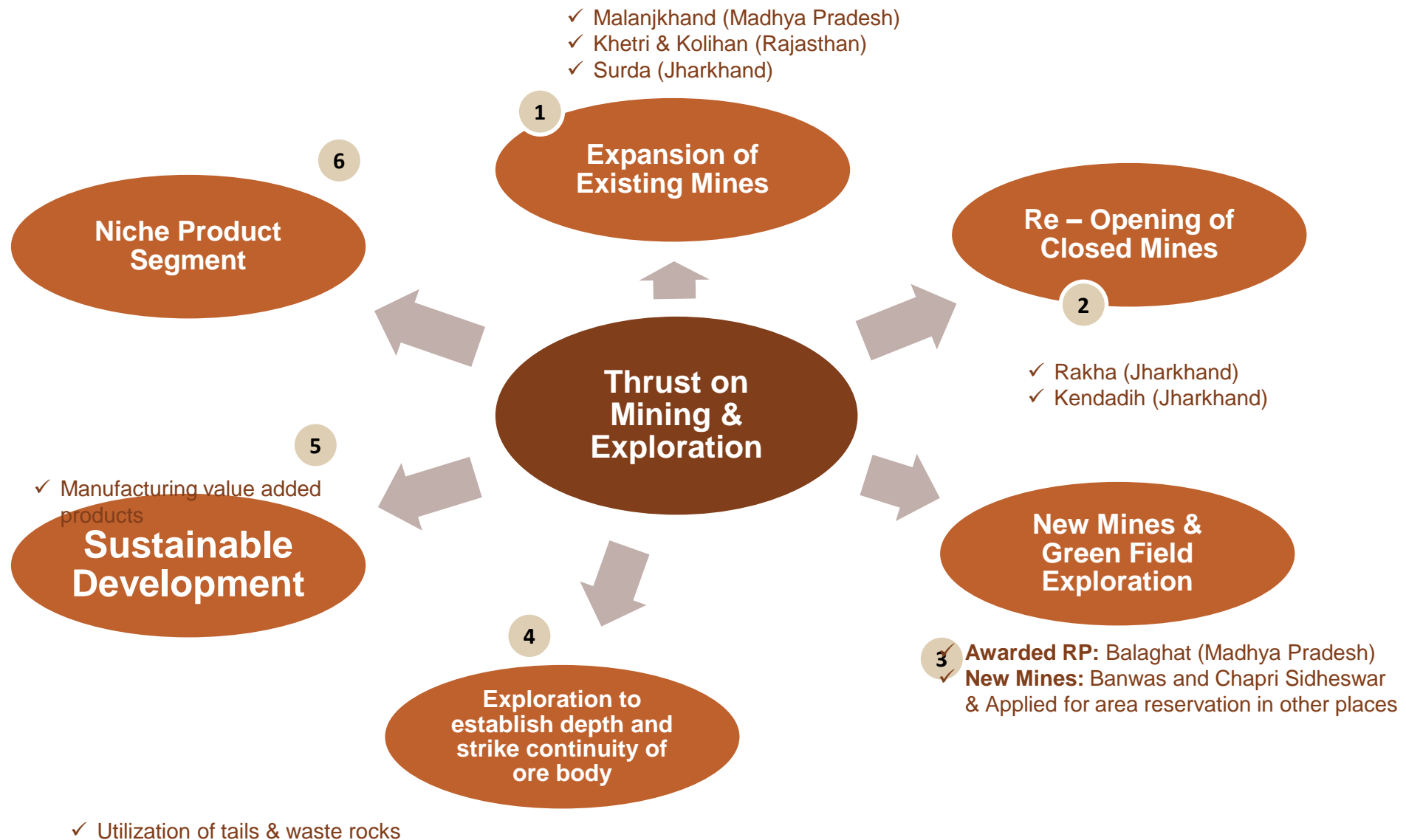
## Resources

(mn tonnes)



Source: JORC Equivalent Mineral Resource and Ore Resource Statement prepared by IMC-SRG Consulting (Pvt.) Limited. Dated September 11, 2010

## 5a Expansion Strategy: Thrust Areas





5b

## Estimated Production Capacity and Project wise capex

	(MTPA)	Existing Capacity (MT)	Phase I Expansion	Phase 1 estimated capex (Rs. Mn.)	Scheduled Completion	Phase II Expansion	Total Capex (Phase-I + II) (Rs. Mn.)	Scheduled Completion
Expansion of Existing Mines	Malanjkhand	2.2	5.2	18,560	2020	8.0	29,000	2024
	Khetri and Kolihan	1.0	2.5	4,430	2021	4.4	9,100	2024
	Surda	0.4	0.9	2,190	2020	1.0	3,500	2020
	<b>Total</b>	<b>3.6</b>	<b>8.6</b>	<b>25,180</b>		<b>13.4</b>	<b>41,600</b>	
Reopening of Closed Mines	Kendadih	-	0.2	940	2019	0.2	950	2019
	Rakha	-	1.5	3,150	2020	2.5	5,500	2022
	<b>Total</b>	<b>-</b>	<b>1.7</b>	<b>4,090</b>		<b>2.7</b>	<b>6,450</b>	
Establishing New Mines	Banwas	-	0.6	900	Completed	0.6	900	
	Chapri-Sidheshwar	-	1.5	4170	2020	2.5	5,500	2023
	Dhobani-Pathargora Block	-	-	-	-	1.0	550	2023
	<b>Total</b>	<b>-</b>	<b>2.1</b>	<b>5,070</b>		<b>4.1</b>	<b>6,950</b>	
<b>Grand Total</b>		<b>3.6</b>	<b>12.4</b>	<b>34,340</b>		<b>20.2</b>	<b>55,000</b>	

