



# Commodities – A Global Perspective

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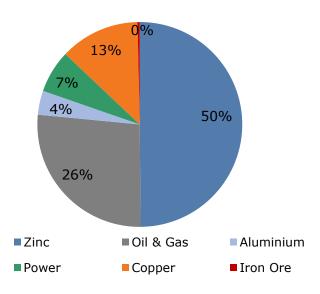
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## **Vedanta Ltd: A Global Diversified Natural Resources Company**



- Portfolio of large, structurally low-cost, long-life Tier-I assets:
  - Significant near term growth with well-invested asset base not requiring large capex
  - Well positioned to capitalize on India's and Africa's growth and natural resource potential
- Operations across India, Africa, Australia and Europe
- H1 FY2016 EBITDA of \$1.3bn
- Robust balance sheet with cash & cash equivalents of c.\$8bn
- Focus on disciplined capital allocation and balance sheet management
- Positively contributing to India:
  - Contribution of \$4.6bn to Indian Exchequer
  - Direct and Indirect employment to c.70,000
  - Community investment of \$28mn benefiting 2.8mn people globally

### EBITDA Mix<sup>1</sup> for H1 FY2016



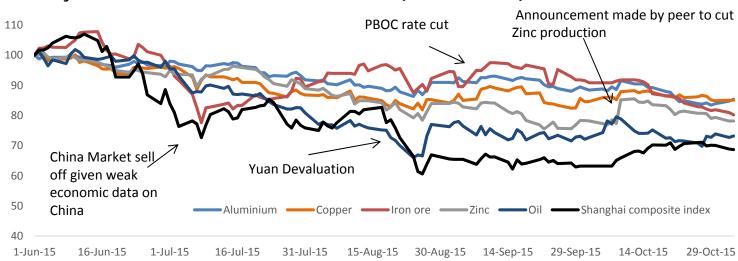
1. Excluding provisions for previous periods relating to Renewable Power Obligation (RPO) of \$64mn

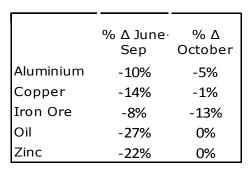


### Recent volatility in commodities mainly driven by China

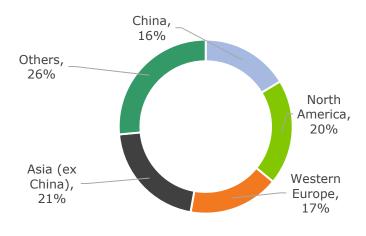


#### Commodity Price Performance & Chinese Stock Index (rebased to 100)

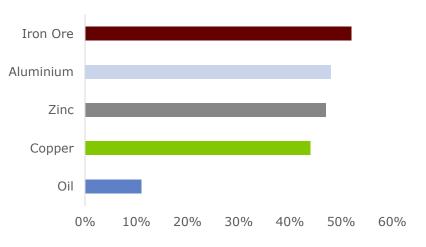




#### China accounts for 16% of world's GDP......



#### ..... But c.50% of world's base metals consumption



Source: Bloomberg, IMF, Bloomberg intelligence, BP statistics

### China: Recalibration of economy and growth



### "Soft landing" for China

- New normal: down shifting from high speed growth to moderate growth
- Lower growth on higher base
  - Investment to GDP has peaked, but absolute investment growth is healthy
  - Shifting to consumption led growth
- Recent volatility in markets as economy moderates, driving fear of a "hard landing"
- Urbanisation and population growth in India,
   Africa and Middle East to partially offset moderation in Chinese demand

#### China Investment in absolute to grow at 6% CAGR 8.0 49% 6% CAGR (CY14-20) 48% 7.0 47% 6.0 46% 5.0 45% 4.0 44% 3.0 43% 2.0 42% 1.0 41% 0.0 40% 2012 2014 2015E 2016E 2017E 2018E 2019E 2020E Investment in US\$ trillion ——Investments (% of GDP, RHS)

Indian GDP to grow 44% by 2020, highest among the BRICS

Source: IMF estimates

#### 160 World Brazil 150 China Russia 140 South Africa ---India 130 120 110 100 90 2015 2017 2018 2019 2020 2016 Source: IMF estimates as of October 2015

### Vedanta: Taking measures to maximise cash flows and deleverage



### Positive FCF at each segment is a top priority

Strong focus on opex

- Cost in 1st/2nd quartile of the global cost curve across all major businesses
- Cost restructuring and optimisation at all businesses: Group-wide assessment completed, continued planning
- Evaluation in progress and simultaneous execution underway

Ready to restructure operations to protect free cash flows

- BALCO rolled product facility temporarily shut
- One stream at Lanjigarh alumina refinery temporarily shut

Optimising capex for returns at lower commodity price assumptions

- Reduced FY 2016 capex guidance by 30%
- Gamsberg: Rephased FY2016 capex, and reduced overall project capex by \$100mn

Disciplined approach towards ramp up

- Jharsuguda-II ramp up to commence in Q3 FY2016
- TSPL: Unit-II under commissioning; Unit-III to follow
- Goa iron ore mining re-commenced, first export shipment made in October
- BALCO 325kt further ramp-up deferred until costs lowered

Achieved c.\$150mn of opex, capex & marketing savings in H1 FY2016 Generated record FCF of c.\$1bn & reduced net debt by c.\$800mn in Q2 FY2016

### **Cost and Marketing Savings**



- Announced c.\$1.3 bn savings program in March 2015 over 4 years
  - c.\$800 mn in cost and c.\$500 mn in marketing
- Realised savings of \$147 mn in H1 FY2016
- Total Cost of Ownership (TCO) methodology including cost efficiencies
  - \$109 mn in cost, \$17 mn in marketing and \$21 mn in capex (excluding deferrals)
- Expected to realize c.\$150 mn in H2 FY2016
- Cost and marketing savings exclude:
  - Input commodity deflation/inflation
  - Impact of regulatory changes
  - Capex deferrals

### Case Studies - Cost / Marketing Initiatives

### **Polishing Filter Package**

 Alternate methodology of modifying existing infrastructure and using new media for treatment of tertiary water

Impact: Annualised Cost Saving of c. \$15 mn

#### Single stream operation at Lanjigarh

 Run one line at 100% capacity instead of two lines at part capacity

Impact: Capex Saving of c. \$35 mn

#### Rolled Product facility at BALCO

 Temporarily suspended with effect from H2 FY2016

Impact: Annualised Saving of c. \$10 mn

### **Aluminium premium improvement strategy**

 Continuous effort to optimise premium by improving product mix and focus on higher domestic sales

Impact: Annualised benefit of c. \$70 mn

### Approach

Group-wide Assessment: Completed

Continued Planning & Evaluation: In Progress

Simultaneous execution underway

### India: Macro and Regulatory Update



#### **Strong Macroeconomic Indicators**

- India is the fastest growing major economy (IMF)
- India was no.1 FDI destination in H1 CY2015 (EY)
  - Capital inflows of US\$31 bn in H1 CY2015
- Lower inflation, lower energy costs and further interest rate cuts to fuel economic growth

### **Vedanta – Regulatory Updates**

- Iron Ore: Mining re-commenced in Goa, first export shipment in Oct
  - Working with government to resolve:
    - Removal of export duty and Duplication of taxes (Goa Permanent Fund and DMF)
    - EC limits/mining cap enhancements
- MMRDA Act passed: Provides for auction of natural resources
  - District Mineral Foundation (DMF) at 30% of royalty, and National Mineral Exploration Trust at 2% of royalty for existing mines
  - Strong incentive for state government given auction revenue
     + DMF + 80% Royalty goes to the states
  - A total of 185 mining blocks identified
  - 71 mining blocks in the first phase of auctions expected in November 2015
- O&G: Revenue sharing regime replacing production sharing model for the auctioning of 69 marginal O&G fields





# Oil: Volatility in short-term, with stability and improved market dynamics in medium term

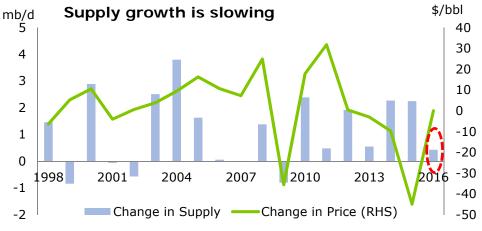


#### **Current Demand and Supply Dynamics**

- The world is using more oil. High-cost supply primarily non-OPEC — is being forced out
- Current supply surplus is not material in context of overall world oil demand
- Global demand growth is expected to slow from its five-year high of 1.8 mb/d in 2015 to 1.2 mb/d in 2016
  - Increase in Oil demand to be driven by India,
     Middle East and China