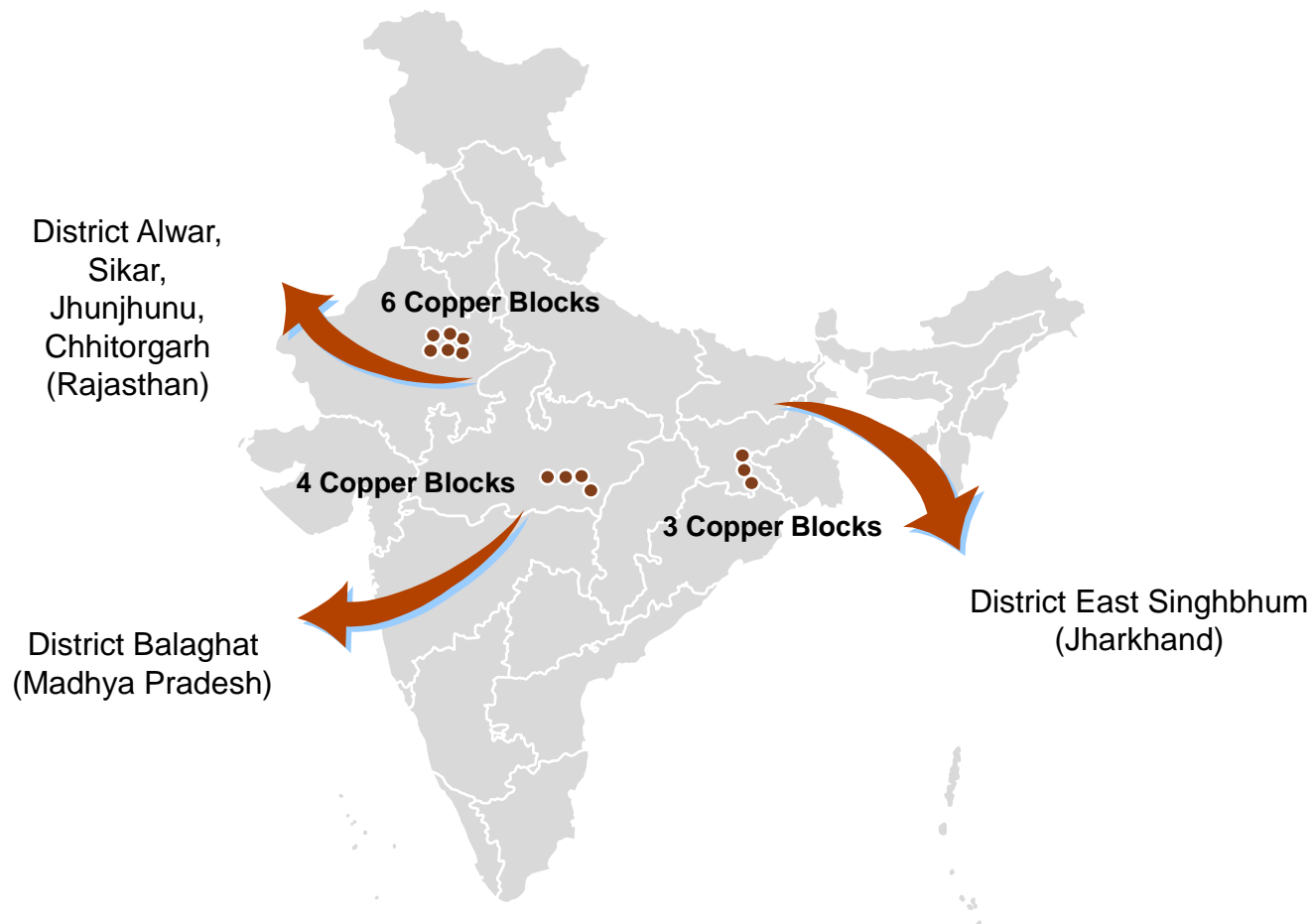
Source: Costs stated are at the time of award / Based on Management estimates. Please note that these estimates are subject to risks including changes in expected capacity, changes in expected expansion cost, risks relating to delays in expansion, obtaining and maintaining mining leases at the mining sites, obtaining environmental clearances and requisite government approvals