#### **Vedanta-Cairn:** Low cost of production

- Best in class opex at US\$5.5/boe for water flood in Rajasthan
- Well cost cut by c.15%: Realized better cost efficiency for drilling & completion of wells at Barmer Hill tight reservoir formation over 1 year
- Procurement savings of c.13% driven by negotiations & leveraging lower service costs
- Mangala EOR program in full swing: Polymer injection ramped up from 80,000 blpd to 200,000 blpd QoQ; 75% of the planned wells drilled
- Raag Deep Gas Development: Signed an agreement with GSPL for pipeline, reduces capex by c.\$100mn
- Engaging with Government to:
  - Review levies given the shift in oil prices
  - Realise fair value of Rajasthan crude



Source: EIA Short Term Energy Outlook; BP Statistical Review of World Energy



Fracking operations at RJ Block, Rajasthan

### **Zinc: Attractive Fundamentals**



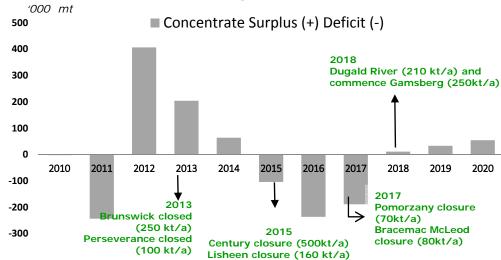
### Zinc market is expected to be in a state of deficit

- Zinc has strong fundamentals in the commodity complex
- Significant zinc capacity to go offline globally:
  - Century (500 ktpa) closed in September and our Lisheen mine (160 ktpa) to close in November
  - c.4% of global mined zinc production to reduce by recently announced closures
- Refined zinc demand exceeded supply in 2014, a trend set to continue till 2019

### Vedanta: Well positioned in Zinc-Lead-Silver

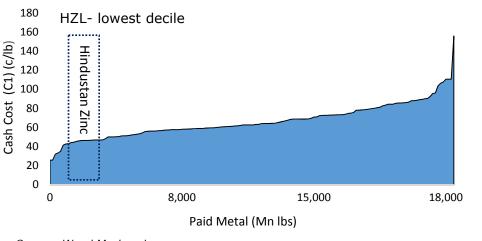
- FY 2016 mined and refined volumes expected to be higher than FY2015; 350-400t of silver production expected in FY2016
- RAM and SK shaft projects are progressing well
- Continued to maintain lowest decile COP at \$771/t:
  - Projects undertaken for improving productivity and efficiency now beginning to manifest into lower COP
- Zinc International's 250kt Gamsberg Project: Modular approach followed with optionality to scale up
  - Rephased FY2016 capex, and reduced overall project capex by \$100mn

### Concentrate deficit supporting zinc prices



Source: Wood Mackenzie Long Term Outlook Q3 2015

#### Global Zinc cost curve



Source: Wood Mackenzie

### Aluminum: Cost curve suggests 50%+ of world's capacity at loss

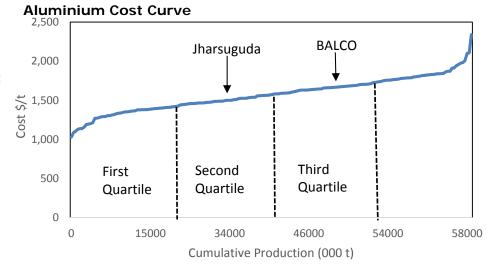


#### **Global Demand and Supply Dynamics**

- Capacity closures by several major producers
- Cost curve suggests >50% of world capacity at loss based on current LME + Premium, will drive supply adjustments

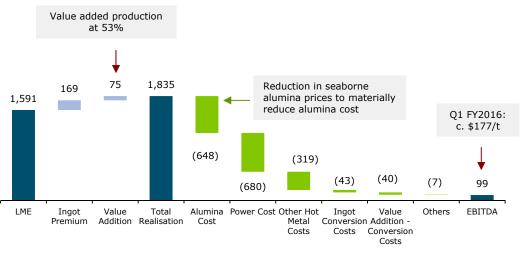
# Vedanta - pragmatic decisions in low price environment & lack of captive bauxite:

- BALCO:
  - High-cost rolled product facility shutdown
  - Startup of additional pots on hold
- Jharsuguda-II: Ramp-up of 1<sup>st</sup> line of 312kt to commence in Q3
- Lanjigarh:
  - Shut one of two streams to reduce fixed costs & capacity from 1mtpa to c.800ktpa.
  - COP was \$299/t in Sept'15 as against \$340/t in Q1
  - Decline in seaborne alumina prices, Alumina Price Index lower by 13% in H1 FY 2016
- Commence production from laterite mines in FY16 post receipt of ML
- Aggressive cost reduction drive through operational efficiency, workforce reduction, product mix optimization, procurement and synergies across locations
- Aluminium Association of India engaging with GOI on increasing import duty in light of surging imports



Source: CRU: September COP for Vedanta

# Aluminium Costs and Margins<sup>1</sup> (in \$/t, for Q2 FY2016)



1. Excludes \$10mn on account of Voluntary Retirement charge at BALCO

### Copper and Iron Ore



#### Copper market to witness supply deficit in the medium term

- Recent mine closures of about 745kt, would mean deficit in 2016
- Chinese housing demand to rebound on back of government stimulus and rate cuts

#### **Tuticorin Smelter**

- Positioned in the lowest cost quartile
- Strong TC/RC outlook and acid realisations

### Iron ore is oversupplied but a fundamental feedstock for steel

- Supply growth is expected to continue till 2016
- Modest Chinese demand growth expected through ongoing gradual economic stimulus and growing infrastructure investment

### Iron ore operations

- Approvals in place for production of 5.5mtpa saleable ore
- Mining resumed in Q2 FY2016 with first export shipment Oct 2015
- Progressive ramp up of production in Q3 FY2016
  - Cost reduction initiatives being pursued
- Working closely with Government to resolve:
  - Duplication of taxes: Goa Permanent Fund and DMF
  - Removal of export duty
  - EC limits/mining cap enhancements



Copper cathodes at Tuticorin smelter

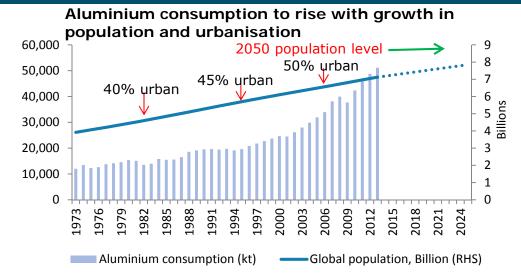


Hon. Chief Minister of Goa flags off Vedanta's 1st shipment of Iron Ore in October

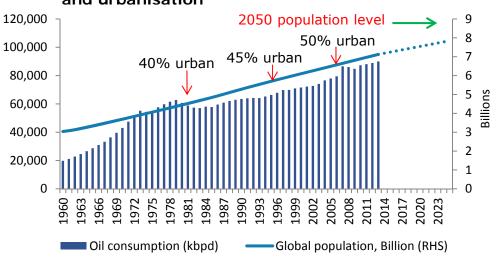
# Our Strategic Priorities remain unchanged and we are well positioned to benefit from long term growth



- Diversified portfolio and high quality workforce have enabled us to endure previous down cycles
- Continue to focus on maintaining positive free cash flow at each business
  - Optimising opex and capex to maximise cash flows
  - Deliver cost and marketing savings of US\$1.3bn
- Simplification of group structure; merger with Cairn India
  - Indian stock exchange approvals received, further steps in progress
- Committed to creating value for all stakeholders
- Identify next generation of resources
  - -Disciplined approach towards exploration



# Oil consumption to rise with growth in population and urbanisation



Source: World Bank, United Nations, World Aluminium Organization, World Steel Association and World Energy Outlook

Population growth and rapid urbanization to drive metals and oil consumption





**Appendix** 

### Safety and Sustainability



#### Safety

- 2 fatalities in Q2 FY2016; 6 fatalities in H1 FY2016
- LTIFR for H1 higher due to shift to ICMM 2014 Health & Safety methodology: restricted injuries considered as LTI unlike earlier
- Focus on bringing in a culture of Zero-Harm
  - Formal risk assessments carried out for critical risk events at Aluminium, Zinc – India and Oil & Gas business
  - Roll out of standards to eliminate fatalities in progress

#### **Environment**

- Implementation of Biodiversity Management Plan in progress
- Continued implementation of Waste to Wealth approach: Red Mud, Fly Ash and Gypsum projects
- Water and Energy savings Process Innovation and technological interventions
- Completed internal sustainability risk assessment for FY 2015 through Vedanta Sustainability Assurance Programme (VSAP)

### **Society**

- Supporting UN -Women Empowerment Principles and Sustainable Development Goals
- Strengthening social "license to operate" by doing community projects as per need assessment
- Social impact assessment completed for Zinc India and Oil & Gas
- 120+ government and non-government partnerships in place

### LTIFR (per million man-hours worked)



Note: 1. H1 FY2016 higher on adoption of ICMM 2014 methodology



Safety Pledge during mine safety week at Zinc India

### **Entity Wise Cash and Debt**



(in Rs. Crore)

	30 9	September 2	014	;	30 June 201	5	30 9	September 2	015
Company	Debt	Cash & LI	Net Debt	Debt	Cash & LI	Net Debt	Debt	Cash & LI	Net Debt
Vedanta Limited Standalone	40,187	3,143	37,044	40,164	1,263	38,901	39,394	2,194	37,200
Zinc India	-	25,412	(25,412)	-	27,519	(27,519)	-	30,404	(30,404)
Zinc International	-	1,169	(1,169)	-	1,076	(1,076)	1	1,041	(1,041)
Cairn India	-	16,164	(16,164)	388	17,027	(16,639)	-	18,116	(18,116)
BALCO	5,309	28	5,281	5,767	65	5,702	5,731	75	5,656
Talwandi Sabo	5,840	9	5,831	6,729	12	6,717	6,896	195	6,701
Cairn acquisition SPV <sup>1</sup>	26,979	1,021	25,958	25,490	1	25,489	26,371	195	26,176
Others <sup>2</sup>	1,211	161	1,050	992	128	864	1,041	108	933
Vedanta Limited Consolidated	79,526	47,107	32,419	79,530	47,091	32,439	79,433	52,328	27,105

Notes: Debt numbers at Book Value.

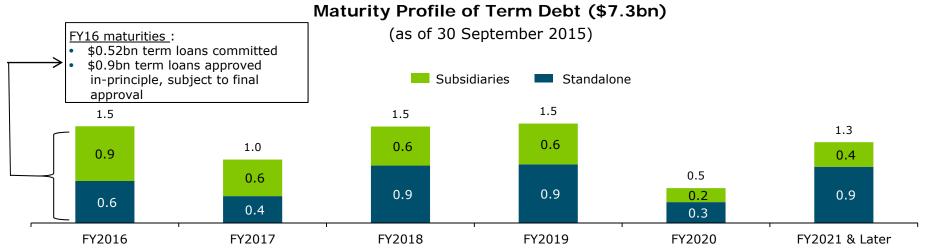
The above table excludes US\$1.25bn two-year intercompany loan from Cairn India Limited to a wholly owned overseas subsidiary of Vedanta Itd at arm's length terms and conditions with an annual interest rate of LIBOR+300bps.

<sup>1.</sup> As on 30 September 2015, debt at Cairn acquisition SPV comprised Rs.9,204 crore of bank debt and Rs. 17,167 crore of inter-company debt from Vedanta Resources Plc. There was accrued interest of Rs. 533 crore on the inter-company debt as on 30 Sep 2015

<sup>2.</sup> Others includes MALCO Energy, CMT, VGCB, Sesa Resources, Fujairah Gold, and Vedanta Limited's investment companies.

### **Maturity Profile**





External term debt of \$4.0bn at Standalone and \$3.3bn at Subsidiaries, total consolidated \$7.3bn

Maturity profile shows external term debt at book value (excludes working capital of \$2.2bn and inter-company debt from Vedanta plc of \$2.6bn)

- Average cost of borrowing reduced by c.30 bps during the quarter
  - Reduction in spreads on bank loans of c. Rs. 11,500 crore by c.22bps
  - Raised NCDs of \$400mm at competitive rates, used to prepay higher cost debt maturing post FY2017
  - Benefited from declining interest rate environment in India
- Initiatives taken to extend maturities, and reduce short term debt