# Current Status of Mine Development for enhancement of capacity



Mine	Investment Approval	Invite RFQ	Issuance of RFP	Finalization of Contract / Lol Issued	Mine Development	Likely Scheduled Completion
<b>MCP</b>	Investment approvals in place	Completed	Completed	Completed	Started in 2015 – Work in Progress	2022
<b>Khetri</b>	Investment approvals in place	Under Tendering Stage				
<b>Surda</b>	Investment approvals in place	Completed	Completed	Completed	Work-in-Progress	2021
<b>Kendadih</b>	Investment approvals in place	Completed	Completed	Completed	Completed	Mine development restarted in Nov' 2017
<b>Rakha</b>	Investment approvals in place	Under Tendering Stage				
<b>Banwas</b>	Investment approvals in place	Completed	Completed	Completed	Completed in February 2017 Contractor appointed and production has commenced from Feb 2018	
<b>Chapri-Sideshwar</b>	Investment approvals in place	Under Tendering Stage				

## Exploration for New Deposits



**Application Submitted for Reservation of area for Conservation of Copper Mineral  
under Rule 17(A) of Mines and Minerals (Development and Regulation) Act, 1957**

- Notes:
- 1 Awarded RP in 580.73 sq km in the district of Balaghat in MP
  - 2 Map not to scale and is presented only to provide an indication of approximate locations of our mining complexes



Project	Estimated Project Cost (INR mn)	Status
Extraction of Minerals from Copper ore tails	2,000	<ul style="list-style-type: none"> <li>Awarded contract for installation and commissioning of CoT plant of annual capacity 3.3 million tonne at Malanjkhand.</li> <li>The work at site commenced in April 2017</li> <li>Installation of the Plant completed, trail run undertaken.</li> </ul>
JV with CMDC for exploration & exploitation of copper in Chhattisgarh State.	100	<ul style="list-style-type: none"> <li>JV Company Incorporated in May 2018.</li> <li>Exploration identified and area reservation applied</li> </ul>

# Waste to Wealth: Extraction of Copper Ore Tailings (COT)

## Current Operations of Hindustan Copper



## Expansion Plan for Utilization of COT

During the Beneficiation process, ~93%-95% ore is discarded as tailings

Rejects

Copper Tailings

Extraction

## Minerals Extracted from Copper Tailings at MCP

Gold  
(bullion grade 90%)



Silver  
(grade 92.5%)



Glass Grade Silica



Media grade Magnetite

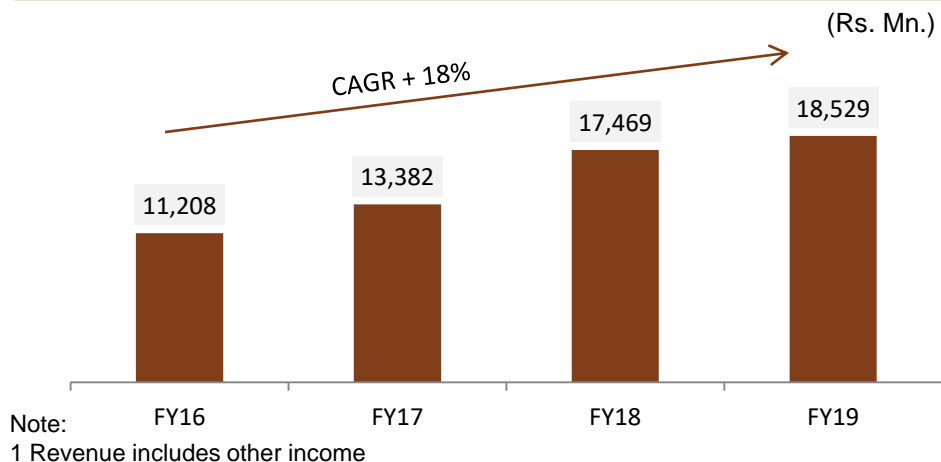


- Over a period of time, considerable quantity of COT has accumulated:
  - ~55 million tonnes at Malanjkhand Copper Project (MCP)
  - ~40 million tonnes at Khetri Copper Complex (KCC)
- Company had conducted a successful pilot project at KCC
- And now it is setting up a 3.3 million tonnes COT Plant at MCP

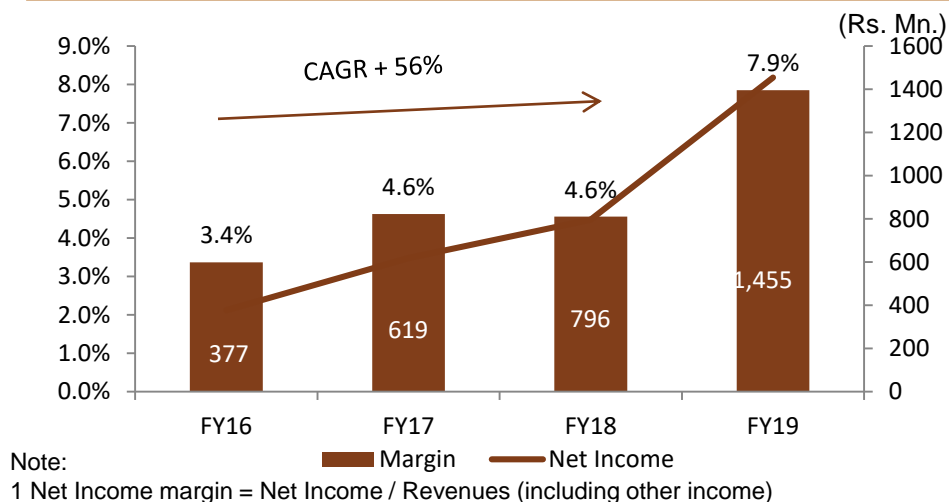
Company to provide the Deferred expenditure number.  
Deferred expenditure –should be removed from FY19  
net worth Mine



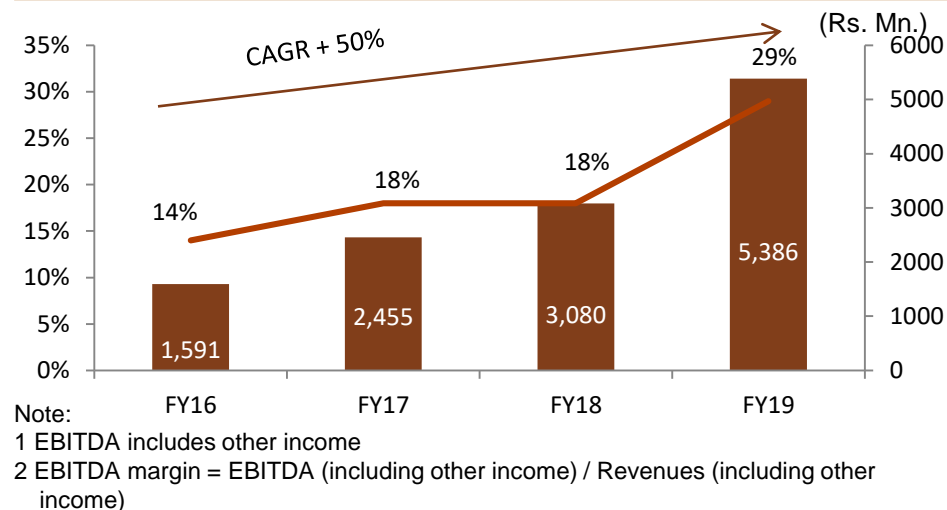
## Revenue



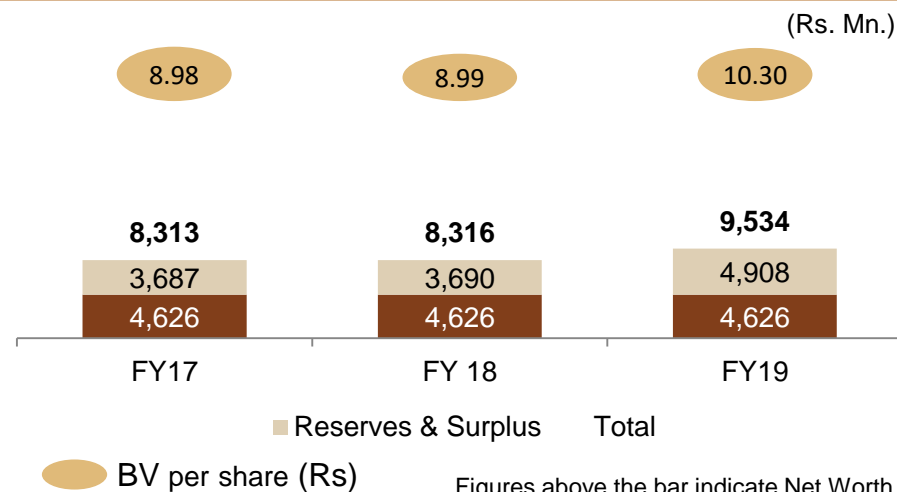
## Net Income (PAT)