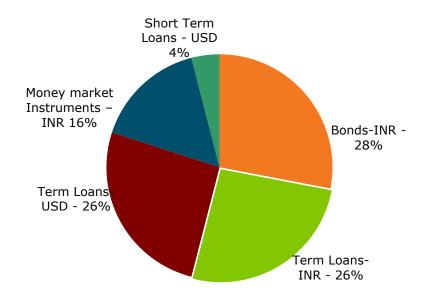
Debt breakdown	(in \$bn)
External term debt	7.3
Working capital	2.2
Inter company loan from VED	2.6
Total consolidated debt	12.1
Cash and Liquid Investments	8.0
Net Debt	4.1

Note: USD-INR: Rs. 65.7 at 30 Sept 2015

### **Debt Breakdown & Funding Sources**



**Diversified Funding Sources for Term Debt of \$ 7.3bn** (as of 30 September 2015)



External term debt of \$4.0bn at Standalone and \$3.3bn at Subsidiaries, total consolidated \$7.3bn

• INR debt: 46%; USD debt: 54%

### **Debt Breakdown**

(as of 30 September 2015)

Debt breakdown	(in \$bn)
External term debt	7.3
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Total consolidated debt	12.1

Cash and Liquid Investments	8.0
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Event	Completion
BSE, NSE and SEBI approvals sought	☑ Q2 CY2015
BSE, NSE and SEBI approvals	☑ Q3 CY2015
Vedanta plc posting of UK Circular	□ Q4 CY2015
Application to High Court in India	□ Q4 CY2015
Vedanta plc EGM	□ Q4 CY2015
Vedanta Limited and Cairn India shareholder meetings	□ Q1 CY2016
Foreign Investment Promotion Board approval	□ Q1 CY2016
High Court of India approval	□ Q2 CY2016
MoPNG approval	□ Q2 CY2016
Transaction Completion	□ Q2 CY2016

# Segment Summary – Oil & Gas



		Q2		Q1	H1		
OIL AND GAS (boepd)	FY 2016	FY 2015	% change YoY	FY2016	FY 2016	FY 2015	% change YoY
Average Daily Total Gross Operated Production (boepd) <sup>1</sup>	2,14,247	2,04,128	5%	2,17,935	2,16,081	2,15,301	0%
Average Daily Gross Operated Production (boepd)	2,05,361	1,94,508	6%	2,09,738	2,07,538	2,06,125	1%
Rajasthan	1,68,126	1,63,262	3%	1,72,224	1,70,164	1,73,158	-2%
Ravva	26,064	20,596	27%	28,556	27,303	22,259	23%
Cambay	11,172	10,651	5%	8,958	10,071	10,708	-6%
Average Daily Working Interest Production (boepd)	1,28,021	1,23,178	4%	1,30,565	1,29,286	1,30,502	-1%
Rajasthan	1,17,688	1,14,283	3%	1,20,557	1,19,115	1,21,211	-2%
Ravva	5,864	4,634	27%	6,425	6,143	5,008	23%
Cambay	4,469	4,260	5%	3,583	4,028	4,283	-6%
Total Oil and Gas (million boe)							
Oil & Gas- Gross	18.89	17.89	6%	19.09	37.98	37.72	1%
Oil & Gas-Working Interest	11.78	11.33	4%	11.88	23.66	23.88	-1%
Financials (In Rs. crore, except as stated)							
Revenue	2,242	3,982	-44%	2,627	4,869	8,465	-42%
EBITDA	967	2,701	-64%	1,302	2,269	5,821	-61%
Average Oil Price Realization (\$ / bbl)	43.7	91.3	-52%	56.0	49.9	94.3	-47%
Brent Price (\$/bbl)	50	102	-51%	62	56	106	-47%