## EBITDA



## Net Worth

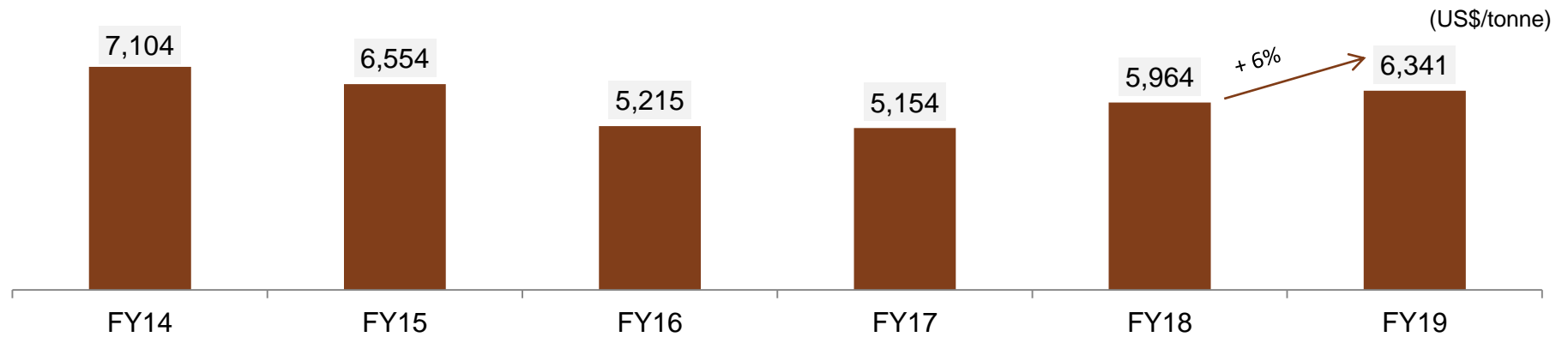




7

## Key Parameters Affecting HCL

### London Metal Exchange (LME) Copper Prices



### INR/USD Rates



## Appendix

# Experienced Management Team



**Shri Santosh Sharma**  
Chairman & Managing  
Director

- Holds a Bachelor's degree in Electrical Engineering, a LLB from Ravishankar University, Raipur and a MBA in Marketing from Sikkim Manipal University. He is also a member of Indian Institute of Metals and Indian Institute of Welding
- He joined the Company as General Manager (Operations) and thereafter, he became Executive Director (Operations) and also assumed charge as Unit Head of Gujarat Copper Project, a unit of the Company, in June, 2015. Subsequently he became Director (Operations) and finally CMD
- Prior to joining Hindustan Copper Limited, he was DGM (Projects) in Bhilai Steel Plant. There he was conferred with Jawahar Award for outstanding performance for preparation of plan for installation of Solar Power Units.



**Shri Sanjay Kumar  
Bhattacharya**  
Director (Mining)

- Holds a Bachelor's degree in Mining from National Institute of Technology, Raipur and a MBA in International Business. He is a qualified Mining Person under Mines Act, 1952, possessing first class Mines Manager Certificate of Competency to manage Open Cast Metalliferous Mines
- He has 35 years of varied and diversified work experience in Copper mining (16 years at HCL), Iron Ore Mining (11 years at NMDC), Bauxite Mining (3 years at BALCO) and in construction activities for infrastructure developments like State Highways, Mining of Rock-Phosphate & Bauxite Minerals for State Govt. and State Mining PSUs through private participation (5 Years). Prior to joining the Board, Shri Bhattacharya was General Manager (Mines) at Malanjkhand Copper Project of the Company.



**Shri Sukhen Kumar  
Bandyopadhyay**  
Director (Finance)

- Holds a degree of Institute of Cost & Works Accountants of India Before joining as Director (Finance) of the Company, Shri Bandyopadhyay was CGM (Finance & Accounts) in SJVN Ltd, Schedule A CPSU.
- During his professional career spanning 29 years in executive position, he had served in many key administrative positions in the different fields of Finance & Accounts for the execution of Hydro/Thermal/ Gas/Solar/ Wind Projects in NEEPCO & SJVN Ltd (CPSUs) and in PPCL & IPGCL (Delhi Govt. PSU), on deputation.
- He has expertise in raising of long term loans, due diligence of project appraisal and evaluations, long term investment plan for project execution with budgeting, Treasury Management, Policy formulation, Accounts & Audit.



**Shri Sanjay Kumar  
Shukla**  
Director (Operations)

- Holds Bachelor's degree in Mining and M.Tech. in Environmental Engineering from IIT (ISM), Dhanbad. He also holds Degree in Law (LL.B). He possesses First Class Mines Managers' Certificate under the Mines Act, 1952.
- He started his carrier in Coal India Ltd and worked there for more than 21 Years. He Joined NMDC in October 2006. Mr. Shukla also served as Managing Director of Jharkhand State Mineral Development Corporation Limited for 2 Years.
- Prior to Joining Hindustan Copper Ltd. (HCL) as Director (Operations) in October 2018, he was working as Executive Director in NMDC and was heading one of its major unit namely Bailadila Iron Ore Mines, Bachel Complex in Bastar, District of Chhattisgarh.
- Received the prestigious FIMI Golden Jubilee Awards for Excellence (2016-17) & TATA Steel Mining Sustainability Award (2017-18).

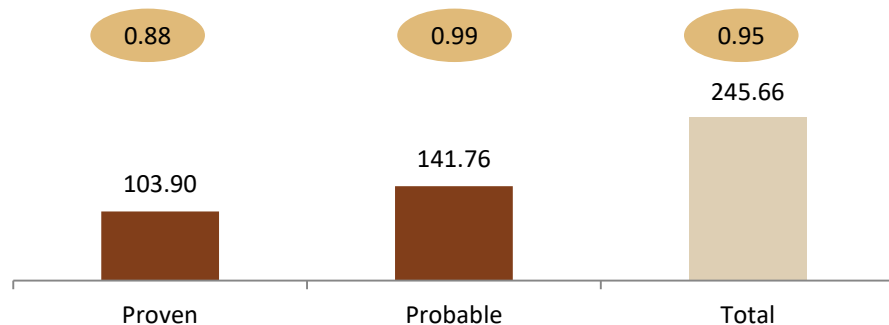
# Malanjkhand Copper Project (MCP)

Dist: Balaghat, Madhya Pradesh



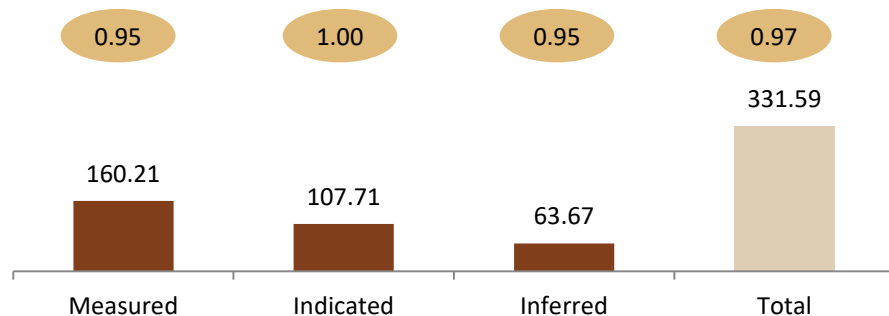
## Reserves

(mn tonnes)



## Resources

(mn tonnes)



Average Grade

## Expansion Plans

- From existing 2.2 mtpa to 5.2 in Phase-I and upto 8.0 mtpa in Phase-II

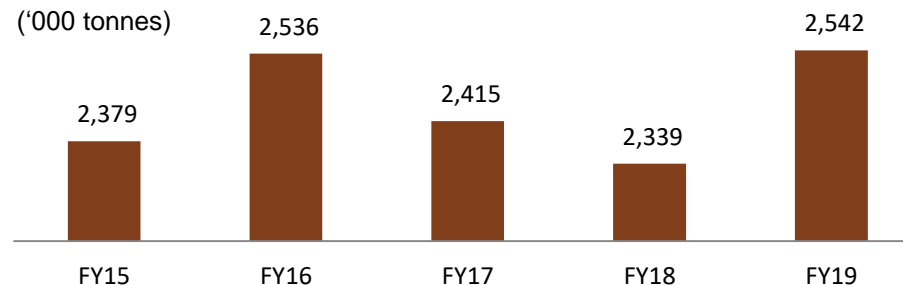
## Mining Lease

	Area (sq. km.)	Expiry
MCP	4.7990	31/03/2023 <sup>1</sup>

Note: <sup>1</sup> Shall be extended as per Mineral (Mining by Government Company) Rules 2015

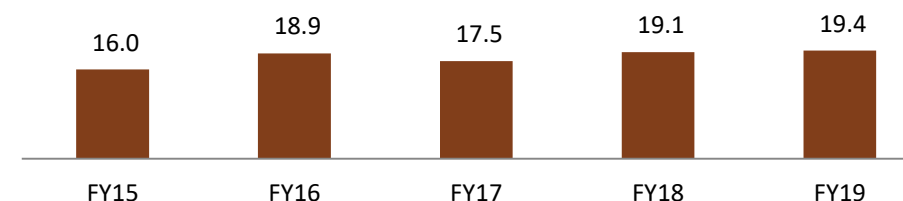
## Copper Ore Production

('000 tonnes)



## Metal - in- Concentrate Production

('000 tonnes)



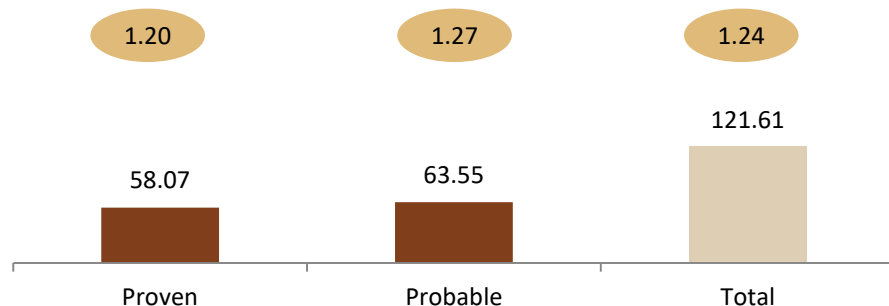
# Indian Copper Complex (ICC)

Dist: Singhbhum, Jharkhand



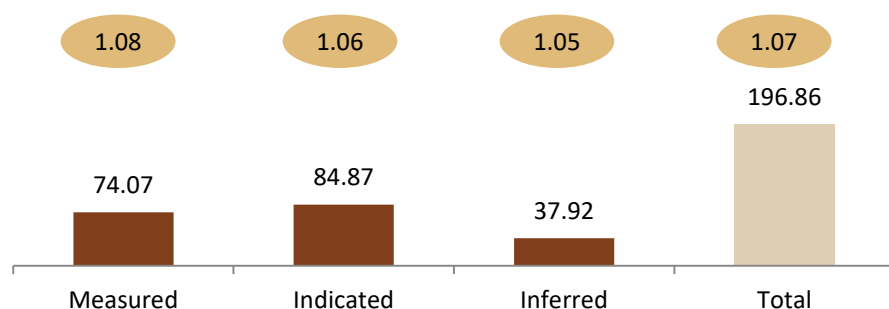
## Reserves

(mn tonnes)