Note: 1 Including internal gas consumption

## **Segment Summary – Zinc India**



		Q2		Q1		H1	
Production (in '000 tonnes, or as stated)	FY 2016	FY 2015	% change YoY	FY2016	FY 2016	FY 2015	% change YoY
Mined metal content	240	213	13%	232	472	376	26%
Refined Zinc - Total	211	181	17%	187	398	321	24%
Refined Zinc – Integrated	211	174	22%	187	398	312	28%
Refined Zinc – Custom	-	7	-100%	-	-	9	-100%
Refined Lead - Total <sup>1</sup>	40	30	34%	31	71	61	17%
Refined Lead – Integrated	39	26	53%	27	67	47	41%
Refined Lead – Custom	1	5	-72%	3	4	14	-67%
Refined Saleable Silver - Total (in tonnes) <sup>2</sup>	112	80	39%	75	187	162	15%
Refined Saleable Silver - Integrated (in tonnes)	110	67	64%	74	184	123	50%
Refined Saleable Silver - Custom (in tonnes)	1	13	-89%	1	3	39	-93%
Financials (In Rs. crore, except as stated)							
Revenue	3,845	3,682	4%	3,545	7,390	6,586	12%
EBITDA	2,109	1,933	9%	1,623	3,732	3,229	16%
Zinc CoP without Royalty (Rs. /MT) <sup>3</sup>	50,200	54,700	-8%	51,000	50,600	56,800	-11%
Zinc CoP without Royalty (\$/MT) <sup>3</sup>	771	903	-15%	802	787	944	-17%
Zinc CoP with Royalty (\$/MT) <sup>3</sup>	1,013	1,109	-9%	1,170	1,051	1,135	-7%
Zinc LME Price (\$/MT)	1,847	2,311	-20%	2,190	2,013	2,196	-8%
Lead LME Price (\$/MT)	1,714	2,181	-21%	1,942	1,824	2,140	-15%
Silver LBMA Price (\$/oz)	14.9	19.8	-25%	16.4	15.6	19.7	-21%

<sup>1.</sup> Excludes captive consumption of 1,514 MT in Q2 FY 2016 and 3,697 MT in H1 FY 2016 vs 1,762 MT in Q2 FY 2015 and 3,451 MT in H1 FY 2015

<sup>2.</sup> Excludes captive consumption of 7.8 MT in Q2 FY 2016 and 19.1 MT in H1 FY 2016 vs 9.1 MT in Q2 FY 2015 and 17.8 MT in H1 FY 2015

<sup>3.</sup> COP for the earlier period has changed due to reallocation of administrative expenses between zinc & lead

# **Segment Summary – Zinc International**



Production (in'000 tonnes, or as stated)		Q2		Q1	Н1		
Production (In ooo tonnes, or as stated)	FY 2016	FY 2015	% change YoY	FY2016	FY 2016	FY 2015	% change YoY
Refined Zinc – Skorpion	17	27	-38%	26	42	60	-30%
Mined metal content- BMM	16	16	-	15	31	31	-
Mined metal content- Lisheen	30	36	-17%	29	60	72	-17%
Total	63	79	-20%	70	133	163	-18%
Financials (In Rs. Crore, except as stated)							
Revenue	680	986	-31%	890	1,570	1,852	-15%
EBITDA	80	329	-76%	257	337	562	-40%
CoP - (\$/MT)	1,477	1,376	7%	1,409	1,439	1,331	8%
Zinc LME Price (\$/MT)	1,847	2,311	-20%	2,190	2,013	2,196	-8%
Lead LME Price (\$/MT)	1,714	2,181	-21%	1,942	1,824	2,140	-15%

# **Segment Summary – Aluminium**



Particulars (in/200 tampes or as stated)		Q2		Q1		H1	
Particulars (in'000 tonnes, or as stated)	FY 2016	FY 2015	% change YoY	FY2016	FY 2016	FY 2015	% change YoY
Alumina – Lanjigarh	272	226	20%	269	541	460	18%
Total Aluminum Production	233	222	5%	232	464	424	9%
Jharsuguda-I	130	138	-6%	132	262	270	-3%
Jharsuguda-II <sup>1</sup>	19	-	-	20	38	-	-
245kt Korba-I	65	65	1%	62	127	125	2%
325kt Korba-II	19	19	-1%	18	37	29	26%
Financials (In Rs. crore, except as stated)							
Revenue	2,737	3,211	-15%	2,733	5,470	5,862	-7%
EBITDA - BALCO	-71	12	-	-169	-240	102	-
EBITDA – Vedanta Aluminium	152	524	-71%	178	330	967	-66%
Alumina CoP - Lanjigarh (\$/MT)	323	366	-12%	340	331	366	-10%
Alumina CoP – Lanjigarh (Rs. /MT)	21,000	22,200	-6%	21,600	21,300	22,000	-3%
Aluminium CoP - (Rs. /MT)	1,07,100	1,12,300	-5%	1,07,200	1,07,200	1,06,900	0%
Aluminium CoP – (\$/MT)	1,648	1,853	-11%	1,689	1,668	1,776	-6%
Aluminium CoP – Jharsuguda (Rs. /MT)	1,03,900	1,05,500	-1%	1,01,400	1,02,700	1,01,600	1%
Aluminium CoP - Jharsuguda (\$/MT)	1,599	1,740	-8%	1,597	1,598	1,688	-5%
Aluminum CoP - BALCO (Rs. /MT)	1,12,000	1,26,500	-11%	1,16,700	1,14,300	1,18,200	-3%
Aluminium CoP - BALCO (\$/MT)	1,725	2,089	-17%	1,837	1,780	1,964	-9%
Aluminum LME Price (\$/MT)	1,591	1,987	-20%	1,765	1,675	1,896	-12%