## Resources

(mn tonnes)



Average Grade

## Expansion Plans

- Increasing Surda Mines capacity from 0.4 Mtpa to 0.9 Mtpa (Ph-I) and upto 1.0 Mtpa (Ph-II)
- Reopening of Closed Mines 1.71 Mtpa and establishing new Mines 1.5 Mtpa

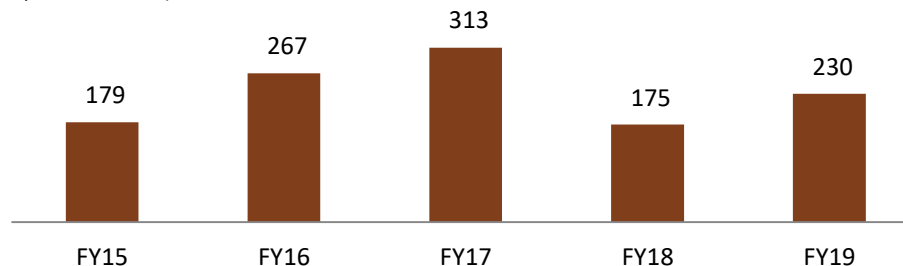
## Mining Lease

	Area (sq. km.)	Expiry
ICC Group of Mines	23.13371	31/03/2020 <sup>1</sup>

Note: <sup>1</sup> Shall be extended as per Mineral (Mining by Government Company) Rules 2015

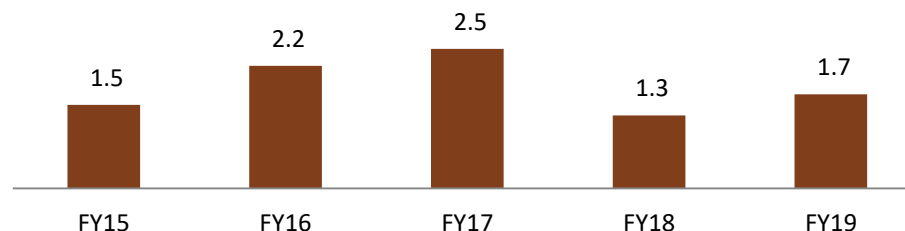
## Copper Ore Production

('000 tonnes)



## Metal - in- Concentrate Production

('000 tonnes)



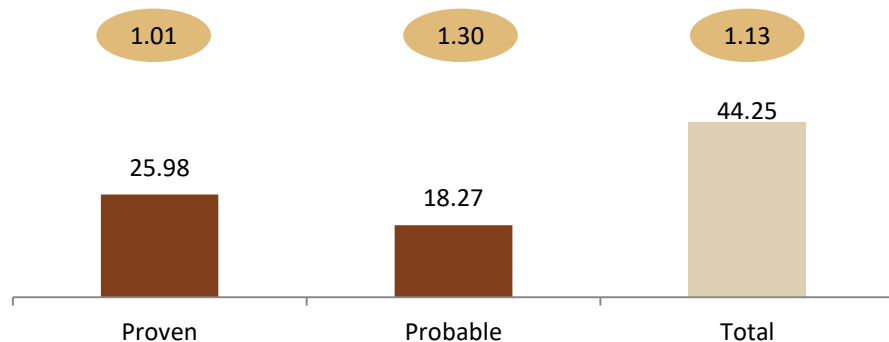
# Khetri Copper Complex (KCC)

Dist: Jhunjunu, Rajasthan



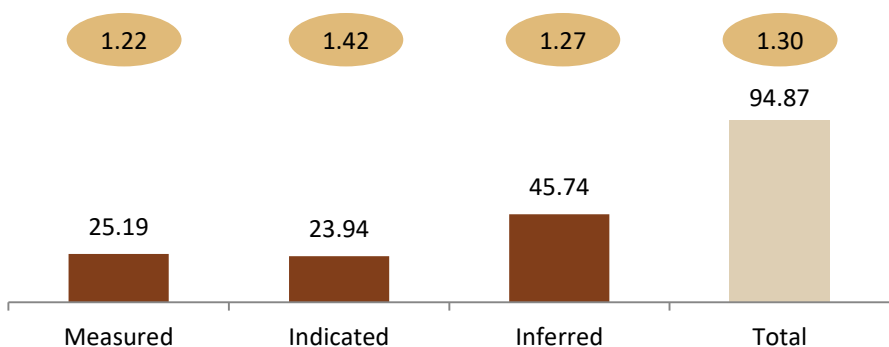
## Reserves

(mn tonnes)



## Resources

(mn tonnes)



Average Grade

## Expansion Plans

- Increasing Khetri & Kolihan Mines capacity from 1.0 Mtpa to 3.1 (Phase-I) and upto 5.0 Mtpa (Ph-II) incl. velopment of new mine Banwas 0.6 Mtpa