<sup>1.</sup> Including trial run production of 19,000 tonnes in Q2FY2016 & 20,000 tonnes in Q1FY2016

<sup>2.</sup> Aluminium COP tabulated above excludes the impact of RPO of Rs. 236 crore for earlier years

# **Segment Summary – Power**



		Q2		Q1		H1	H1	
Particulars (in million units)	FY 2016	FY 2015	% change YoY	FY2016	FY 2016	FY 2015	% change YoY	
Total Power Sales	2,718	2,028	34%	3,070	5,789	4,627	25%	
Jharsuguda 2400 MW	1,554	1,653	-6%	2,266	3,820	3,807	0%	
BALCO 270 MW	28	1	-	99	128	71	80%	
BALCO 600 MW	158	-	-	-	158	-	-	
MALCO	127	204	-38%	193	320	433	-26%	
HZL Wind Power	158	170	-7%	127	286	316	-10%	
TSPL	693	-	-	384	1,077	-	-	
Financials (in Rs. crore except as stated)								
Revenue	1,122	789	42%	1,094	2,216	1,661	33%	
EBITDA	296	259	14%	277	573	597	-4%	
Average Cost of Generation(Rs. /unit) <sup>1</sup>	1.76	2.27	-22%	2.20	2.21	2.09	6%	
Average Realization (Rs. /unit) 1	2.57	3.53	-27%	3.03	3.12	3.35	-7%	
Jharsuguda Cost of Generation (Rs. /unit)	2.28	2.28	0%	2.09	2.17	1.98	10%	
Jharsuguda Average Realization (Rs. /unit)	2.95	3.24	-9%	2.75	2.83	3.05	-7%	

Note: 1 Average excludes TSPL

# **Segment Summary – Copper India**



		Q2		Q1		H1	
Production (in '000 tonnes, or as stated)	FY 2016	FY 2015	% change YoY	FY2016	FY 2016	FY 2015	% change YoY
Copper - Mined metal content	ı	ı	ı	-	1	1	ı
Copper - Cathodes	94	100	-6%	98	193	166	16%
Tuticorin power sales (million units)	118	183	-35%	175	293	319	-8%
Financials (In Rs. crore, except as stated)							
Revenue	5,325	6,286	-15%	5,571	10,897	11,141	-2%
EBITDA	549	466	18%	523	1,073	556	93%
Net CoP – cathode (US¢/lb)	2.2	3.1	-28%	2.5	2.4	4.8	-50%
Tc/Rc (US¢/lb)	25.2	20.8	21%	22.9	24.1	20.0	20%
Copper LME Price (\$/MT)	5,259	6,994	-25%	6,043	5,639	6,894	-18%

# **Segment Summary – Iron Ore**



		Q2		Q1	H1		
Particulars (in million dry metric tonnes, or as stated)	FY 2016	FY 2015	% change YoY	FY2016	FY 2016	FY 2015	% change YoY
Sales	0.6	0.6	5%	0.5	1.2	1.1	8%
Goa	-	-	-	1	ı	-	-
Karnataka	0.6	0.6	5%	0.5	1.2	1.1	8%
Production of Saleable Ore	0.8	0.3	-	0.2	1.0	0.3	-
Goa	0.0	-	-	1	0.0	-	-
Karnataka	0.8	0.3	-	0.2	1.0	0.3	-
Production ('000 tonnes)							
Pig Iron	150	154	-2%	170	320	300	7%
Financials (In Rs. crore, except as stated)							
Revenue	405	604	-33%	479	885	1,081	-18%
EBITDA	4	96	-96%	27	31	144	-79%

### **Group Structure**