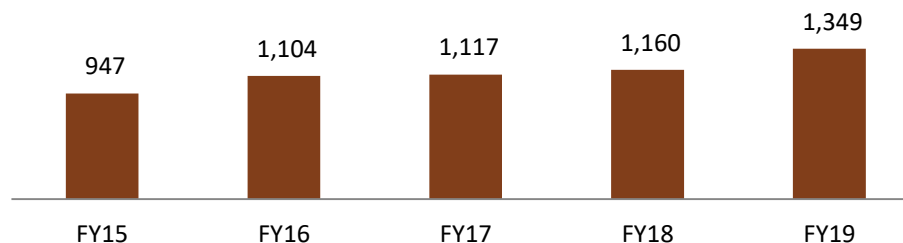
## Mining Lease

	Area (sq. km.)	Expiry
KCC Group	7.0675	31/03/2020 <sup>1</sup>

Note: <sup>1</sup> Shall be extended as per Mineral (Mining by Government Company) Rules 2015

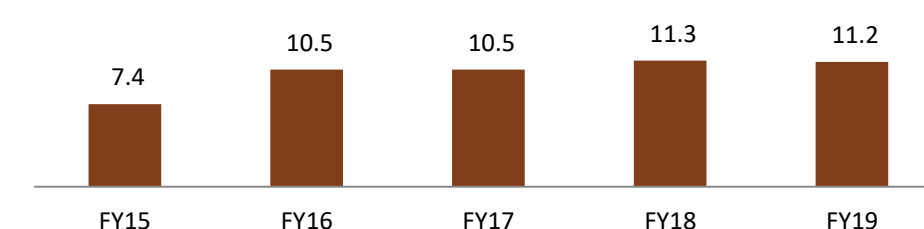
## Copper Ore Production

('000 tonnes)



## Metal - in- Concentrate Production

('000 tonnes)



# Taloja Copper Project (TCP)

*Dist: Raigad, Maharashtra*



<b>Inception</b>	<ul style="list-style-type: none"><li>▪ December 1989</li></ul>
<b>Facility</b>	<ul style="list-style-type: none"><li>▪ Continuous Casting</li></ul>
<b>Product</b>	<ul style="list-style-type: none"><li>▪ Continuous Cast Copper Rods (CCR)</li><li>▪ Inputs (Cathodes) sourced from ICC and tolled cathodes from KCC</li></ul>
<b>Capacity</b>	<ul style="list-style-type: none"><li>▪ 60,000 tonne p.a.</li><li>▪ Diameters: 8mm, 11mm, 12.5mm, 16mm, 19.6 (+/- 0.50 mm)</li></ul>
<b>Technology</b>	<ul style="list-style-type: none"><li>▪ Sourced from Southwire Co., USA</li><li>▪ World's leading technology for producing premium quality CCRs</li><li>▪ Rods produced by this technology meet the most exacting standards conforming to ASTM B 49/98 &amp;/or IS 12444/1988</li></ul>
<b>Location</b>	<ul style="list-style-type: none"><li>▪ Taloja is a 43 km drive from Mumbai airport and enjoys most of the facilities of a metro city</li><li>▪ Vashi is another important commercial hub close to Taloja</li><li>▪ The district headquarters Alibagh, is a popular tourist spot</li></ul>

# Gujarat Copper Project (GCP)

*Dist: Bharuch, Gujarat*



<b>Acquisition</b>	<ul style="list-style-type: none"> <li>HCL acquired the secured assets of Jhagadia Copper Limited (JCL) from ARCIL Sarfaesi Act in April 2015 and renamed it as Gujarat Copper Project (GCP)</li> </ul>
<b>Facility</b>	<ul style="list-style-type: none"> <li>Copper smelting and Refining - Largest secondary recycler in India capable of producing LME “A” grade Copper Cathodes.</li> <li>Flexibility to process various grades of copper/precious metal bearing raw materials including E-scrap.</li> </ul>
<b>Product</b>	<ul style="list-style-type: none"> <li>Copper Cathodes, conforming to LME-A grade. Copper Cathode produced is one of the best in the industry.</li> </ul>
<b>Capacity</b>	<ul style="list-style-type: none"> <li>50,000 tonnes p.a.</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>Smelter: Top Blown Rotary Converter (TBRC) process using Kaldo furnace from M/s Boliden Contech AB, Sweden</li> <li>Refinery: ISA Process from M/s Xtrata, Australia</li> </ul>
<b>Status</b>	<ul style="list-style-type: none"> <li><b>Phase I:</b> Refurbishment of plant completed, commercial production started from October 2016. This included anode furnace, anode casting and refinery operations</li> <li><b>Phase II:</b> Refurbishment of smelter has been completed in March 2019. This includes kaldo furnace, slag granulation, effluent treatment plant. The trial run of the plant has started and the plant is expected to start operating as per design capacity and production</li> </ul>

# Copper Ore Tailings



# Malanjkhand Underground Project

